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# ITTLE PIECE OF

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Arcam's new A80 amplifier makes high end affordable



Heart's CD6000 OSE LE - it's a Marantz CD player with valves!

#### THE SCIENCE OF MAKING MUSIC

From microphone to master – part one inside



- Castle Pembroke
- Focal-JMlab 806S
- ★ KEF XQ3
- Leema Xen
- > Mirage Omni 260
- > Mission V63
- > MonoPulse 32
- > Tannoy Sensys DC1





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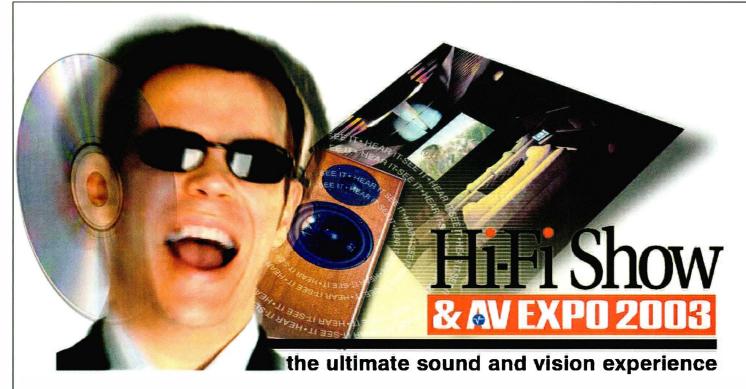




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2 +44 (O) 870 444 8650 Prices (13 issues): UK £29.97, Europe £43, North America £49.99, rest of the world £62

**2** +44 (0) 870 444 8650 Prices: UK £4 per issue, overseas £6.95 per issue

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



ssex indulging himself with the very best hi-fi money can buy. His own system is simply ational (trust us) and his love of music knows no bounds



A former editor of Hi-Fi Choice Paul has been writing about his beloved hi-fi hobby for some 26 years. In that time he has ne one of the world's most respected sonic scribes and obably the UK's foremost loudspeaker reviewer. He also ites for respected US hi-fi rnal Stereophile



Science officer Miller is hi-fi's indisputed king of lab testing He employs his own specially designed equipment to pull parameter and explain its effect on a product's performance.



Alvin cut his hi-fi teeth in the retail trade, and has now bee iting about his obsession for more than 20 years. In that time he has contributed to st every hi-fi periodical you can think of (and several more besides). Few can match his encyclopedic knowledge of all things audio



a professional musician nced recording engi and a highly knowledgeable hi-fi enthusiast to boot. He's rticularly nerdy about cables It's probably Freudian.

imes change, technology marches on, the old order battens down the hatches in the face of the digital blitzkrieg. The rules of the physical, tangible analogue world are being rewritten as the things we sense, the things we feel, are steadily translated into processed streams of ones and zeros. The digital dimension opens doors, makes the impossible possible... should we fight it, or should we feel it?

In times to come, our ongoing transfer to the digital domain will be seen as a fundamental step in mankind's evolution: a 21st Century renaissance that stormed the barricades, rewrote the rules and changed the world forever. But for disciples of 'The Hi-Fi Truth', the digital march has complicated what was once a straightforward philosophy - a search for simplicity and directness, to replicate the essence of a musical performance with just a stereo source, an amp and two speakers.

Now any 'hi-fi' brand that can afford a ticket is jumping the digital train, wing for cash-rich slices of the most lucrative pies in high-end consumer electronics. We're talking multi-format surround sound and high-end video playback, PC convergence and internet connectivity, discreet and automated custom installation solutions (see our CEDIA expo report on p13).

A sign of the times? Irrefutably. But to view all this as a pollution of a pure ideal is misguided. Passion for sound is HFC's core philosophy, but while we still champion vinyl

for its musical excellence and stereo for its practical simplicity, in the right hands digital tech will continue to expand horizons and open doors to a captivating new hi-fi experience. HFC demands sonic excellence - stick with us and we'll tell you who delivers.



Tim Bowern editor

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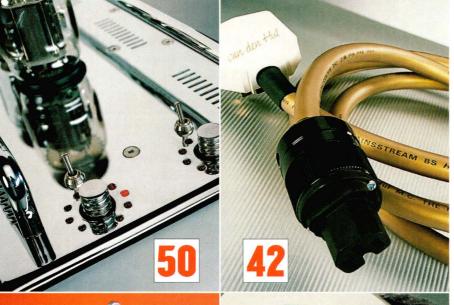
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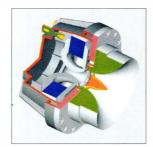
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#### TOWERING TRIANGLE

#### TRIANGLE'S £20,000 FLAGSHIP SPEAKER - THE MAGELLAN

French speakers are getting taller.

Haute parleur specialist Triangle has launched its most ambitious design to date in the form of the two-metre-plus Magellan. This imposing yet elegant speaker is made up of three interconnected cabinets - bass sections sit above and below a mid and high frequency box with drivers firing both fore and aft. The tweeter is a pressure driver developed by Triangle using a titanium dome and 100mm magnet. Midrange is provided by a 160mm cellulose cone with pleated surround while bass is from four 160mm units featuring a new 'S' shaped suspension.

The Magellan is described by Triangle founder and designer Renaud De Vergnette as a no-compromise speaker in which all 415 components have been very carefully selected. If its £20,000 price tag is a bit rich you can sample some of the technologies developed for it in the new Stratos range which starts at £1.500. This consists of four floorstanders and a standmount - all feature a TZ2800 tweeter similar to the Magellan, while the top model, Volante, has bipolar mid and treble drivers for £4,000. Look out for an exclusive review soon. **2** 01753 652669.

www.triangle-fr.com



#### AHHH, KISTO!

#### NEW MULTI-ROOM CONTROLLER FROM LINN

Linn's continuing drive towards home networking has spawned a new system controller - the Kisto. Linn says it's one of the company's most complex products ever, with 6,000 individual components, eleven circuit boards and over 100 rear panel sockets. Kisto is essentially an audio and video processor with a front panel display for easy set-up and a Linndesigned user interface for complex custom AV and multiroom systems. It's an ideal partner for Linn's own Knekt multi-zone systems and features online help during set-up via a web browser. The controller is available now, priced at £8,000. 





Antony Michaelson's latest offering from Musical Fidelity is the Tri-Vista 21 DAC, another top-end device intended to celebrate the company's 21st anniversary. The new digital-toanalogue converter is claimed to offer significant improvements over the existing A324 in terms of technical performance, sonic quality and build. Based around a Burr-Brown chipset, a host of technical improvements are claimed including greater dynamic range, channel separation and filtering. Additional features include a Tri-Vista valvedriven output stage and choke-regulated power supply. The Tri-Vista 21 is available from September priced at £1,200.

2 020 8900 2866 @ www.musicalfidelity.co.uk



#### **RADIO RESCUE**

#### NEW CAMBRIDGE UPSAMPLING DAB TUNER

The new DAB500 DAB tuner from Cambridge Audio is set to deliver the brand's best ever digital radio performance with a host of upgrades over its still-current forerunner, the HFC Best Buy DAB300. These include a Wolfson 24-bit/192kHz DAC, separate proprietary DAC and analogue circuit stages, audiophile-grade capacitors and a split power supply for analogue and digital sections.

A further feature of the unit is Cambridge's NCT (Natural Contour Technology) - a three-stage control on the back panel that allows users to adjust timbre to combat processed or compressed broadcasts. The usual raft of control features is also included such as autoscan, ten station presets and a jog dial control. Broadcast information is displayed on the blue LCD screen and a full complement of outputs is available including an input for analogue radio. Priced at £150, the DAB500 is available this month.

**2** 0870 900 1000

www.cambridge-audio.co.uk

#### **BRONZE AGE**

#### MONITOR AUDIO'S NEW FLOORSTANDER

**Monitor Audio's** entry-level Bronze Series has been joined by another speaker boasting the manufacturer's proprietary metal driver technology - the Bronze flagship B6.

Priced at £500, the 2.5-way floorstander sports three 152mm MMP (Metal Matrix Polymer) cones - two bass

units and one for midrange frequencies. These are augmented by two bass reflex ports, one front and one rear, both tuneable with foam bungs.

A gold dome C-CAM tweeter delivers treble to a respectable 25kHz, crossing over at 2.6 kHz from the MMP midrange driver.

**Monitor Audio** claims to have raised performance levels for its **Bronze flagship 2** 01268 740580





#### **MASTERCHEF**

LATEST DAB/FM 'KITCHEN' RADIO

The growing ranks of desktop digital radios have received a further boost this month with the launch of new brand Intempo Digital's PG-01 'kitchen' radio. The stereo unit can receive both DAB digital and FM analogue stations, and users can alternate between them at the touch of a button. A silver panel at the top of the radio houses all the control buttons and a blue LCD screen displays station information where available. You also get eight presets, a headphone socket and an alarm clock with sleep function for late night listeners. The PG-01 is mains powered and sells through high street retailers for £130. **2** 0161 924 0300

www.intempodigital.com

#### Soundbites



its 'Super Audio' series in the UK with the SB2, a piano black standmount for £400. The SB2 combines a 25mm aluminium dome tweeter with a polypropylene bass/mid driver that descends to 51Hz. NHT claims that the new SB2 improves technically on the SB1 and offers "greater bottom end and smoother overall response" **2** 01327 706560

RUS has licensed Imerge's XiVA internet-enabled AV home networking technology, for use in a new Cyrus hard disk-based product. Still in development, the Cyrus Link system will include a hard disk audio server with integrated Cyrus DAC technology, network players and handheld wireless touch panel controls. It should be available in September. **2** 01480 435577

AD has launched a new speaker from across the pond called the S5 - a £750 floorstander with a veneered cabinet and proprietary drivers. Its curvy shape is designed to reduce internal standing waves generated by the its two 125mm paper cone drivers and 25mm titanium tweeter. **2** 01327 706506

BLACK RHODIUM has a new interconnect called the Illusion, specifically designed for use with Eichmann's bullet plugs. The illusion uses high purity silver plated copper in a tightly twisted configuration with PTFE insulation. Its thin solid core conductors are said to perfectly complement the benefits of the bullet plug. Prices start at £70 for a 0.5m pair. **2** 01332 361390

RUSS ANDREWS has launched a new website allowing customers to buy cables and other hi-fi accesories securely online. As well as the full product range, the site offers tips on system set-up and includes free downloads of the Russ Andrews information booklets

www.russandrews.com

#### audiofile PRODUCT NEWS

#### (>) Soundbites

NAD has announced further details of its new Silver Series DVD player, first unveiled in last month's Frankfurt Show report. The new \$570 is said to have an "emphasis on music first, delivering first-rate NAD audio quality". Inside are 24-bit/192kHz Wolfson DACs and Burr-Brown op-amps for the audiophile, plus the player offers HDCD compatibility. Videophiles are not forgotten though – the S570 also sports progressive scan for all DVD region discs as well as component, composite and S-Video outputs. Available in September, it'll retail for £1,200. **2** 01908 319360

M COMPONENTS has released a range of interconnect cables specifically designed for valve amps. The Dragon Tails range comprises of three cables, starting with the Red Dragon Tails at £50 for a metre pair. They're joined by the Black Dragon Tails at £175, and the flagship Silver Dragon Tails at £500. Speaking about its top-end Silver cable, PM Components claimed: "There is no better cable at any price that will perform better in a vacuum tube amplification system". **☎** 0870 9220404

#### Hi-Fi diary

29-1 IFA Berlin 2003 Berlin, Germany 020 7886 3103 Europe's largest consumer electronics expo

26-28 HiFi Show & AV Expo Heathrow, London 020 8774 0847 London's best established hi-fi show

26-28 What Hi-Fi? Sound & **Vision Show** London A new London event For 2003

National Vintage Communications Fair 07947 460161 If you're a fan of old valves and 'wireless' radios, this is for you

17-19 Home Entertainment Show 01524 36991 A premier hi-fi and AV event in the north west

Dublin Hi-Fi & Home Cinema Show Dublin, Ireland 00353 1 288 9449 Good for 'the craic



#### **ROD STALWART**

#### CARBON FIBRE TONEARM FROM CLEARAUDIO

Clearaudio has used its turntable design expertise to produce a new, affordable carbon fibre tonearm. Called the Unify, this latest uni-pivot arm is said to provide high-end performance for much less than Clearaudio's eccentric tangential arms. Its design is based around a single-point sapphire bearing that sits on a precision hardened steel spike. A combination of aluminium bearing housing, carbon

fibre arm and stainless steel base is said to effectively damp critical resonances and keep energy transmission under control. The arm is fully adjustable and available in three different lengths, with various wiring options to suit individual needs. Prices start at £690 for the nine-inch version.

**2** 01252 702705

www.audioreference.co.uk



#### **BLOWIN' IN** THE WIND

GALE LAUNCHES EIGHT-STRONG **LOUDSPEAKER RANGE** 

Gale is again vying for the UK budget speaker crown with its new Series 30. Launched to celebrate the brand's 30th anniversary, the new range offers both two and multichannel solutions with prices from £70 per pair for the 3010S compact standmount. The range continues with another standmount and two floorstanders, while multichannel users are catered for by a centre, bi-polar rears and two subs.

All the models sport soft dome tweeters and magnetically-shielded paper cone main drivers in braced MDF cabinets. Finish options are black ash or beech vinyl. **2** 0870 900 1000

**www.richersounds.com** 

#### RIBBONRY

#### **NEW RIBBON TWEETER FOR ESSEX TITANS**

Essex-based Titan loudspeakers has launched a new speaker with an aluminium ribbon tweeter. Earlier T2/s models used Focal's titanium inverted dome tweeter - the new ribbon tweeter is said to address some balance criticisms made of the old model (reviewed in HFC 240). The new T2/sr is said to have an effective frequency response from 28Hz (bass) to 30kHz (treble) and is down only 8dB at 40kHz. The bass/mid driver is a 200mm spun aluminium unit with a double hand-wound voice coil. Titan has gone for a more dynamic cabinet with anthracite finish and claims the T2/sr has virtually non-existent coloration. The new model is available now priced at £650.

**2** 01702 206870

www.titanloudspeakers.co.uk



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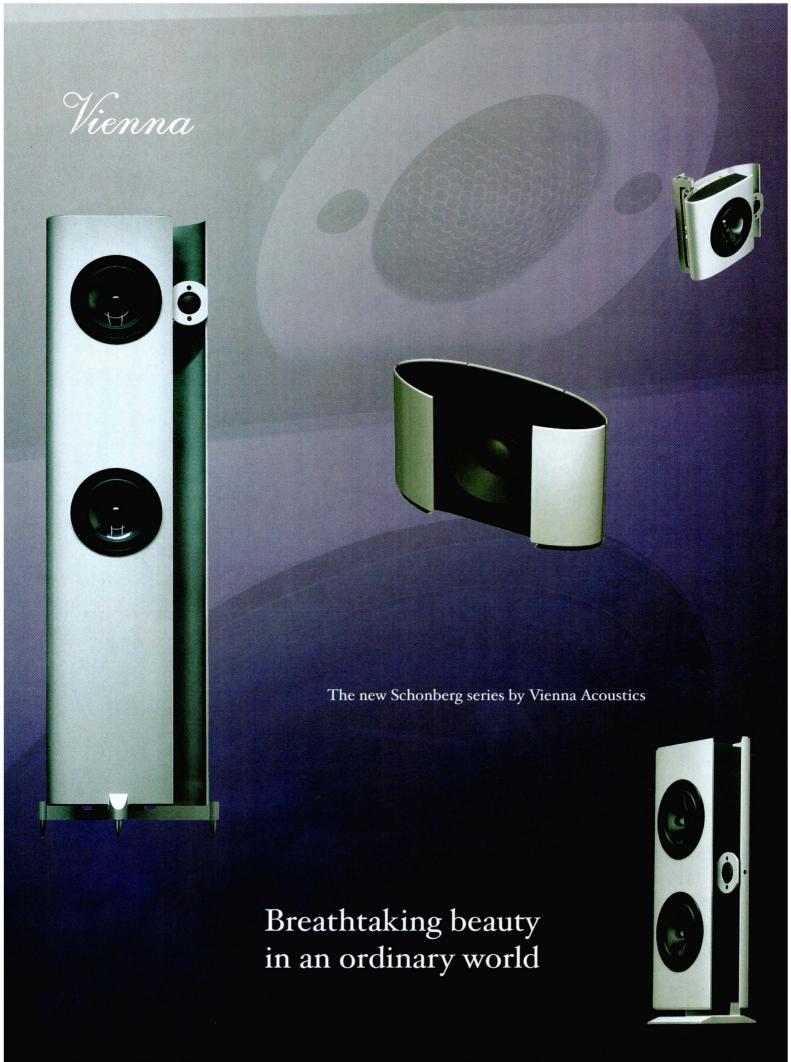
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SINDUSTRY & TECHNOLOGY NEWS

#### **CEDIA SHOW SPECIAL**

The annual CEDIA UK Expo offers a glimpse into the rapidly developing world of multi-room audio and AV



#### **SOUNDSERVERS**

When you want to be able to access different music in different rooms it's hard to beat a soundserver. These hard disk audio sources are taking over with models from Imerge, Linn, Mordaunt-Short Opus, Revox (pictured) and QED among others kicking out CD changers as the source of choice for multi-room. Their advantages include high capacity and, in uncompressed storage format, good quality as well. Inevitably most users opt for MP3 which limits quality in exchange for capacity and at present the emphasis in this industry is still on getting more rather than higher quality music around the home, but things are improving.

With hi-fi brands like Arcam, Marantz, Meridian and Harman Kardon showing off



Revox M series hard disk audio server

kit that can be integrated into custom installations, they're going to have to. Companies going the whole hog are on the rise – Linn has its new Kisto controller and a lovely handset to go with its Knekt system, and Rotel has jumped in at the deep end with its I-Command system which works with PDAs and touch screens, while its new RSP-1098 AV processor has a built-in TFT screen and is designed to give TAG, Meridian *et al* a hard time at £2,250.

#### **CONNECTION AND SET-UP**

Expect to see more unusual sockets on your next AV receiver or DVD-Audio player. New connection systems are very popular in the custom installations game, with A-BUS and RS232 links being joined by C-BUS, CAT 5 and even optical data links.

If all these acronyms give you the jitters it'll be comforting to hear that the industry is making a big effort to improve ease of set-up.

Multi-room hardware is also getting



QED's Systemline Modular handset

smaller, so you no longer need to dedicate an airing cupboard to stacks of boxes. QED is at the forefront once more with its Systemline Modular distribution system, which distributes audio and data on the CAT 5/6 system from a simple hub, the signal driving active speakers in each zone.



#### **AMPLIFIERS**

Amplifier brands still seem to be sitting on the home cinema side of the line, with Mark Levinson showing its No433 three-channel power amp. The ML guys mentioned that incorporating any more channels into a standard chassis would require switched-mode PSUs, but didn't rule out such a move. Meridian meanwhile is using its technological edge to bring room correction to the party, using its DSP7000 speaker system to reveal the extent to which bass problems can be ironed out.

NAD has gone deeper with multiple zone power amps offering six and twelve channels, and its new L70 (above) is a complete DVD multichannel receiver with a fully learning remote that can talk to your PC. Revox meanwhile has reinvented itself as the Swiss B&O with the modular M series including DVD player, hard disk server, processor and amp, all designed for multi-room installation.

#### LOUDSPEAKERS

Not surprisingly, high-end loudspeaker brands are turning their attention to custom install with an explosion of serious in-wall designs. Revel uses cast alloy baffles in two and three-way models while **B&W** has applied Nautilus technology in the Signature 8NT (right). KEF has bolstered its range with the Ci series and Final has brought electrostatic technology to the scene. Believe it or not, subwoofers, the drummers of the audio world, are getting cleverer too. Models in Velodyne's Digital Drive range come with a microphone and remote, and allow digital equalisation and set-up via an on-screen display. Prices start at £2,100.



# audiofile ...:

#### **⋈** BEATS'N'PIECES

#### **TIME MACHINE**

#### **FIVE YEARS AGO**

Hi-Fi Choice

September 1998

Details emerged of the UK's first standalone DAB receiver, jointly-developed in just six weeks by Ensigma



and the BBC. At the time, in-car units were the only DAB tuners available to catch the 60 per cent of DAB coverage in the UK. Our blind yet

otherwise competent panel lapped up the Copland CDA266 CD player in our HDCD group test – but the ultimate sonics of the issue came courtesy of the dCS Elgar Digital to Analogue Processor (DAP). Ahead of its time, the DAP's DVD-Audio ready 24-bit/192kHz processing spec is only now begging to filter through to real-world CD players.

#### **TEN YEARS AGO** Hi-Fi Choice September 1993

Does anyone remember the Musical Fidelity F22 pre and F15 power amp? Perhaps you even bought one after



reading the glowing review of the equally glowing valvebased duo that trounced the competition a decade ago. At £3,000 it wasn't

cheap, but with the van den Hul Grasshopper MkIII GLA cartridge at £3,200, perhaps it wasn't so bad. Pricey yes, but one of the finest cartridges of the time – an accolade it still holds today. Winners of the speaker group test were the JPW Mini Monitors, a familiar sight in student set-ups for years thereafter.

#### **SYSTEM BUILDER**

EACH MONTH, WE PICK A FAVOURITE DISC AND BUILD A SYSTEM TO SHOW IT AT ITS BEST



#### **NINA SIMONE**

Baltimore CTI/Legacy

Cut in Brussels, during her self-imposed exile from the US in the seventies, *Baltimore* is an eclectic collection of songs written by artists as diverse as Randy Newman, Judy Collins and Daryl Hall, with the odd traditional hymn thrown in for good measure. It varies from Nina's unaccompanied voice and piano (a full-blooded classically-styled version of *Music For Lovers*) to the sweeping orchestral strings and cod reggae rhythm of the title track.

Your system will need to handle the extreme dynamics both of Nina's often uncompromising keyboard style and the sometimes slightly muddy orchestral arrangements (overdubbed afterwards in New York). It's an album of such pick and mix sources that it really shouldn't work on paper, but it's a testament to Nina Simone's unique personality and talent that it works so incredibly well.

#### **CD PLAYER**

**MERIDIAN 507 £1.200** 

A 'source first' system this one, with Meridian's 24-bit/192kHz DAC, CD-ROM transport and proprietary

electronics delivering an engaging and precise sound for around twice the price of its amplification partner.



#### **AMPLIFIER**

**ROTEL RA-1062** £595

The cream of the current integrated crop – brand new and not afraid to dig deep into recordings and expose them, warts and all. Powerful, purposeful

and crisp, a fine example of the lesser spotted two-channel amplifier.



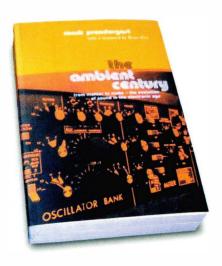
#### LOUDSPEAKERS

**TANNOY SENSYS DC1** £450

Tannoy's latest Sensys range combines superb new dual-concentric drivers with top mounted super-tweeters, all for a bargain price. Its superb neutrality won't 'add' to La Simone's distinctive vocals. Audiophile performance at an

entry-level price.





#### **BOOK OF THE MONTH**

#### **The Ambient Century**

Mark Prendergast Bloomsbury

This hefty tome attempts to document one of the most ethereal concepts in sound – atmosphere, and how it has come to dominate modern music. Regular *HFC* contributor Prendergast takes an open view of 'ambient' from early pioneers including Mahler and Debussy through prog and krautrock to the trip hop of Massive Attack, drawing on a wide range of music from classical, rock, dance and the avant-garde to paint a picture of 20th Century musical progression. A sprawling, often fascinating work, its potted histories of many of modern music's prime movers make for very useful reference.

#### audiofile **⊗ BEATS'N'PIECES**

#### READERS' DEMO DISCS

YOUR FAVOURITE MUSIC FOR HI-FI AUDITIONS



#### PAUL BRADY **Nobody Knows (The Best Of)**

"So often the commentary around hi-fi relates to performance - tonal quality, the ability keep pace and so on. These are important, but what about the music? The emotional energy in this Paul Brady collection hooks the listener,

demands attention and never lets go. From the plaintive reflection of Nobody Knows, to the heart-stopping emptiness of The Island, the music simply stirs. It seems at times the world just stops, that there's nothing else but you, the singer and the feeling. If this don't warm the cockles, you ain't got cockles. Once more with feeling please..." Lee Wells

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 #12**

HANDY HINTS FROM JIMMY HUGHES - HI-FI'S SUPER TWEAKER



Tone Controls and when to use them

There was a time when all amplifiers had tone controls. Then, from the late seventies onwards. it became less and less fashionable to offer bass and treble adjustment. Thankfully, many modern amplifiers are not so hair-shirt as their counterparts of the past, and limited degrees of tonal adjustment are offered - along with a

button that switches the tone controls out of circuit for purists! If your system sounds slightly on the thin side and overly forward, try a little treble cut and some bass lift. Conversely, if things sound a little dull and heavy, then try cutting the bass slightly and lifting the treble. Often, combining slight correction at both ends of the frequency spectrum (say, a little bass lift coupled with a gentle treble cut) brings the sound into a truer balance tonally than the separate adjustment of bass or treble alone.

#### ON THE OFFICE STEREO

MUSIC THAT AMUSED US WHILE CREATING THIS ISSUE

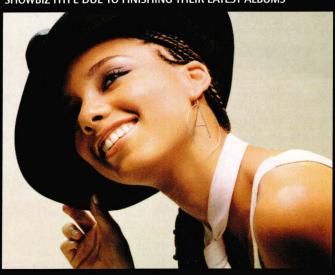
Bonobo Dial M For Monkey Nitin Sawhney Human **Longview** Mercury Panjabi MC Beware Ryuichi Sakamoto A Day In New York **Me First And The Gimme** 

**Gimmes** Take A Break Tim Buckley Happy Sad Sly and Robbie Late Night Tales Michael Jackson Off The Wall The Smiths Hatful Of Hollow



#### MUSIC IN THE STUDIO

ARTISTS RECENTLY ABSENT FROM THE CUT AND THRUST OF SHOWBIZ HYPE DUE TO FINISHING THEIR LATEST ALBUMS



#### **ALICIA KEYS**

#### Release date: (

Released in 2001 when she was just 21, Alicia Keys' debut album Songs In A Minor sold 9 million copies world-wide, won five Grammys and established her as the heir to Aretha Franklin's crown as the 'Queen Of Soul'. The eagerly awaited follow-up showcases her talents not only as a vocalist but a consummate songwriter.



#### Release date: 8

Since relocating from Manchester to LA, the Charlatans singer has recorded a dozen new songs for his debut solo album with producer Linus (Puff Daddy/Lil Kim). "It's a cheer-you-up record with influences from all my favourite artists rolled into my own style," Burgess says.

#### Title: U

#### The first album in five years from Miami's Latin queen contains a generous 18 tracks, all written by Estefan and co-produced with her husband, Emilio. Four tracks are sung in Spanish with the remainder in English, including a duet with the

Pretenders' Chrissie Hynde. The CD release will be accompanied by a 40-minute DVD made by Estefan's son, Nayib.

#### Title: In Time Release date: 0

A brand new album from REM will follow in 2004, but appetites will be whetted by the inclusion of two new songs on their first comprehensive 'Best Of' compilation. Bad Day and Animal, were both premiered on the band's recent UK tour. For the rest, it's taken a double CD to include all the favourites from their 20-year career.

#### Title: In Release date: 1

One of America's most individual songwriters, Warren Zevon recorded what is likely to be his final album after he was told he had an inoperable cancer. Bruce Springsteen, the Eagles, Tom Petty, Jackson Browne and Emmylou Harris turn out to help on ten new songs and a poignant cover of Knockin' On Heaven's Door.

#### ALSO COMING SOON...

Jewel tbc (Sep), Dido Life For Rent BMG (Oct), Ryan Adams Love Is Hell (winter), Electric Soft Parade tbc (Oct), Rod Stewart tbc (Oct)

Ulla Pirttijarvi Mattarahku Askai (Aug), Glenn Gould ...And Serenity (Oct), John Williams El Diablo Suelto (Oct), Horowitz Beethoven Sonatas (Oct), Joshua Bell Bellissimo (Nov)

#### Hear the amplifiers at the What HiFi? Sound and Vision Show 2003 Room 318

# The EA Series of amplifiers by ECS

Whether it's music or film the EA series will enhance your passion. A range of amplifiers designed by enthusiasts for enthusiasts.

ECS is a bespoke PCB company based in West London, specialising in high quality hand assembled printed circuit boards. The company is run by music and audio enthusiasts, so the next logical step was to enter into the world of high-end audio utilising its expertise in PCB design and audio design amassed over the company's 6 year experience.

The culmination of 2 years of R&D brings us to the EA series' primary function, high quality audio reproduction.

The EA's dynamic capabilities strike a unique balance between exceptional musicality and drive allowing the attentive listener to follow the most subtle tonal nuances of the musical event.

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- Hand selected audio grade components
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#### See the EA-2 review in the June issue of Hi-Fi News

	model no. EA-1	model no. EA-2
Power Output	200W into 8 ohm	2 x 180W into 8 ohm
Input Impedance	47k ohms	47k ohms
Frequency response	-3dB points @ 5Hz & 100KHz	-3dB points @ 5Hz & 100KHz
Inputs	Balanced XLR or Unbalanced RCA rear panel switchable	Balanced XLR or Unbalanced RCA rear panel switchable
Input connectors	1 x XLR-Pin 2 +ve 1 x RCA	2 x XLR-Pin 2 +ve 2 x RCA
Output connector	4 x 4mm sockets. Ability to accept Spade type connectors	8 x 4mm sockets. Ability to accept Spade type connectors
Power cable	Audiophile grade (type 1)	Audiophile grade (type 1)
Case dimensions (HxWxD)	112 x 438 x 428mm inc handles	112 x 438 x 428mm inc handles
Mains Supply	115v and 230v 50 or 60 Hz consult dealer	115v and 230v 50 or 60 Hz consult dealer
Weight unpacked	22 Kg ea	22 Kg
Weight packed	25 Kg ea	25 Kg

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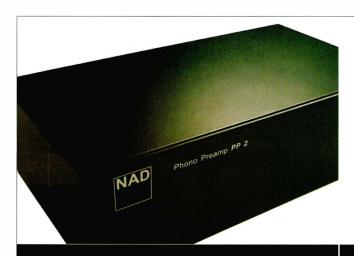
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fax: +44 (0) 20 8740 4200 email: enquiries@ecsamplifiers.co.uk web: www.ecsamplifiers.co.uk



#### ESSENTIALS Our regular round-up of hi-fi accessories





#### NAD PP2 phono stage £50

The original NAD phono stage, physically similar to this, only handled movingmagnet (high output) cartridges and was good value at £40. For a tenner more, this one adds moving-coil compatibility and an earthing point on the back. It also adds, internally, a large number of components and it's quite astonishing what NAD manages to offer for the money. The MM part is still based on an op-amp but discrete transistors, as in the best high-end kit, look after the MC part and component quality is not the cheapest and nastiest by any means.

The sound couldn't really be described as full-on high end but it's better than one has any right to expect. Noise is respectably low on both inputs and there's a nice open tonality and clarity, with fine bass drive and no treble constriction either. Hum is kept to a very low level. As an add-on for any good budget amp that lacks phono capability, this is superb value.

2 01908 319360 # www.nadelectronics.com

#### Optrix CD Cleaner & Clarifier £17

We've seen quite a few varieties of CD cleaner, all claimed not merely to clean fingerprints and the like from discs but also to improve performance with brand-new discs. The principle's always the same, involving wiping some mild solvent over the disc and then removing it complete with dissolved deposits. In this case you get 60ml of alcohol-based liquid but have to provide your own tissues. In fact, we'd advise against using tissue, preferring microfibre cleaning cloth (from supermarkets) which is lint-free and completely non-scratchy.

Results are much as claimed, with visible dirt and fingerprints being completely eradicated and a fairly consistent improvement in definition and detail. However, the advice in the instructions to clean the label side of the disc should be disregarded if you have any hand-labelled or inkjet-printed CDRs, as smearing can result. Not remarkably better or worse than competing products, but simple and cost-effective. 0870 240 7228 # www.choicebits.co.uk





#### Last Stylus Cleaner £20

All sorts of stylus-cleaning regimes have been proposed over the years, including the apparently bizarre - though effective - use of the striking surface of a safety-match box. But a suitable fluid on a soft brush is probably the most enduringly popular, and that's what Last provides. The brush is really very soft indeed - you'd have to be extremely cack-handed to do any damage with it - and the fluid, which smells a little like some strange Russian drink, does its job efficiently and evaporates fast. A coarse-haired brush is provided as well for shifting heavy deposits: this requires a little more care in use however.

Don't be tempted to use the wet brush for cleaning up along the cantilever, as this can make a sticky 'mud' of grime which causes all sorts of problems for the suspension. Use a dry brush for that, but for the stylus itself this is the perfect solution and recommended.

8 0870 240 7228 🐞 www.choicebits.co.uk

#### TerraTec Phono Preamp Studio £90

The 'studio' consists of a line/phono preamp, an analogue-to-digital converter, a USB interface and software to reduce scratches and background hiss on recordings copied from LP or cassette. Inside that little plastic box is all the necessary electronics, nothing fancy but surprisingly adaptable with even adjustable input capacitance. Connect to a PC and the hardware is ready for use: start up some recording software (as supplied, or any other favourite), play a disc and you'll create an editable '.wav' file on your hard disc. Recording quality is very decent.

The restoration software is easy to use and can process in real time or save results to hard disk and CD. However, in common with other cheap restoration systems, its results are never completely free from side effects. With experience, one learns to use it in extreme moderation, which gives a useful reduction in loud ticks and pops from vinyl, and can reduce somewhat the excessive hiss of poor cassette recordings.

### "My kind of music"











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# HI-FICHOICE COMPETITION

# Win a slice of digital heaven

#### ...with the stunning Audio Analogue Maestro CD player!

hen Audio Analogue's mighty Maestro CD player arrived in the *Hi-Fi Choice* office, few could think of a more beautiful player for the money. Its Italian maker has only a brief history – Audio Analogue was brought into existence as recently as 1995 by a group of hi-fi professionals and electronics experts. But in the case of the Maestro, the flair for fabulous design which seems to be a prerequisite of many Italian brands has produced a thing of both physical and sonic beauty in those few short years.

Yet there's more the the Maestro CD player than meets the eye. It's also described as a 'Digital Audio Processor', able to occupy the role of 'DAC' for external digital sources as well as operating as a straightforward CD player. Inside it boasts 24-bit/96kHz digital-to-analogue conversion via two Analog Devices AD1855 DACs used in parallel – by means of a button on the front panel, it's possible to

toggle between the internal CD transport and an external digital source linked through the player's digital input.

When *HFC* reviewed the Maestro back in issue 228, we praised its grace and composure. "Stunning build quality with a silky smooth presentation," we said, declaring it to be "a very appealing package overall, both in terms of sonics and sheer visual beauty".

The Maestro CD player is a true audiophile source component, a fact reflected in its suitably hefty £1,600 price tag. But thanks to *Hi-Fi Choice* and UKD, Audio Analogue's distributor in the UK, you could win one by answering the simple question below. The first correct entry 'out of the hat' will ensure its owner is soon rediscovering his or her favourite

CDs late into the night. So get dialling... and good luck!

A Maestro CD player from Audio Analogue worth



#### To enter just answer the following question and call the number below:

Q) How can you access the Maestro CD player's digital input?

a) By means of a button on the front panel

b) By means of a button on the inside

c) By means of a button on your winter coat

d) By means of a meeting with F1's Jensen Button

**2** 0906 700 6042

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Employees of Future Publishing (including freelancers) and their relatives and any agents involved are ineligible to enter competitions or polls. The editor's decision is final and no correspondence will be entered into. Prizes cannot be exchanged for cash. Closing date for entries is 9 September 2003. Winners will be selected at random from correct entries received by this date and informed within 28 days. Prizes will be sent out within 28 days of notification by the companies involved, not Future Publishing Ltd. Calls cost 50p per minute and should last no longer than 2.5 minutes. Please remember to get permission from the person who pays the bill before you dial. No purchase necessary. Postal entries are also accepted: send your name, address, telephone number and email address (if applicable) to: Hi-Fi Choice: Audio Analogue Competition, PO Box 7943, London, SE1 9ZT. Please also state if you do not wish to receive any communications from Audio Analogue not directly relating to this competition. If you have any problems submitting your entry, please contact the service provider. Fusion, 15 Mark Lane, Leeds, LS1 8LB.

# ChoiceCuts



This month's varied musical morsels

Reviews by Alvin Gold, Jason Kennedy, Shaun Marin, Dave Oliver, Mark Prendergast, Phil Strongman, Nigel Williamson

#### **AUDIOPHILE VINYL**

#### JOHN MCLAUGHLIN, AL DI MEOLA, PACO DE LUCIA

Friday Night In San Francisco

Philips/Vivante 180g vinyl

Music: This is a classic hi-fi demo disc

recently re-issued by Vivante on this gorgeous 180g pressing. It's one of those rare things – a great live performance that was well recorded and features the talents of the three finest acoustic guitarists

brought together in what could have turned into a battle of the titans. Mediterranean Sundance opens the proceedings and whips the audience into a frenzy that the guys fuel with gusto. The rest of the album is a mite more sophisticated but always a pleasure for the guitar aficionado.

of the time (1980)

#### RICHARD THOMPSON The Old Kit Bag

Cooking Vinyl/Diverse Records 180g vinyl x2
Music: Subtitled Unguents, Fig Leaves
and Tourniquets For The Soul, the first
Thompson album in four years is a
vibrant and powerful offering from the
godfather of folk rock. His songwriting
skills and tuneful yet unpredictable

guitar playing are combined with the double bass playing of Danny Thompson, Michael Jerome's drumming and Judith Owen's backing vocals. First Breath is the obvious stand-out, all three players keeping it acoustic to superb effect.

These and other audiophile LPs are available from Vivante: 

2 01293 822186 

www.vivante.co.uk

#### **COMPACT DISC & VINYL**



#### **NEIL YOUNG**

Greendale

Reprise

Music: Neil Young tested the patience of even his most loyal fans on his live British dates in May. As they called for old favourites like Heart Of Gold, he gave them instead his unheard new 'concept' album in its two-hour entirety. On disc, the work checks in at a more modest 78 minutes, but even after half a dozen listens, you will probably still be perplexed by Young's frankly incoherent story about small-town America. Does it matter? Not if you're a fan, as joined by his long-standing band Crazy Horse, his rambling blues and stinging guitar lines sound as potent as ever. \*\* Sound: Nobody buys Neil Young records for their sonic perfection. He's always preferred spontaneity to polish and the ramshackle, bar-room sound is part of Greendale's appeal. \*\* NW



#### **ELBOW**

A Cast Of Thousands

Music: The Manchester five-piece spent a decade building up to their debut, Asleep In The Back, which nearly won the Mercury Music Prize in 2001. Now they've managed to top it with an album that cleverly hitches the vaulting prog-rock ambition of that first record to a set of tighter, more personal and heart-felt songs. Singer Guy Garvey still sounds uncannily like Peter Gabriel and their dense. instrumental textures are in places reminiscent of Radiohead. But neither of those comparisons is exactly going to damage their cause. \*\*\* Sound: Ben Hillier, currently the best young producer in Britain who was also responsible for Blur's Think Tank, has done a superb job, combining emotional warmth with technical sophistication. ★★★★★ NW



#### DVORÁK

Cello concerto, Symphony No7 Frans Helmerson (cello) Gothenburg Symphony Orchestra BIS CD-300245

Music: The Cello concerto is not well represented on disc, perhaps because the work has been overshadowed by the Elgar concerto. Although troubled in its gestation, the Dvorák concerto is a wonderfully expressive work, constantly surprising in its twists and turns. Helmerson is not fazed by the technical challenges, he simply allows the music to speak for itself. The Seventh Symphony is relegated to the role of (spectacularly fine) filler, but it is an outgoing, driving performance.

Sound: The sound is vivid and open in the best BIS tradition, making this the next best thing to an audiophile recording without the sterility that too often results. \*\*\*\*\* AG



#### **NEIL YOUNG**

On The Beach

Repris

Music: High on hash concoctions and the musical input of Crazy Horse alongside Crosby and Nash, Neil Young delivered one of his most controversial albums in 1974. *On The Beach* mixes barely-there music with the incendiary

genius of *Revolution Blues* and the brilliant blues guitar protraction of the title track. His then wife, along with Charles Manson, Richard Nixon and the 'vampires' of big business populate this bleak work which was judged despairing on release. But it's full of dazzling wordplay and the ramshackle Sunset Sound sessions produced in the final trio of tracks, Young's most potent achievement in sound.

Sound: Utilising HDCD's analogue transfer clarity, Young's recent green-lighting of *On The Beach* for CD allows everyone the chance to hear this acoustic/electric album the way he intended. \*\*\*\*\* MP



#### **BRAHMS**

Piano concerto No2, Variations on a Theme by Haydn for Orchestra André Previn (cond), Royal Phil

Telarc Classics Midline CD-80197

Music: The second piano concerto is mature Brahms on a grand scale — tuneful, expansive, but never showy for its own sake. The Haydn variations (ironically, later scholarship suggests the theme was probably not written by Haydn himself) is a short set of orchestral variations, which will be instantly recognisable to many. The performances are expansive and the playing expressive, if at times slightly plodding.

Sound: Tonally colourful, the Walthamstow Town Hall recording has a natural spaciousness and unhemmed dynamics, matched to an excellent, if sometimes slightly over-large sound from the Steinway piano.

# OK COMPUTER \*\*SOCIALIZATION\*\* \*\*A TOTAL COMPUTER\*\* \*\*A TOTAL COMPUTER\* \*\*A TOTAL COMPUTE

#### THIS MONTH'S CLASSIC HI-FI TEST DISC "Listen for the variety of shapes and textures"

RADIOHEAD OK Computer Parlophone

Music: One of the best (prog) rock albums of the nineties, Radiohead's third album (1997) quickly established itself as a work of creative genius. Highly varied and experimental, it has elements of Pink Floyd, Television and even Blue Öyster Cult set against a distinctly post-punk dystopian view of the world. It's the sort of album that once it's in your system you won't be able to stop playing it. And if you've only ever

heard it on a wireless or a Walkman you're in for a real treat with a decent hi-fi system.  $\star\star\star\star\star$ 

Sound: Considerable production effort has gone into making this a rich and varied recording, full of subtlety and detail (despite the compression). Unusual phase manipulation throws images out in diverting fashion – listen out for the sheer variety of shapes and textures. \*\*\*\* JK



#### **ELVIS COSTELLO**

North

Deutsche Grammophon

Music: Ten years after *The Juliet Letters*, Costello returns to his classical muse. This time it's more of a parlour song cycle – clever, erudite

confessional even, with just a whiff of formality. You can imagine him standing next to his piano

accompanist (Steve Nieve, as it happens) in tux and tails, possibly clasping his hands together as he sings, intimately and for the most part softly, thankfully laying off that sandpaper quality to his voice. Lyrically, the songs trace the end of a relationship and its aftermath – he's in failing romantic mode, struggling to believe in love, but being Costello, the bitterness is never far away. \*\*\*\*

Sound: Costello's vocals are high in the mix with piano as the predominant accompanying instrument, though there's also acoustic bass, drums and a 48-piece orchestra on call. It's well defined and clear, but also possesses an intimate warmth, as though Costello and a few of his associates are performing in a drawing room for your pleasure alone. \*\*\*\*\* DO



#### **VARIOUS ARTISTS**

Cinemix

Universal Jazz

Music: French cinema has produced a wealth of unique visual stylists from Cocteau to Besson, but it also has an underrated army of soundtrack stars. The pieces here are not the originals from the 1960s-80s, but remixes passed through a modern filter by the likes of Howie B, Gonzales and Carl Craig. Names like Michel Magne and Antoine Duhamel may not be as well known as those of Morricone or Barry, but the best of their work stands comparison with those universally feted soundtrack giants. \*\* Sound: As with any compilation, especially one that focuses on remixes, the quality can vary from track to track, depending on the quality of the original samples and the degree to which they've been treated. ★★★ DO



#### **VARIOUS ARTISTS**

Joe Meek: The Alchemist of Pop, Hits & Rarities 1959-1966

NORTH

Castle Music

Music: This double CD set shows the UK's first indie producer Meek at his most diverse – from the proto-synths of the Telstars' million-selling *Tornado* to John Leyton's hauntingly ethereal *Johnny Remember Me.* The temperamental Meek could – should – have been the UK's Phil Spector but the monies owed him on *Telstar* got held up in court and he shot himself at his London flat in 1967. Still, he left this behind – 56 singles, each one telling its own strange little story.

Sound: The quality of sound is not uniform but, over the two discs, you can clearly hear Meek gradually refining his techniques and technology. \*\*\* PS

#### **DVD-AUDIO & SACD**

#### MESSIAEN

Turangalila Symphony

Jean-Yves Thibaudet (piano), Takashi Harada (ondes martenot), Riccardo Chailly (conductor), Royal Concertgebouw Orchestra SACD (multichannel/stereo SACD plus stereo CD Jayer)

Decca 470 627-2

Music: This iconic monument to the brittle realities of the mid-20th century synthesises eastern and western musical ideas into a heady mix of extraordinary self-confidence and

panache. It consists of ten nearly static tableaux with little thematic or harmonic progression, reinforced here by the a ruthlessly driving but brilliantly detailed reading. \*\*\*\*\*

Sound: Released in stereo a decade ago, the multichannel mix places the exotic percussion section and the ondes martenot, a kind of infernal whistling machine, though slightly muted in this version, on the surround channels. The mix is sometimes uncomfortably close, but the recording provides a definitive rebuttal to those who accuse SACD of lacking presence.  $\star\star\star\star\star$  AG



Land Of Giants

SACD (multichannel/stereo SACD plus stereo CD layer)
Telarc Surround

Music: Land Of Giants is so-called because it features two giants of their instruments, Tyner himself on piano and vibes maestro Bobby Hutcherson. Tyner's claim to fame is to have played with Coltrane at his peak (1960-65) but he has since carved out a niche of his own and this recording reveals why. It is relaxed yet not

overly smooth – there's a sense of energy bubbling under that is occasionally allowed to break out but also a fluidity that is the mark of master musicians. Tracks like *Manalyuca* and *The Search* stand out but all of it has a slow-burning appeal. \*\*\*\*

Sound: A direct to DSD recording, this doesn't have quite the transparency and dynamics that one hopes for. It's extremely slick and can be played as loud as you like without discomfort but somewhere in the chain someone has pressed the smooth button and that filters out some of the energy. \*\*\* JK



Sinatra At The Sands

DVD-Audio (24/192 stereo, 24/96 surround, Oolby Digital 5.1)

WEA

Music: Recorded in 1966, this album has no right to remain such a vibrant and breathtaking listening experience, but Sinatra pulls the heart strings other crooners can only grasp at in moments of kitsch playfulness. Backed by the excellent Count Basie Orchestra, Sinatra runs through a couple of dozen classics, several of which could be the definitive versions. The

through a couple of dozen classics, several of which could be the definitive versions. The dubious monologues may struggle to pass muster in the 21st Century, but there's no knocking the quality of the music. The Chairman of the Board at his best.





Experimental pop iconoclasts Super Furry Animals have released their latest album simultaneously in stereo CD and surround sound DVD mixes. Dave Oliver asks: why?

nce upon a time, a band had a dream. They wanted to recreate their live sound on record. Nothing unusual in that, but the tricky thing for Super Furry Animals was that their live sound incorporated a quadraphonic sound system which projected their unique blend of psychedelic pop from the four corners of the concert hall. Undeterred, they persevered, and the result was 2001's Rings Around The World. Their most polished and 'commercial' work to date was released simultaneously on CD and on DVD, the latter including a 5.1 surround mix. Now they've repeated the trick with their new album, Phantom Power, with the DVD sporting both Dolby Digital and DTS 5.1 mixes. This time around however, they've used the lessons learned from the last album and opted to do the surround mix themselves with a combination of studio and home equipment.

We caught up with Super Furry keyboard player Cian Ciárán at home in Wales where he was organising pre-production arrangements and programming for the group's upcoming live shows while the rest of the band swanned off on a promotional tour of Europe. He explained where the concept came from.

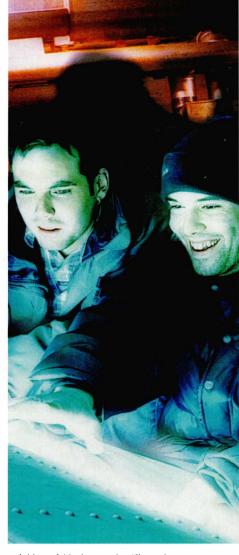
"When we used to go to clubs 'n'

**Guto Price** 

that, you'd hear dance tracks, Orbital and the like, and though it wouldn't actually be quadraphonic or surround sound, you'd still hear sound coming from all directions, not just from in front of you. The idea was one of being immersed in the music - that was the basic inspiration, rather than listening to Tubular Bells or something. Once we found that you could spin certain instruments around the room it sort of opened it all up. Then we'd try and push it a bit more every tour... the next tour will be taking it a stage further, it's an ongoing process as we learn more about what we can do.

"When we first did it for our live shows around four or five years ago, it wasn't true surround, it was quadraphonic. I can't remember if anyone in particular suggested it, but we all liked the idea of it. Someone said it was Pink Floyd's old quadraphonic riq that they had for Dark Side Of The Moon - I'm not sure if it's the exact one, but it's certainly the same type and it's set up the way they did it. DVD was starting to filter through but the only music ones you could get was stuff like the Eagles or various Live At Wembley Stadium sort of things. We just wanted to try and translate what we were doing live for the living room and now we're spearheading the way with the technology and the sound. And sound, as they say, is our business, so it would have felt a bit weird not to get involved and utilise the technology that's available.

"We've all got some sort of surround system at home. My own is a bit of a mish-mash. There's an Arcam Alpha 9 amp, a Yamaha DSP 800 processor which also powers the centre and rear speakers, left and right main speakers are Mission 752s and centre and rears are from Mission's 77 series. The Yamaha would also power the subwoofer if I had one, but I don't because I live in a terraced house you've gotta look after your



neighbours! Maybe one day I'll get that mansion, although I'll probably need 7.1 or 9.1 by the time that happens."

#### **FREEDOM**

The band were all pleased with the extra freedom the format offers, though Cian is quick to point out that the music comes first. To that end, although each of the tracks on the DVD features its own specially commissioned animated film, each is very minimal, so that they're less like a promo video, and more "like a screensaver, really".

"Multichannel music is still young and the standard hasn't really been agreed upon. I don't mind which it is so long as the sound gets better. As for the difference between 96kHz and 48kHz sampling rates - I know people who say they can tell the difference, but I find it hard to be honest. So long as the public don't get conned and they don't have to buy three different players to listen to three different things.

"Using Dolby Digital 5.1 means it's open to more people really. You can buy a basic surround system for under 200 quid so it's not an elitist thing

Below: (l-r) Daffyd

Euan, Huw 'Bunf

Rhys, Cian Ciárán,

Bunford, Gruff



# "Sound, as they say, is our business, so it would have felt a bit weird not to get involved and utilise the technology that's available."

now, which is what we were a bit worried about in the beginning – that people would see it as an elitist, fuddyduddy sort of a bullshit gimmick, which it certainly wasn't intended to be on our part. Someone told me that CD sales have gone down 30 per cent on last year and that DVD music has grown by 50 per cent in the same period, so there's a big swing going on.

"I don't see 5.1 disappearing, the format may change but the concept is here to stay. Most music programmes you can buy for home computers have some kind of surround functions these days, so it makes sense that more people will use them."

#### **SEA CHANGE**

The band has every intention of further developing its use of surround sound and Cian seems genuinely at a loss to understand why more bands don't take advantage of the technology.

"For us it wasn't any more expensive to record in surround. When we recorded the stereo version, we put all the separate tracks back into the computer, took that away and positioned and tweaked it at home. So we didn't have to spend money on any more studio time to process it, 'cos it was done on a PC at home using Steinberg Nuendo and the software we had already. I brought the Yamaha DSP 800 from my house into the studio to process it so the only expense we had was the actual speakers, 'cos we needed five and we only had two. So we only had to buy another three Dynaudio BM15A(X5) speakers and a subwoofer.

"We mixed the surround ourselves at our studio in Cardiff. On *Rings Around The World* we just went crazy for about Super Furry 5.1



RINGS AROUND THE WORLD (2001) Plenty to test your surround system, but perhaps a bit OTT.



PHANTOM POWER (2003) A more considered and subtle approach to the format pays off.

the first week, spinning things and doing everything we could think of. But then we said hold on, you're not listening to the tunes really, you can't concentrate on anything because everything's moving all the time and it just didn't work. So we learned a lot from that experience and tried to apply that knowledge this time around. It's a more encompassing idea. I mean, stereo's still a point of focus for you, but it's not just your *normal* stereo.

"The closest comparison I can draw is with the jump from mono to stereo. In the early stereo records you'd have extreme panning between channels – drums just in one speaker, vocals in the other and Jimi Hendrix or whoever playing guitar in the middle. So it's a case of playing with it to try to make it a more enjoyable experience.

"You may write a percussion pattern or an extra guitar line and you may decide to spin that around the room or have it panning behind your head or on the extreme right – just an extra little bit that you might not have written if you were only working in stereo. There's a percussion patch on *Father Father*, for instance, which is like a rattlesnake effect. It was a stereo recording and (singer) Gruff was shaking it from mike to mike. We recorded it between two stereo mikes so that in surround it sounds like it's going around your head.

"There's a foghorn sound on Slow Life and the surround gives you more space and makes it sound more like real life. Like when you're walking down the street and you can hear things behind you, you don't just hear things in front of you. To me it just makes sense.

"But there's still not a lot in surround by bands that I'd want to listen to. I mean you've got your stuff like Robbie Williams live and you've got the music at the front and the crowd at the back and it's just... boring, you know.

It'd be nice to see how some of the older stuff would translate into surround. Everyone in the band likes a bit of Neil Young so it would be nice to hear how Harvest sounds on DVD-Audio (now available on Reprise). I've heard that someone was going to do something with the Beach Boys, though I gather a lot of that stuff was bounced down onto old four-track so if you can't get the separation between sounds it might be a bit pointless. But I've heard that with the Beatles they kept all the original recordings, even the stuff that they bounced down later, so you can go back and it's all still separated. Now that would be interesting..." HFC

# Choice Mail







#### Write to: Hi-Fi Choice, Future Publishing Ltd, 99 Baker Street, London W1U 6FP



Above: Our attempt to explain The Science of Cables from *HFC* 241

"Sadly, most

digital cables

allow at least

some litter to

pass through,

corrupting the

#### RAMBLE ON

The subjectivity and hyperbole in audio reviews is frustrating. It's amazing how often I've read reviews of audio equipment and come across a statement about how similar the product is in quality compared to other items costing much more. This type of contrast is done so often that it seems like there's no comparison audio equipment left in that same price bracket. Just once I'd like to come across a £1,000 item that is only as good as a £500 item.

Why can't audio equipment be compared in a way that is much more scientific and objective? Why aren't actual measurements of the sound made? If our ears can hear a difference, then certainly a device can detect that difference and plot it out to prove it. Frequency response graphs are made for speakers, so wouldn't this data also show the difference among audio products?

#### **Michael Weilmeier**

HFC: We understand your frustrations Michael, though HFC is less guilty of hyperbole in reviews than most magazines in our sector. We have a 28-year history of mixing scientific measurement with subjective reviewing to ascertain a component's performance, and no other magazine goes to such lengths in comparative testing as we do in our Ultimate Group Tests. Truth be told,

there's often some disparity between lab test results and subjective appraisals – some products that measure relatively poorly can still please the ear, and vice versa – but it is a useful adjunct when coming to a comprehensive conclusion. Incidentally, though rare, some £500 products do perform as well as equivalents at £1,000, particularly in areas where technology is moving fast, even if their build and finish is likely to be less sumptuous.

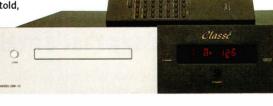
#### **MR UNIVERSE**

I have just bought some B&W Nautilus 804s, an integrated Classé CAP 101 and I'm testing the Classé player CDP 10. My great dilemma is whether to buy a CD-player or to buy a universal player? I had the opportunity to test a couple of universals but none of them sounded as fine as the Classé. I don't want to buy an expensive CD player now, only to require an SACD player in the next couple of years.

#### Alexander Risser

HFC: The chances are most of us will still be buying much of our music on CD for years to come, despite the emergence of new music formats. If your CD collection is sizable, and is likely to grow further in future, an excellent £1,600 player like the Classé will still be a sound musical investment, particularly if you have no immediate plans to qo multichannel.

Below: Classé CDP 10





#### output." rel

#### **DIGITAL DENIAL**

I work for Cisco and fail to see how there can be differences in digital cable. Data is transmitted onto cable in pulses and receiving equipment takes the signal and converts it via processing. Analogue cables are open to interpretation sure, but not digital. In data networks we use protocols such as TCP/IP – similar to AV networks. We also use software that gives error messages if data is lost, but this is only for critical data travelling over thousands of miles. It is unlikely that a CD player with a direct fibre connection is

**LETTER OF THE MONTH** 



ever going to drop a bit and I doubt it would make much difference. It's misleading how this equipment is reviewed.

#### **Dave from Cisco**

HFC: Audio differs from normal data networks in that data is transmitted, received and converted to analogue all in 'real time' and timing is critical. A 'perfect' DAC would be impervious to timing errors ('jitter') in the data: sadly, most real world models allow at least some jitter to pass, corrupting the output. The best cables produce the least jitter, while poor ones increase it by slowing data transitions and/or allowing ingress of interference. Note that cables leading to a recorder are not critical, just as you describe.



WIN IXOS INTERCONNECTS!

The author of our letter of the month receives a free pair of Ixos XHA606 interconnects worth £60, featuring Gamma Geometry and silver-plated OFC conductors for superior sound. So get writing! (250 words max please...)

#### Or email your letters to dan.george@futurenet.co.uk

You have mail



On the other hand, good multi-format DVD players (including so-called 'universal' machines) are getting better at CD replay. What's more, you can now pick up a universal player for less that £300, so you could invest in a top-notch CD player now and still experiment with a low cost universal. If you like the music you find on DVD-A and SACD, you could always go for a more high-end machine down the line.

#### **WEAKEST LINK**

There are a lot of accessories in the audio world that don't make sense to me. For instance, so much concern is made over cables (some costing thousands of pounds for a small length) when all the wiring and welds within a particular audio product are seemingly basic. How could one cable with two connectors make a difference when connected between products that consist of dozens and dozens of wires and welds along that same signal path? It just doesn't make sense to me.

MW

HFC: That's a good question and we're not going to attempt scientific proof because to date no one has produced any (that we've seen) that makes irrefutable sense. Cables do make a subjective difference and some facts are demonstrable, for instance that different cables give minutely different frequency responses in a given system, and that some cables are more resistant to interference than others. In the end, however, it's rather a matter of faith. Listen to some cables: if you can't really hear any differences then you've saved yourself some money!

#### WIRED LIFE

We happened to win almost a £1,000's worth of hi-fi kit – amp, CD player and speakers. I've been inspired and am slowly adding to it, but we've run out of wall sockets already. Here's the problem, what exactly should we do in the way of moving one socket to several? I use surge protectors, APC and Belkin, but I've been told that they will "choke the sound". I've also heard all kinds of mythological sounding musings with regards to mains. I've seen extensions specifically created for hi-fi, for crazy money. Others have suggested rewiring the house and having dedicated spurs and plugs. What should I do?

D&

HFC: Certainly some kind of mains filtering should improve sonics, reducing 'pops' and mains 'noise', but then it's doubtful that an ordinary mains block would be significantly detrimental to sound quality unless you have a particular problem with 'polluted' mains. Audiophiles with expensive kit, who are very familiar

# ONLINE FORUM A few choice comments plucked from our online forum. Join in the fun at www.hifichoice.co.uk

My mate has just bought a Terratec EWX 24-bit/96kHz PC sound card to use with a Pioneer A400 amp and Wharfedale Diamond 8.2 speakers. The sound is surprising – very musical with excellent bass and crystal-clear, smooth treble. Paul Birkett

I think the general quality of modem CD is rubbish. I bought two copies of the same album – one pressed in 1989, the other a supposed remaster. The old copy is far superior sonically and is notably heavier, seemingly of a better quality plastic. **Sirrossba** 

Anyone know any decent music review sites? I've been using www.metacritic.com recently and I highly recommend it. **Wingnut** 

If you liked the sound of Tivoli's Model One desktop radio you will probably love the smaller Tivoli PAL for its portability and the fabulous reception. Price in the UK is £130. Is it worth it? Yes. Indeed, for me the question is not so much if one needs a PAL, but in which colour. MTL

with the way their systems sound, should benefit from spending a portion of their budget on mains distribution products, but we wouldn't recommend spending hundreds for a £1,000 system. A good value bet are the Olson Sound Fantastic mains boards, offering RFI filtering with earthline choke and a transient suppressor. Available in four, six or eightway configurations, they cost between £84 and £100. Contact them on 020 8905 7273.

#### **NET PROFIT**

I recently tried to buy some AV kit on the internet and it wasn't easy – I was amazed at the number of faulty sites and lack of purchasing interfaces. If I wanted a book or a CD it would be easy, so why so hard with hi-fi and AV?

The (retail) industry is in the dark ages and seems to discourage online sales. It's nice to have facilities to demonstrate your stock but the bottom line is can you keep creditors from the door? Sales over the internet are the easiest you will ever make – the customer does all the work. All you need is an attractive, secure site.

A word to the wise – sooner or later the manufacturers will lose patience with the retail sector and decide to cut them out of the picture for direct, e-commerce sales. They will save the margin they allocate to you and reduce their overheads into the bargain. Time to wake up and get on with it before you join the rest of the Luddites on the outside looking in enviously.

Ken Edmonds

"How could one cable make a difference between products that consist of dozens of wires and welds?"

Below: Olson Sound Fantastic mains board







## Less is more

Hi-fi doesn't come more classically simple than this

ndustrial designer Peter Stevens (McLaren F1, TAG McLaren hi-fi) once showed me, on the back of an envelope I wish I'd kept, why the Ferrari F40 was such a wonderful object to behold and why its successor - the longer, wider, flashier F50 - wasn't. He made the point with a single, perfectly judged pass of his pencil. It represented the F40's profile, starting with the almost blade-like aspect of its nose and finishing with the dramatic upward sweep of its high-rise tail: the line was short, taut and inescapably potent. Then he drew the F50's profile which had more obviously stated style but, because it was slightly too long, fell dead in the middle and, as a result, lost all sense of dynamic tension and forward impetus.

The messages were clear, actually, they were aphorisms you can apply to pretty much anything. One, form following function is more effective than gratuitous aesthetic gesture. Two, less is more. And three, small really is beautiful.

This month's system should pass the Stevens pencil test with ease. Apart from anything else, it's an object lesson in simplicity of form and economy of purpose. A shining example is the Clearlight Audio Recovery Basic turntable, despite the fact it looks decidedly dull. Even if it were a conventional vinyl spinner its uncompromisingly lean, plain design would set it apart. No technical jewellery, no dazzling chrome or brass gee-gaws, nothing much 'metallic' anywhere - just a chunky acrylic platter, sleek black Rega RB250 arm and matt grey sandwich plinth. Stark makes it sound unnecessarily ornate.

And yet calling it 'just' a turntable

sells it short. If you've heard of Clearlight Audio at all it's probably because of its very cool Aspekt equipment rack, which hails from the 'slightly wobbly' school of support design, stands on three feet and uses a proprietary resin-based compound called RDC to damp vibration and make energy transfer more linear. The genius of the Recovery Basic is that it was literally conceived from the ground up. Essentially it's a three-shelf Aspekt rack with a turntable instead of a top shelf. The deck's plinth, which sits directly on the frame, uses two 'Super Position T' anti-resonance platforms (with their distinctive RDC-filled helix groove on the underside) sandwiched back-toback. The lower part of the plinth supports the DC motor which sits inside a cylindrical RDC housing that's loosely mounted, allowing its own weight to provide the tension for the monofilament drive thread (aka fishing rod line), apparently chosen over the more typical rubber belt as it was found to improve speed stability and isolation.

The upper part of the plinth — separated from the lower platform by Sorbothane pads — supports both the ceramic ball/Teflon mirror inverted main bearing and the RDC arm mounting. The 4.5kg acrylic platter is topped with Loricraft's two-piece neoprene and cork composite record mat. At the bottom of the rack, three rounded RDC cones provide levelling and what Clearlight calls "controlled energy transmission and isolation". That's as maybe, but a turntable that will also make your CD player and amp sound better... now that's synergy.

Not that this system really needs a CD player. With seductively exotic entry-level Lyra Lydian Beta

"Apart from anything else, this system represents an object lesson in simplicity of form and economy of purpose."



#### Clearlight Audio Recovery Basic turntable

£2,100

A world-class equipment rack with an integral turntable has to be one of hi-fi's best ideas. Simple and highly effective design sounds magnificent.



#### S21 MI amplifier

£1,399

AVI may put sound quality before cosmetics, but this 200-watter combines neat styling with an accomplished sonic performance.



#### AVI Positron V6.2 speakers

£699

Don't be fooled by their size – these baby AVI speakers have mid-range transparency that gives them an expansive, threedimensional sound.







medium-output moving coil cartridge in situ feeding Lehmann's excellent Black Cube phono stage, absolutely no excuses would be required if this analogue combo had to face down state-of-the-art digital replay. But, in line with the simplicity-first ethos of this system, it doesn't. So let's kick back and chill with the black stuff.

#### **PERFECT MATCH**

There's little question that the quality vinyl front end should fit the sonic sensibilities of the other components in this system - AVI's Lab Series Integrated Amplifier Type S21 MI and its new Positron V6.2 mini monitors like a kid leather glove. Stroud-based AVI has built a strong reputation with the pro sector and regular punters alike by designing no-nonsense hi-fi that is exactly that: free from even trace elements of hype, gimmick and transitory fashion; completely faithful to the idea that delivering real high fidelity sound consistently and reliably with minimum tweaking and maintenance is what it's all about

I mentioned the Ferrari F40 a while back, its fitness for purpose, economy of form and sheer potency. The AVI Lab Series S21 MI is an F40 type of amp, as in it was made to motor. It may not scare you with its size, but grunt isn't a problem. Power into eight ohms is rated "conservatively" at 200 watts a side, rising to 325 watts into four ohms and 480 watts into two ohms (for five seconds at least, until the protection circuitry kicks in). Added to which, AVI claims peak current delivery that wouldn't disgrace an arc welder. Let's just say it has the minerals.

The S21 MI looks and feels the 'lean, mean' part, too, its sleek black fascia treading a well judged line between minimalism and facilities (start-up defaults to 'mute' before you select one of the six inputs), while the pleasinglydamped action of the controls sends out a classy tactile signal. Signals of the sonic variety benefit from an extremely muscular power supply and high performance bi-polar output devices (with a 50mHz power bandwidth), which AVI says are more musical than Mosfets. The compact size (32x9x37.5cm) is important, too, in cutting down the length of PCB tracks.

#### **SMALL IS BEAUTIFUL**

Size is an issue with AVI's made-toorder Positron V6.2, too. A genuine two-way miniature with a rear-ported six-litre box, it's described as a "handmade and calibrated monitor type loudspeaker using what we believe to be the best drive units available". The idea is that it can deliver genuine highend mid-range neutrality, resolution and transparency at 'modest' levels in smallish rooms. Headbangers are nudged in the direction of AVI's larger Pro-Nine Plus, while those who don't want to splash out on a top-notch front end to exploit the Positron's potential could make good use of the similarly bijou but more forgiving Nu-Neutron III.

Now I have a confession to make. Jazz. My collection of LPs is almost exclusively 'Mmmm... nice'. Almost. Some of it's 'Grrreat', too. Don't know, there's just something about vinyl and atonality, dissonance and frighteningly complex polyrhythms that's good for the soul. And vinyl still seems to have the edge when it comes to that ability to swing, snap into the groove, feel the funk. If hi-fi doesn't involve you on this level, you just won't get no satisfaction.

I'll tell you what we don't need. We don't need the archetypal caramel warmth of valves and neither do we need a sonic sledgehammer and ceiling-high speakers. We don't need pace, rhythm and timing emphasised to the exclusion of virtually everything else. What we do need, though, is enough transparency to hear through a





# "What we need is enough transparency to hear through a recording so clearly that every last scrap of harmonic and timbral resolution, every ambient acoustic clue is laid bare."

recording so clearly that every last scrap of harmonic and timbral resolution, every nuance of technique, every ambient acoustic clue is laid bare. Systems that are talented in this direction sound fresh, focused and incisive. And this one is.

What's so impressive about it is its capacity to communicate a sense of fun and ebullience. John Miles's masterfully understated recording of the Mick Pyne Quartet has greater presence and drive and sounds altogether more engaging than it does on CD. Pyne's piano solos really smoke. To use a boxing analogy, the system's on its toes – never leaden or flat-footed. Despite the usual caveats attached to diminutive speakers, it can hit amazingly hard when required as well. But its real skill is in keeping the pressure on, delivering an all-action sonic performance.

Good tempo and feel help convince the listener that jazz pianist Julian Joseph possesses more expressive ammunition than your average ivory tickler. The instrument's timbre and acoustic signature are conclusively resolved, sounding rich, resonant and thumpingly full size – astonishingly so considering the full power of the bottom octave that the baby Positrons must be missing.

#### FERRARI STYLE

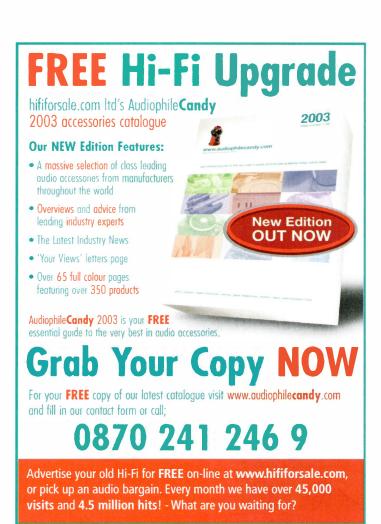
Indeed, the Clearlight/AVI combo gels sublimely on this kind of acoustic jazz, sounding supremely well balanced and coherent with a taut, full-bodied bass, beautifully open and articulate midrange and a smoothly extended top end. The Positrons aren't very efficient, but the AVI amp's best qualities are its fine resolving power and tactile, muscular style of music making together they draw an extraordinarily convincing performance out of the Clearlight, the components displaying that rarest of abilities to capture music as a real, living 'event'. This system puts its finger on the pulse and, in jazz, that's essential.

Moving on to the blues singer John Hammond, the system again impresses for its immediacy, attack and sense of life. Mouth organ has almost eyewatering presence and tangibility, guitar a beautifully warm and natural timbre. Timing is spot-on, while speed, vitality and mid-range transparency are startling and evident with just about any up-tempo material ranging from drummer Dave Weckl's wild workout Master Plan to John Schofield's Time On My Hands. The tiny Positrons can really soak it up, too, taking serious slugs of current from the AVI amp while still contriving to sound as crisp and sharp as a cashpoint ten pound note.

Which brings us finally to the price. All told, we're looking at between E4-5K depending on arm and cartridge, which might seem a little steep for a system lean enough to express in a few lines on the back of an envelope. For the sonic equivalent of a Ferrari F40, though, it's peanuts. HFC

David Vivian





#### there's something new going on at Russ Andrews...



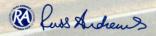
rumours are circulating about a brand new range of equipment from Russ Andrews that's as easy on the ear as it is on the eye... all will be revealed in the Stansted Room at the Hi-Fi Show and AV Expo, Renaissance Hotel, Heathrow, 27th-28th Sept 2003.



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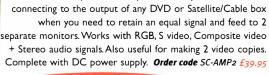
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Welcome to the HFC hardware reviews section – the only place for definitive tests of the latest hi-fi components. Our unique combination of extensive listening, unsighted comparisons and scientific lab reports, conducted by the UK's most experienced set of reviewers, ensures you're holding the most comprehensive and reliable guide to high performance hi-fi in the world.

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#### **LOUDSPEAKERS** £450-£1,500

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- MonoPulse 32 60
- Tannoy Sensys DC1



#### **OUR RATINGS EXPLAINED**

Percentage ratings for various different criteria, like sound quality and value for money.

w w and ossible to pick reviously tere is none of

isual sense that the detail is being tly injected into the brain. It's all very red, very natural, very flowing. Bass ity also differs quite distinctly by having a e physical, less ethereal feeling than tends ome across with loudspeakers and other Iphones, and in particular it is completely of the tub-thumping excess that is ovided by some.

Our overall conclusion.

ot as spacious and out of the head, and the er is rather coloured. More conventional models can match the AKG and arquably

better it for resolving ability, but not

facsimile available of the headphone socker What seems at first a disadvantage in fact works in the AKG's favour HFC

VERDICT VALUE >> 85%

The things we like most about the product.

> The things we think could be better.

The product's final score. All criteria are taken into account but the emphasis is on performance. Components scoring more than 85% may qualify for an HFC Award Badge.

#### DUR AWARD BADGES EXPLAINED



A component receiving the coveted Hi-Fi Choice Best Buy Badge has been judged to deliver excellent performance at its price point, thereby offering outstanding value for money.



#### **Editor's Choice**

This Badge is awarded only to those components that are judged to deliver reference-standard performance, regardless of cost. These products may be considered among the very best of their kind.

Turn the page for the most gorous tests of serious -fi in the business...



## **COMPACT UTOPIA**

A beryllium tweeter is this Utopia's ace. But can it trump the competition in such a compact box?

PRODUCT Focal-JMlab Micro Utopia Be

TYPE Standmount loudspeaker

PRICE £3,500 per pair

KEY FEATURES Size (WxHxD): 25x42.5x38cm

○ Weight: 18kg ○ 25mm inverted dome beryllium tweeter ○ 165mm 'W' cone mid/bass driver

○ Sensitivity: 89dB ○ Impedance: 8 ohms

**CONTACT 2** 0121 616 5126 www.focal-jmlab.fr

ocal-JMlab is an ambitious company. It already makes an alarmingly large range of drive units for the domestic and in-car markets and last year it expanded its capacity with a new factory so that it could build more of them. It therefore needs to sell more speakers to warrant this expense. Rather than trying to compete in the ever more aggressive budget speakers market, Jacques Mahul (the JM in JMlab) is seeking to establish the brand's pedigree with a technological *tour de force* called Utopia Be.

The original Utopia range made an impression with the stature of the Grande Utopia range topper and the unusually wooden nature of the 'grilles'. In fact they weren't grilles at all but protectors for the Focal drive units incorporated in the time-aligned Focus Time baffles that can still be seen in the Utopia range. The wooden protectors have gone and Utopia Be is devoid of any form of grille cloth or protection save for little tweeter caps. The cabinets look much

the same as their predecessors but are constructed differently, though with a similar degree of overkill. Every element of the speaker has changed but none more so than the tweeter behind the Be suffix.

Beryllium (Be) is a dream material for high frequency domes. It is superior in every way to both aluminium and titanium, with lower density and greater velocity of sound and greater rigidity for a given mass. Why then, you may ask, don't all drive unit manufacturers produce a beryllium tweeter? At present only two other companies make such a thing and just one of them has a product available in the UK – JBL with its K2 9600 horn-loaded behemoth. The other is Pioneer's pro division TAD, which also has a beryllium ribbon tweeter in the pipeline.

The main reason for beryllium's scarcity in the world at large let alone loudspeakers is the difficulty of working with it. It is inherently dangerous stuff in its natural dust-like state and processing it requires more resources than any loudspeaker company alone can offer. Focal-JMlab has got round this by teaming up with a beryllium mining and processing company in Ohio which produces the Be film that the company uses to make its tweeter dome. What differentiates Focal's Be tweeter from the JBL, for example, is its unusually fine thickness – 25 microns to be precise – which is nearly half the 45

microns achieved elsewhere. Designer Dominic Baker had dreamt of making a Be tweeter since he was at university and played a key part in creating this inverted dome unit.

Backing up the dome itself is an unusual hybrid magnet structure described as a Focus Ring. Focal-JMlab wanted to circumvent the losses in magnetic strength caused by high temperatures and selected a Samarium Cobalt magnet for its high Curie point (the temperature at which a magnet becomes saturated). Only Alnico comes close to the 8250 of this material, with the more popular Neodymium trailing behind at 3190. However, as Samarium Cobalt does not have the strength required on its own, the Focus Ring is in fact a Neodymium ring which 'dopes' the main magnet, increasing its field strength to an extremely high two teslas!

In performance terms the tweeter is pretty spectacular. It claims a five octave flat response, covering 2kHz to 40kHz. Or in sonic terms the midrange to ultra-high frequency, up to the sort of area where we don't directly hear sound. However, if a system is capable of reproducing them it invariably sounds more relaxed. Not all sources actually produce these frequencies – CD for instance goes no higher than our theoretical hearing limit of 20kHz but SACD and DVD-Audio have the potential to approach 100kHz.

The bass/mid driver on the Micro Utopia Be

is also rather different to its predecessor. The W cone (so-called because in French it's described as verre-verre, verre being glass), is a sandwich of woven glass tissues on a foam core. The combination is said to have superior stiffness and accurately controllable internal damping, a factor which can be varied with the thickness of the foam These cones are handmade for Focal-JMlab by a government-sponsored company local to St Etienne where Jacques has his factory. For the Be range this cone has received a new magnet design called Power Flower, the name referring to the petal-like shape of the multi-ferrite 'motor' design that was originally developed for in-car woofers. Instead of using a single ring magnet, six small magnets are arranged around the voice coil - this is said to improve manufacturing consistency due to better bonding with the pole piece, and improves the linearity of flux.

The Micro Utopia Be is the smallest and least expensive in the new Utopia range. Its stable-mates include a floorstanding half-brother called the Diva, and increasingly larger floorstanders known as Alto, Nova and Grande, the latter weighing in at £46,000. There are also Center and Sub available for multichannel enthusiasts.

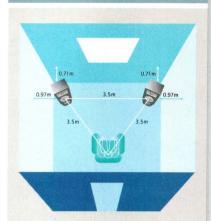
You'll notice (overleaf) that the Micro has only a single pair of gorgeous WBT cable terminals. A controversial move in a world seemingly obsessed with the option to bi-wire. The logic behind it is that the designer has more control over the eventual sound of the speaker if this potential source of variance is eliminated. Bi-wiring often changes the sound of a system, usually for the better, but if differing cables are used you can end up with a merely different sound. This way you don't get to experiment – JMlab has made things easy for you, if perhaps a bit less interesting.

#### **SOUND QUALITY**

We used these speakers on their matching stands, albeit examples emblazoned with the notice "Bad Colour" (something to do with the shade of gunmetal grey they're finished in). This stand has a wooden bass and top plate, separated by a single aluminium extrusion with a filler already installed. They come with neat floor cones and stand the speaker fairly high given that your ear when seated is supposed to be at the level of the slot-shaped reflex port between the drivers - 94cm sans spikes.



#### SET-UP



#### **POSITIONING**

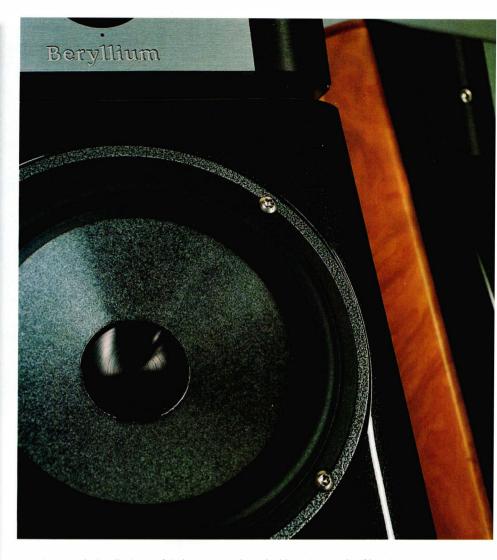
Focal-JMlab offers unusually specific advice on the placement of its speakers, describing not only where to put them in relation to the room but where to sit in front of them and how to treat the walls. Our test room in this case had a damped wall behind the listening position and a reflective one behind the speakers so there was no need to change anything there. Focal-JMlab suggests sitting 3.5 metres in front of the speakers with the listener and speakers forming an equilateral triangle. However, it has designed the crossovers on its Utopia Be range to give good dispersion and thus a wide sweetspot, so this positioning is optimal rather than essential - we did not make any attempt to put the speakers exactly 3.5 metres apart for instance.

Placement relative to the side and rear walls can be worked out according to Focal-JMlab's equation: C=B²/A, where C is the distance from the bass/mid driver to the side wall, B the distance to the floor and A distance to the rear wall. With the Micro on its stand, the bass/mid driver is 83cm off the ground, and we found the best balance between bass and midrange with the speaker 71cm from the back wall, so the side wall should be 97cm away. In practice a slightly wider placing of 93cm gave better results, so use the above as a guide rather than a definitive rule.

Toe-in also needs experimentation – the balance in our room was pretty good with the speakers toed in slightly towards the listener. However, if they are too fierce that way, turning them slightly further inwards will calm the response.

#### SYSTEM MATCHING

The specs for this speaker give efficiency as 89dB and nominal impedance as eight ohms, which makes it an average load, a state of affairs backed up by a maximum power recommendation of 100 watts. In practice we got good results with the 200-watt Gamut D200 and the 50-watt Sugden Masterclass, the former extracting deeper bass but the latter giving a bit more life to the sound. As power is less of an issue than quality and given the highly transparent nature of these speakers, auditioning any amps you intend to partner with them is essential rather than just advisable before taking the plunge.



Placement is described more fully in the side-bar to the left, but is clearly quite critical despite the optimum phase technology crossover design. The 3.5m seating to speaker distance makes a whole lot of difference to image focus due to the unusual baffle shape. It's one of those rare speakers that genuinely 'snap' into focus when the correct placement is found.

To get the best out of the Micro Utopia Be we used an SME Model 20/Series V/vdH Grasshopper vinyl source and both our much loved Eikos and visiting Resolution Audio Opus 21 CD players, with a Pioneer DV939A DVD-A player and a Sony SCD-XA333ES SACD player making appearances to check out the higher frequencies. Amplification was largely borne by a Bryston BP-25 pre with the

Gamut D200 power but the Sugden Masterclass AA pairing, also tested this month, put in a worthwhile appearance. Speaker cable was Townshend Isolda, with interconnects from Living Voice.

The original Micro Utopia was considered (*HFC* 220) to have little in the way of deep bass, a factor of its relatively diminutive size and that of

its main driver (the cone itself is only 120mm in diameter). This is still ostensibly the case yet it doesn't sound like a lightweight speaker once you've got used to the unusually even balance it presents.

Occasionally a record will reveal limitations in the lower regions and sound a bit odd as a result, Massive Attack's Fear Is The Man That Lives Next Door being an example where the bass almost ebbs and flows. But this turned out to be the only track that distinctly reveals that the Micro is -6dB down at 40Hz. The great majority of material played sounded natural and even. Bass extension, like most other aspects of the speaker's performance varies dramatically with partnering equipment, the Gamut power amp driving out

equipment, the Gamut power amp driving out notably lower frequencies than

the Sugden, yet neither gives a result that could be described as unbalanced. The Micro can produce extremely shapely and full bass when the music demands it, the marvellous hollow bass drum on Nils Petter Molvaer's *Khmer* for example sounding as round if not as deep as it ever has.





Its strength lies in phenomenal transparency, coupled with an absence of perceived distortion. There are recordings which make them sound grubby and others that make them sound crystal clear, but it becomes apparent that what they are doing is revealing the quality of the signal in all its glory (or otherwise). This, combined with an exceptional neutrality suggests that you need to get the system very well sorted before expecting the Micros to sound as stunning as they are able. A great many other speakers will sound crude by comparison.

I guess if the Micro were a perfect speaker then Focal-JMlab would not have felt the need to build bigger ones, but aside from low frequency extension the only shortcoming is in the energy domain. Compared to the Living Voice Avatar OBX-R2 reviewed last month this is a fairly restrained loudspeaker. It will play pretty loud without losing composure but you don't get the dynamic advantages of a higher sensitivity design.

Imaging, as one might expect, is first class, and the contrasts between recordings are blindingly stark. On test, Kurt Wagner's voice on Lambchop's Is A Woman was a solid spectre between the speakers, while the



#### "This is an extremely fine speaker for tonal resolution - pianos for instance sound much more real than usual despite the bandwidth limitation."

placement of the choir on the Cinematic Orchestra's Everyday was unusually precise.

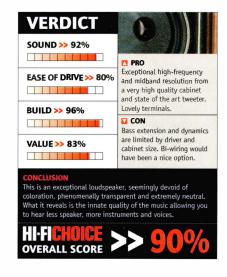
This is also an extremely fine speaker for tonal resolution - pianos, for instance, sound much more real than usual despite the bandwidth limitation. It's as if the extra transparency and extension at the higher frequencies makes up for the curtailment down below. Track after track reveals subtleties of harmonic detail that simply aren't there with most of the alternatives.

If we're talking competition, the most obvious candidate is B&W's Signature 805, a speaker with a bit more energy but probably not quite the transparency. Other contenders would have to be the Wilson WATT 7, albeit in its rare standalone form, and the Neat Ultimatum MFS. But whether any of those could match the Micro's HF performance is open to question. For instance, one (the Wilson) uses Focal's best tweeter prior to the Be, but what you've got ain't always the deciding factor. How you use it is the crux.

And Focal-JMlab has used it to extremely good effect. Take Stina Nordenstam's Purple Rain, for example - the Micro peels away the layers in the mix in a natural rather than bright fashion, revealing the minutiae of the

track without undermining its emotional power. Female voices benefit significantly, and Dawn Upshaw's powerful soprano on Gorecki's Symphony No3 was delivered in all its glory, devoid of the distress that many speakers suffer. In short, the Micro Utopia Be is emphatically one of the finest compact loudspeakers in the world. HFC

Jason Kennedy





# **HIGH-END BARGAIN**

The perfect amp for those who hankered after Arcam's much-praised A85, but found it too expensive

PRODUCT Arcam DiVA A80

TYPE Integrated stereo amplifier

PRICE £600

KEY FEATURES Size (WxHxD): 43x7.5x33cm

→ remote control → 65W/channel (RMS) → Six inputs inc. tape loop & phono → sophisticated volume control

CONTACT → 01223 203200 → www.arcam.co.uk

ew stereo amps are not exactly thick on the ground these days, so a new midrange model from Arcam is something of an event. This is undoubtedly true of the A80, even though it's a replacement for the A75, and despite being wedged in tightly between two existing models - the 40-watts per channel A65 and the 85-watt A85. Arcam has invested heavily in multichannel audio and home cinema, which some seem to regard almost as the new stereo, but the company also continues to invest in two-channel stereo across a range of component types. With the introduction of the DiVA A80, Arcam now has an impressive portfolio of stereo amplifiers strung out across the mainstream, with the FMJ series taking the fundamentals of the £800 DiVA flagship A85 one stage further in the A23. But there is no FMJ version of the A80 and none is in

prospect. As far as FMJ customers are concerned, the A23 *is* budget price.

At first sight, the A80 comes across as a kind of 'A85 Lite'. It has a rated power output of 65 watts (15 watts a side more than the A75) and can be used with loads down to four ohms, or two eight-ohm speaker pairs, with front panel switching. The amplifier uses the current feedback topology of Arcam's more expensive models, and a newly designed preamplifier section. There are six inputs, one a tape circuit with facilities for off-tape monitoring where applicable, along with a moving magnet phono input. There is no provision for moving coil cartridges, for which you should probably be looking at a senior model, but this is a perfectly acceptable compromise in this part of the market.

The A80 continues the design themes established in other recent Arcam amplifiers. This involves eliminating mechanical switching and rotary volume controls, even motorised pots, in favour of circuits with solid state switching and voltage-controlled amplifiers as volume controls. It's perfectly true that there are technical objections to

these devices too, but Arcam

points out that they have improved a great deal in recent years, and that the input switches are widely used in broadcast and mixing desks.

Benefits include a much richer feature set, which in this case includes input trim (or normalisation, to equalise the volume level of different sources), volume control law (low or high resolution), record source select and a maximum start-up volume level. A processor mode sets the amplifier sensitivity and allows a complete system to be controlled by a multichannel processor.

Omitted from this model on cost grounds are the per-input tone controls available on the A85, but then these are likely to be of limited interest to most users anyway. It's a much richer feature set than that possessed by the old A75, and it's worth noting that the sophisticated control system at the heart of this amplifier allows such features to be added very simply, and essentially without additional audible detriment.











# **SOUND QUALITY**

There was no sample of the A85 available to compare to the A80, but as good judgement or sheer blind luck would have it, there was an A32 to hand. This is the £1,150 FMJ version of the same amp, and is quite simply Arcam's greatest stereo amplifier yet.

The two amplifiers 'breathe' in completely different ways. The A32 does so more slowly and organically. It has a more measured, sometimes even stately quality, and it paints music with broad strokes, emphasising dynamic relationships and image scale over detail, though this is not to suggest that the A32 is lacking in resolution. Far from it, but this is an amplifier whose main spotlight is cast in a rather different direction, and for that reason perhaps it is capable of mixing it with smaller pre/power amp combos in a way that eludes most integrated amplifiers, including our test subject. The A32 bass is more prominent and fuller, and crucially in musical terms it is more expressive than the smaller model. In reality these two amplifiers are really rather different in kind, not just in their power output and headroom. The A32 is a very grown-up amplifier indeed.

So the A80 doesn't really sound like the son

# "With classical piano the A80 has a fast, percussive edge that conveys the stature of the music and the skill of the pianist."

of the A32, or even the A85 for that matter. It is also less flexible in the way it responds to different speakers. We found the A80 clearly suited some speakers better than others, in a way that wasn't mirrored by the more expensive model. Of course there were occasions when both amplifiers were either out of their depth, or just didn't sound right, but with the A32 at least, this was a comparative rarity. The differences were not entirely attributable to the electrical loadings, though there were hints that it may have been partly related to bandwidth.

One early experience of the A80 involved helping to run-in a costly JBL horn speaker (it was never intended to be more than a temporary expedient, honest, Mr JBL), with a moderately wide low-frequency bandwidth, and high electrical sensitivity. This is a combination which sounded lumpy and ill at ease. Perhaps the Arcam didn't like the JBL's

super-tweeter, or there was some other more obscure incompatibility, and logically of course there should have been no surprise that a £600 amplifier didn't have the measure of a £12,000 speaker. But the A32 went a long way to answering the problems, and in the end the best match of all from an extensive list (including a highly regarded and costly British high-end stereo power amp) was a pair of seven-watt single-ended valve Class A monoblocks from Audio Note, in turn fed from a Mark Levinson CD/preamp. So power and driveability are clearly not the dominant issues here. Black magic perhaps?

Perhaps. But for every horror story, there are half a dozen which point in a completely different direction. Some of the best results with the A80 were obtained driving Mission m53 floorstanders, and this is just the kind of loudspeaker that Arcam must have had in mind when the design team was brewing

# **Review** Arcam DiVA A80 integrated amplifier



Arcam product manager Geoff Meads discusses the making of the A80

HFC: Is there a single unifying theme that drives Arcam's product development?



**MEADS:** In a nutshell, the answer is pride of ownership, which is where I feel we have really raised our game in recent times. The longest lasting hi-fi is the hi-fi that's not used because its performance is not sufficiently inspirational. We were very keen to make sure the A80 looks and feels good, and that it integrates with modern décor. Partly for this reason, all current Arcam products are available in a choice of silver and black finishes.

# What has Arcam done to respond to the structural changes in the amplifier market in recent times?

Stereo users are becoming more mature overall and as a result are moving upmarket. One of the effects of this is that the interfacing requirements are becoming steadily more complex. We believe that despite the interest in multichannel, there will continue to be a demand for conventional amplifiers, but that buyers are looking for wider frequency responses from their amplifiers and a lower noise floor to take advantage of the new music media, as well as speakers that are equipped with super-tweeters.

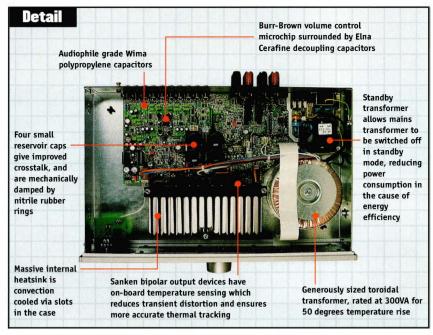
# What considerations led to Arcam's decision to introduce the A80?

They concern sound quality, which we addressed with a very wide bandwidth current feedback topology, as in the A32 and the P7. The A75 had no display and few advanced features, and what we were after was a more accessible alternative to the A85, with more of its features and more power than the A75.

# What would you say are the main technical features of the A80?

A number of things. About five years ago, we did some consumer research into what people wanted from the next generation of amplifiers. We got a range of quite specific but wildly different answers, which pushed us towards using logic controls and displays, with software coded features. Rotary encoders became attractive as their performance improved. Solid state switching can be placed right at the back of the amplifier, near the inputs, which means a shorter signal path, and because they are solid state, they offer a longer life and quieter operation, and the potential for noise is dramatically decreased.

Although some of the new components are affordable, displays are always expensive, but with smart buying, and by starting with the topend models, we have been able to progressively drive costs down





■ the A80 over their mugs of mulled cocoa. The principal qualities are clarity and consistency. The bass has a light touch by A32 standards, but it remains tuneful and on its toes dynamically, and the deftness of touch will work well with many mid-range speakers without compromising bass extension.

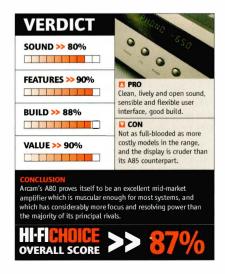
Especially impressive is the A80's performance with difficult, transient-rich material. Although it doesn't have quite the solid tone and resonant ring of the senior models, it sounds excellent with good classical piano recordings, with a fast, driving percussive edge that is very convincing, and which really conveys a sense of the stature of the music, and the skill of the man driving the keyboard. The A80 has a lively quality that is consonant with the playing, and this was apparent in a wide range of programme material across most genres.

And if the A80 doesn't aspire to A23-style image scale and presence, it still has a very neat line in stereo imagery. It's often a little forward, but positioning across the soundstage can be measured with a precision counted in millimetres. There's no muddle of confusion with this amp, about stereo imagery or anything else. Slightly matter of fact maybe, but this is a design with enough



brawn for most situations. You won't be in danger of running out of steam in most circumstances, at least unless you try very hard, and it retains the essential musical sensibilities and the sense of life of a fine performance. Compared to the early A75 (the model it displaces) the A80 is a revelation, and if it still isn't quite a match for the A85, well that's just how it's supposed to be. **HFC** 

Alvin Gold





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# **CURVY KEF REF**

KEF's new Model 205 shares much with the more costly 207, but could suit British rooms better

PRODUCT KEF Reference Model 205

TYPE Floorstanding loudspeaker

PRICE £4,000 per pair

KEY FEATURES Size (WxHxD): 29x116x43cm ☼ Weight: 33kg ۞ Magnetic shielding ۞ Five distinct drivers inc. 'Hypertweeter' ۞ Co-axial Uni-Q mid∕treble driver ۞ Sensitivity: 91dB ۞ Impedance: 4 ohms

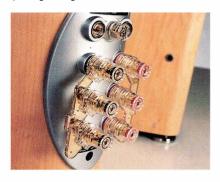
CONTACT № 01622 672261 @ www.kef.com

EF might be owned by Chinese interests these days, but the company still operates out of its base in Maidstone, Kent, and still follows the same engineering traditions it has established over its forty-years-plus history.

The Reference Series has long been the company's prestige line, the name reflecting that all the speakers are manufactured to meet a tightly defined frequency response tolerance (+/-3dB from 45Hz to 55kHz at 15 degrees off-axis for this Model 205).

Priced at a hefty £4,000 a pair, the build and engineering content is equally substantial, using no fewer than five different drive units in a package that totals some 33kg. The driver line-up is configured as a 'four-and-a-half-way' here, and all are assembled into a very beautiful and elegantly shaped real wood veneered enclosure. Our samples came in a nicely figured maple with a matt surface finish; black ash and cherry alternatives are also available.

This speaker looks interesting too, and is much more complex than the usual rectilinear box. Viewed from above, the main enclosure is boat-shaped, and has no vertical edges. Heavy post-forming rounds off the edges of the front panel, hopefully smoothing off any edge-diffraction effects as well as looking attractive, while the sides are curved and tapered so they meet in another post-formed shape in the middle of the back. It's a shape which will spread any lateral internal standing waves, and inhibit direct reflections from passing through the cones. Furthermore, the



innards are very heavily braced every which way – well, horizontally and vertically at least – as well as subdivided into several completely separate enclosures.

There are two 200mm bass drivers here, each with 160mm paper cones operating essentially in parallel, though with the lower one rolling off a little earlier than the upper one. Each is mounted in its own individual front-ported section of the enclosure, an arrangement which should spread the tuning, and also prevents the possibility of creating harmful top-to-bottom standing waves.

The mid/treble driver is one of KEF's proprietary Uni-Q devices – a two-in-one co-axial unit, which mounts a 25mm tweeter in the centre of the midrange unit's 130mm plastic cone. This is a 165mm frame affair, mounted in such a way that its uppermost quarter protrudes above the enclosure proper, and is covered by a curved metal dome. In this respect it differs from the larger Model 207 which uses a completely separate external pod midrange enclosure, but should still benefit in part from the improved dispersion of a small source, and also places the Uni-Q's tweeter at seated ear height.

Top dead centre of this bulge is a deeply scalloped groove into which is fixed an extra, external tweeter, mounted in its own shiny little pod. KEF calls this a 'Hypertweeter', and it carries the response on up into the supersonic region. It probably also helps widen distribution at the top of the audible band, where the Uni-Q's tweeter output will tend to narrow.

There are numerous clever details here. Take the feet, for example. As supplied, the speakers sit on large chrome-plated discs, like oversized coins, which can be individually adjusted for height. Purists have the option of removing the threaded bolts in the centre of the discs and replacing them with supplied spikes, whereupon the discs act as thumbwheel lock-nuts.

There are three terminal pairs to rear of each speaker, separately addressing the sub-400Hz bass region, the 400Hz-2.5kHz midband, and the two drivers covering the treble. This allows various combinations of bi or tri-wiring/amping to be adopted.

Next to the terminals is an arrangement which permits subtle modification of the relative bass output. The total range here is only 2-3dB, which won't be sufficient for full boundary compensation, but it's a usefully subtle refinement nonetheless, that will help







match the speaker to the bass absorption and modal reinforcement characteristics of the individual listening room.

# **SOUND QUALITY**

One advantage of a multi-driver speaker system is that it's relatively easy to tailor the frequency response, but that's not to sell short KEF's achievement in creating an exceptionally smooth and flat in-room far-field response. Deep bass is very much on the agenda here, and this is clearly a design that should if possible be kept clear of walls for the best overall bass balance. If room and siting conditions should produce excessive mid-bass, port-blocking is likely to be the most effective counter-strategy.

Elsewhere the balance looks just slightly lean through the upper bass and lower midband, and slightly strong through the upper midband, while the whole treble region

looks beautifully judged and unusually even. Sensitivity exactly meets the specified 90dB, though this is in the context of a guite complex and demanding load (with a stated 3.2ohm minimum).

By pure chance the Reference 205 followed KEF's less expensive though still costly XQ3 into the listening room, and although the latter is a strong performer, the superiority of the Ref was clear, both in overall transparency but especially in its superior dynamic range and the rendition of low-level detail.

The sonic character of this speaker lines up very closely with its measured balance. The fine overall neutrality is its most impressive feature, due in part to the smooth and even balance, but also to its vanishingly low box coloration and unusual evenness.

There's a touch of forwardness in the way singing and talking voices are projected, but this never crosses the line into aggression or edginess, and many will find it a welcome touch that enhances intelligibility. Spinning through a number of favourite discs, such as Lambchop's Nixon for example, the 205's explicitness revealed previously unsuspected lyrical twists on several occasions.

Put that slight forwardness alongside the mild leanness in the upper bass and low mid and the net result is a slightly 'cool' overall character. This leaves cellos sounding just a little restrained and lacking in warmth, for example, but provides excellent expression and fine detail from the violin desks.

Over an extended period the Reference 205s proved exceptionally natural, neutral and easy on the ears. The sound we hear from any pair of speakers consists of a mixture of that which arrives directly, and that which reaches the ears after reflecting off major room surfaces. One crucial factor in the way a speaker performs therefore depends on the way it distributes sound into the listening room, and two elements of the 205 contribute to an excellent result here. On the one hand the Uni-Q gives superior focus and image precision through the broad midband and treble, while the 'Hypertweeter' seems to

improve the overall impression of top-end air and spaciousness.

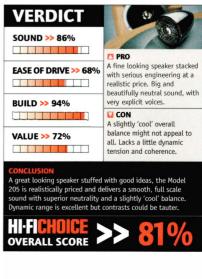
The only real quibble with the 205's sound quality concerns a slight lack of temporal coherence, which comes across as a mild lack of 'punch' and dynamic tension. This might be due to the difficulties of acoustically integrating the seven different sources in each speaker here, or to the inevitable group delay factors involved in such a necessarily complex crossover network.

Pulling all the threads together, however, it's clear that Model 205 is a very serious contender, all the more so perhaps because it costs less than half the price of the larger 207, yet still produces ample bass to fill a good-sized room. Its character is a little 'cool' and dynamics might be more dramatic, but it's a beautifully smooth and neutral performer with very superior voice articulation. HFC

Paul Messenger

# "Its character is a little 'cool', but it's a beautifully smooth and neutral performer with very superior voice articulation."





# MAINS GOES DUTCH

van den Hul's carbon technology comes to the mains. Does it raise the power bar?

PRODUCT van den Hul Mainsstream BS

TYPE Mains cable

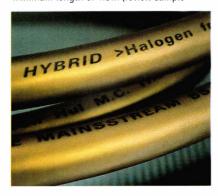
PRICE £299 (1.5m)

CONTACT 2 01236 420199 # www.vandenhul.com

e've seen many and varied signal cables from Dutch manufacturer van den Hul, but this is the first mains one. In fact it's been available in other countries for a while, but lack of a UK mains plug with a big enough cable entry held things up here. Even the Duraplug fitted to the review sample showed signs of minor surgery to accommodate the cable's 12.5mm diameter - and this is the thinner version of the 'full' Mainsstream!

Why so big? Yes, there's quite a lot of copper in there, though other mains cables offer even higher current capacity. This one's not just about brute force, as it includes some of van den Hul's 'Linear Structured Carbon' (LSC) along with its silver-plated oxygen-free copper. The original rationale for LSC was that, lacking the crystal junctions of metal conductors, it should give improved conduction of ultra-low-level signals and hence better low-level audio resolution. In a mains cable we're talking primarily about 240 volts, which could redefine 'low level'.

But what concerns vdH over and above the obvious requirement to pass plenty of current readily and safely, is how it deals with radio frequency signals (RF). Any piece of wire sitting on the floor is potentially an aerial for RF, and this is indeed a low-level signal, which can cause subtle audio modulation. Presumably the LSC, and the weaving of multiple live and neutral conductors within the cable, is intended as a guard against this - as is the braided screen which vdH has added. vdH refers to the cable as an 'embedded powerline filter' and supplies a minimum length of 1.5m (review sample





2.5m) to make sure the filter properties are maintained. It's all well made, reasonably flexible despite its size and terminated in a top-quality Marinco-style IEC outlet.

# SOUND QUALITY

Mains cables are notoriously variable in their effects between different items of equipment. so the Mainsstream BS was tried with various items including a Chord DAC64, EAR (valve) and Bryston (transistor) amplifiers and even a Revox open-reel tape deck. The last of those showed the smallest benefit, with just a hint of opening up of the soundstage but no substantial change to the character of the sound. The Chord also benefited in a fairly subtle way, though in addition to a similar soundstage improvement (a common sign of lowered levels of background 'hash') it seemed to develop a slightly sweeter treble.

Most noticeable, though, was the cable's effect on power amps. There was a consistent firming up of the bass and more definition in the treble, which made images really snap into better focus and added an extra level of detail below that previously heard. Pink Floyd's The Wall revealed even more hidden subtleties on a mint-condition LP copy than ever, no trick of memory as repeated swapping between Mainsstream and regular mains cables showed. By contrast, a recent piano recording came that bit closer to the true bass weight, and also the image, of the piano as remembered from the sessions.

Just to be perverse, we also tried the cable with an amp costing less than the wire itself (a good one of its kind). The difference was if anything even greater.

In fairness, these differences are themselves quite slight compared with grosser changes, say from one speaker to another, and should be put in the context of a familiar system in a familiar room - but that's exactly the context in which an expensive mains cable like this is going to be heard, in most cases. This is certainly among the most effective mains upgrades we've tried and is recommended for systems with high aspirations. HFC

Richard Black





# BEST BEYER?

Mainline your music with Beyerdynamic's new open-back headphone

PRODUCT Beverdynamic DT990

TYPE Open-back headphone set

PRICE £150

CONTACT 2 01235 551116 # www.beyerdynamic.co.uk

onfusion arose when these cans were delivered for review. DT990? Been around for years, mate! But no, this is the all-new 2003 model, most immediately distinguished from earlier 990s by the silvergrey earpads. It heralds a substantial revamp of the Beyerdynamic range, topped in fact by the DT880 (£200) and also featuring the DT770 at the same £150 price point. That may seem odd, but while the DT770 is a closed-back model with consequent high isolation, the 990 is an open-back design. It therefore offers much less isolation but in general open-back designs tend to have a more natural frequency balance.

Of course, covering the frequency range is an area where headphones traditionally walk all over speakers, and Beyerdynamic quotes a response for these of 5Hz to 35kHz. Both of those extremes will depend a bit on the interface to your individual ears but the bass in particular beats most speakers by nearly three octaves. Granted it lacks the bodily impact of big speakers, but among other quoted specs, the impedance of 250 ohms means that compatibility is assured with regular hi-fi gear. You can also connect to portables, thanks to the unusually solid 3.5-6.3mm adapter supplied by Beyer.

Comfort scores very highly, with well-judged spring tension and softly padded headband

and earpads. All the same, the coiled lead (single-side entry is a plus) is a little stiff and when stretched to 1.5m exerts a noticeable pull. All components are replaceable and construction is robust. Maximum output exceeds comfortable listening levels.

# **SOUND QUALITY**

There's absolutely no doubt that this is a very capable pair of cans. There are two main ills that seem to affect many headphones - thick textures that lack detail, and/or excessive sibilance in the top octaves. Both are absent here. One could even say that the treble is so clean and neutral as to sound positively recessed with some material, until something like speech or snare drum comes along and shows just what extension is all about.

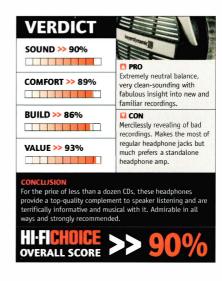
The problem which this model won't solve, in common with other decent headphones, is shortcomings in recordings - they can be excruciatingly revealing of faults like 'rattly' distortions, noise (though they don't accentuate noise in the way cheap models often do) and sundry whistles, buzzes and bum notes, which subsequently one often finds audible through speakers also. But really all that means is that if you are afraid of finding out the truth about your record collection you should avoid the DT990s.

If, on the contrary, you want to find out exactly what was played at the session you can hardly do better. As a long-term and very frequent user of BD's DT931 model (I use them when editing recordings I've made and can thus vouch for their accuracy) I thought I had little to learn about my favourite discs -

now there's that much less left! A particular favourite test disc is Ambrosio, an opera by the Mexican composer Guzmán superbly recorded by genius engineer Bob Katz. I must have heard it well over a hundred times, but I'd never previously noticed a spurious note on the harpsichord which the DT990s rendered clearly audible. But neither had I heard exactly where the male chorus was standing for an atmospheric bit of ensemble, nor what words they are singing.

If you only use headphone for a bit of latenight relaxation, these will do equally well since their neutral balance and lack of spit makes for very comfortable listening. Good value for that: but as full-on high-resolution audio experiences go, an absolute steal. HFC

Richard Black





# **HEART OF GLASS**

What happens when a valve amp manufacturer decides to tweak a mainstream CD player?

PRODUCT Heart CD6000 OSE LE

TYPE CD player with valve output stage

PRICE £750

**KEY FEATURES** Size (WxHxD): 44x9x30cm **☼** Weight: 4kg **۞** Valve output stage **۞** Optical and electrical digital outputs **۞** CD-R/RW compatible, CD text

⊕ www.heartaudio.nl

eart is a Dutch valve amplifier maker, established seven years ago and home to a selection of 300B triode amps, plus a matching preamp and a range of kit amps. It also specialises in modifying Marantz tuners and CD players, of which the CD6000 OSE LE is the most expensive in a range that starts at a mere £350 for a CD4000.

For a small manufacturer, modifying a mass-produced CD player is the most efficient way of getting its ideas into a finished product that can be competitively priced and well built. There's not a single small or medium sized company that can compete with the build and finish on a player like this Marantz at anywhere near the price. Heart is not the first brand to follow this approach – at least two top CD players, Tom Evans' Eikos and Max Townshend's DV-747, are rebuilds of Pioneer originals that combine sound quality, reliability and functionality to great effect.

The Heart is unusual in that it's not a local

brand – such mods rarely escape home turf. This is not intrinsically a problem but can be if the distributor is unable to continue to support the brand for whatever reason. On the other hand, brands like Densen distribute direct from Europe and there's no reason why Heart won't be able to service machines from Holland should the need arise.

It's rare if not unique to see a budget model approached in this way, but given the Marantz CD6000 OSE LE's quality (an *HFC* 217 Best Buy) and price (£300) it's a good place to start. Fundamentally, Heart has bypassed Marantz's transistor-based HDAM output stage and replaced it with a valvedriven stage. The DAC's output goes into a pair of signal transformers which convert it from balanced to single-ended, so the two Jan-Philips 6922 valves can drive the output. These new components are mounted on a board that sits beside the existing electronics.

Heart also places damping pads on the lid and transport, and replaces the mains cable with a hard-wired, screened cable leading to a silver fuse holder-equipped MK mains plug. There are also slight changes to the transport and PCB, the latter to

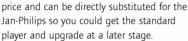
"improve readability, especially on CD-Rs". These are fairly straightforward mods that will not interfere with the functionality of the player, yet should have a small bearing on the eventual sound.

Due to the ever more restrictive nature of player chip design and supply it's getting harder for most companies to change the way CD players operate at a fundamental level, so output stages and power supplies take on a greater significance in the design process. Most small/medium-sized companies build their players by mixing and matching transport, DAC and output stages but are not able to change the way the DAC operates. In many respects, Heart is not significantly restricted - it sticks with Marantz's tried and tested transport, DAC and PSU options and adds its own output stage, one of the elements that gives the greatest 'flavour' to a CD player's sound. There are exceptions, like Arcam's implementation of dCS's Ringdac technology a few years back, but this approach does not come cheap.

The Heart CD6000 OSE LE comes in two versions – the standard one uses Jan-Philips 6922 output tubes, while the top model has Siemens 7308s. The latter add £50 to the







# **SOUND QUALITY**

Some say they find the sound of valves a little soft or warm, missing the attack of transistors. Others find the same sound to be more natural and appreciate the greater tonal colour. But the truth is that valves vary enormously in sound depending on how they are used. The Heart CD6000 OSE LE is defiantly not of the warm, laid-back school. It's not aggressive either, but has a lively, upbeat character that keeps you on your toes.

We began subjective testing with some medium-paced acoustic jazz from EST – the drummer's brushes sounded sharp and real, the double bass tight and weighty and the piano forward and distinct. It's a dynamic and engaging sound that gets your feet tapping and encourages volume tweaking. With the less purist *Asleep In The Back* by Elbow, the scale of the recording was well resolved, the reverb creating a sense of depth that's often played down. The acoustic around the voice was clear and the bass deep and chewy.

The Heart gave a similarly forward portrayal of the massed choral voices on Gaudeamus's choral *Sacred Feast* CD, sounding open and extended with good differentiation between the various voices. Next to Creek's CD50 player the 'valve factor' was apparent, the Heart sounding more three dimensional, tonally rich and relaxed. But this might be as much to do with the Creek as the Heart, because Sony's £1,200 SCD-XA333ES CD/SACD player is more relaxed again and offers an even greater variety of tone colour, albeit at a higher price. The Heart sounds particularly 'open' and transparent, which is



# "Fundamentally, Heart has bypassed the Marantz HDAM output stage and replaced it with a valve-driven stage."

very much a valve characteristic and an appealing one at that. High frequencies are not quite as smooth as the Sony but more so than the Creek and transparency to detail is very impressive for the money.

We tried two versions of Radiohead's *Hail To The Thief* (EU and a Canadian, copyprotected, version) and checked for differences. These turned out to be small but not insignificant, the local pressing having greater presence in the midband and the web-bought Canadian sample revealing a darker balance. Not chalk and cheese, nor an indictment of the copy control, but we liked the EU pressing more. But the point here is that the Heart is more than up to the job of differentiating between the two.

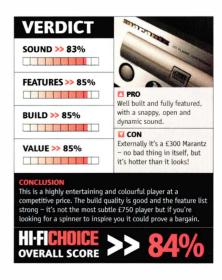
Besides the Creek CD50 we recommend you compare this with Marantz's £800 player, the CD-17 MkII M, which has excellent build and made a very good impression in *HFC* 243. At the same price there's also the Cyrus 7, a strong all-rounder in a compact case.

After trying the Heart with the standard tubes we switched over to the Siemens upgrade, a comparison somewhat muddied by the fact that it was a cold for hot swap – the player had been on for several days with the Jan-Philips in. Nonetheless, after a livelier start the qualities of the new tubes shone through. The Siemens-equipped player has an even snappier sound with better timing that copes with dense material with remarkable confidence and ease. It even seems to be

more fun to listen to, Captain Beefheart's *Trout Mask Replica* finding its cunningly hidden groove in the Heart's company. This is a tough album to persuade to sound musical from CD but the Heart excelled in its task, even through the dissonant parpings of the saxophone solo on *Hair Pie: Bake 1*. Meanwhile, a more 'fi recording in the form of Marc Johnson's *Bass Desires* revealed impressive transient speed in the way that the drums were handled and the acoustic defined.

You can find more civilised players for the money. But few combine dynamics with fine timing skills as effectively as this. **HFC** 

Jason Kennedy



# PANEL BEATERS

MartinLogan's latest is an innovative, affordable and user-friendly example of the electrostatic breed





PRODUCT MartinLogan Clarity

TYPE Hybrid electrostatic loudspeaker

PRICE £2,498 per pair

KEY FEATURES Size (WxHxD): 26x135x31cm

◆ Weight: 14.1kg ◆ Two-way electrostatic/moving coil hybrid ◆ External power supply ◆ 200 watts power

CONTACT ☎ 0208 971 3909 ⊕ www.martinlogan.com

ake no mistake, the Clarity is a very unusual speaker, even allowing for the fact that MartinLogan speakers are always unusual. It looks much like previous models, with elegant lines and the usual curved, perforated grill looking onto a transparent diaphragm. The base houses the expected aluminium cone bass driver in a rear-vented bass reflex enclosure. But this is an electrostatic speaker meant for those who have never previously considered the breed.

The Clarity is the entry-level floorstanding electrostatic from MartinLogan, and is to be the flagship of the Clarity range which will eventually include other models for home cinema use. Compared to previous models it is scaled down to just 135cm tall and 26cm wide, and it weighs a modest 14.1kg. A pair can be bought for around £2,500, and it can be powered by more or less everyday amps.

But there are some technical differences apart from size. The Clarity is one of the first with Natural Ambience Compensation (NAC), an upwards-firing moving coil tweeter just behind the electrostatic panel and near its base. NAC addresses an issue that has become increasingly acute as electrostatic panels have reduced in size. Because the panel is a line source, there is little vertical dispersion, and the treble disappears when standing (think about casual listening and parties). The output of the tweeter is more or less inaudible when listening on the forward axis, partly because it is blocked by the panel, but it makes a useful contribution when listening from a higher vantage point. And if you don't like it, it can be switched off.

There are also some important changes to the diaphragm and the stators (the perforated mash panels that sandwich the diaphragm), and to the spars which maintain separation between the three vertical components. The spars have been improved to allow tighter and more uniform tensioning of the diaphragm, which helps reduce panel resonances and increases consistency. The stators have a larger number of smaller holes which means higher efficiency and better dynamics, and although there is a trade-off in bass extension, this is not an issue because of the panel crossover frequency chosen - more on that later. Finally, in common with all other new MartinLogan models, the diaphragm uses a new plasma-bonded conductive coating which is said to be more consistent, adhere better and which should also be less affected by atmospheric moisture than the previous vapour-deposited coatings.

The Clarity doesn't work well for at least 24 hours straight from the box, and needs about three days before the lightweight, rather 'plasticky' sound is finally banished, and further changes become imperceptible. But a clever panel biasing system that supplies a charging voltage only when atmospheric and signal conditions dictate keeps the Clarity on song from that time on, as long as it remains connected to the mains. As a side benefit, it also helps to keep the diaphragm largely free of dust build-up. All in all this is the most friendly of electrostatics, and it's not especially fussy about partners either. You don't need a lot of power - 50 watts or more should be enough - and in practice it doesn't appear to be an electrically difficult load, though there is a sting in the tail with high frequency impedance (see side-bar overleaf).



# **SOUND QUALITY**

The information supplied by the manufacturer suggests that the Clarity is essentially a home cinema speaker. Subtle clues to this may be discerned in phrases such as this culled from the brochure copy: "the Clarity system brings a rich cinematic experience into your home theatre". Frankly, in our opinion, this can safely be ignored. True, there is a hint of richness in the bass-mid region - the octave or so around 60Hz is elevated by perhaps a decibel or so. It can also be driven quite hard. though it will sound untidy when it reaches the kind of volume levels that most selfrespecting videophiles would regard as perfectly normal. But there is nothing bloated about the bass, and the relatively small driver and compact enclosure help ensure there is negligible overhang. It's actually the midrange that runs out of steam first. In short, you can play music though these speakers, and you can also play Hollywood. It works very well with music (see below) and makes a rather classy attempt at home cinema too, but ultimately it may not have enough grunt for the job. But if your tastes

# "In short, you can play music though these speakers, and you can also play Hollywood."

don't extend to explosive blockbusters at

rip-roaring volumes, the Clarity's delicate and expansive voice may give all you need.

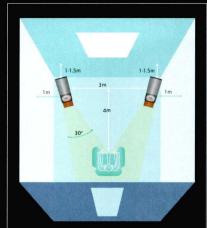
In fact, the Clarity continues the theme of even closer integration of the moving coil and electrostatic drivers seen over recent generations of MartinLogan hybrids, which in this case is compromised only slightly by the relatively high 450Hz handover between the two. This decision was clearly driven by cost considerations, and it also benefits power handling, making this a meatier and, when the occasion demands, a louder speaker than it would otherwise have been. Indeed, the bass region is both fast and controlled enough to ensure that the transition to the mid and treble is practically seamless. "Practically" in this context means that under everyday conditions, you're unlikely to hear the difference in voicing and dispersion that distinguishes the two technologies.

We tried the Clarity as part of a home cinema system, using Ruark Vita centre and rear speaker, and a big B&W 800 series subwoofer, and perhaps because the Ruark is small and comparatively agile by box speaker standards, the combination worked better than expected. With a properly matched centre speaker and surrounds the Clarity would be an even better proposition.



# [Review] MartinLogan Clarity loudspeaker





### **POSITIONING**

Like all panel speakers, electrostatics tend to behave like enormous headphones, throwing a very precisely delineated image into a space measured in angstrom units. Move even slightly off-centre, and the image flounders. MartinLogan's designers have long recognised this problem, and engineered their curvilinear diaphragm to generate a 30° spread of sound laterally. In the Clarity, an upwards-firing tweeter also widens the vertical listening window. As usual with panels, the Clarity barely interacts with side walls, but this is not the case with the back wall, where delayed rear dipolar radiation (equal in level with the front output, but in opposite phase) interferes with the direct sound, producing a 'comb filter' response, with peaks and troughs spaced out across the frequency band. The limited frequency range of the Clarity's panel helps here, but you will need at least a metre of empty space behind the diaphragm, and for best results, around 1.5 metres to give an open, forward and tonally even sound.

# SYSTEM MATCHING

89dB/watt sensitivity and a benign six-ohm nominal impedance implies suitability for mid-range amplification, and within limits this is justified. For example, the Clarity works happily with the inexpensive new Arcam A80 integrated amp (see review p36). Generally, this combination sounds relaxed and comfortable, even though impedance dips rather alarmingly to around 1.1 ohms at 20kHz. Happily, music typically has very little real power at such frequencies, and most good amps should be able to cope. In fact, the slightly low nominal impedance helps squeeze a little more mid and lower frequency power from most amps than a standard eight-ohm load.

Here is a refined and intensely detailed loudspeaker. There is no padding intended to flatter lesser electronics. Improve your amplifier, and the sound improves in direct response, much more so than you might expect based on experience with typical moving coil loudspeakers. The dome tweeter in the Clarity seems to make very little difference in this respect as most of the audible treble comes from the electrostatic panels.



But it was with music that it was at its most compelling, and perhaps predictably it was in its element with classical, acoustic and vocal material. This is a responsive loudspeaker, which reproduces dynamics faithfully and, provided overall maximum output levels and bass limits are not breached, it won't sit on or impede the music in any way. Explosive transients are just that, and quiet passages fade seamlessly without significant change in perspective or loss of detail. This is another element of the Clarity's user friendliness. It can be set loud or soft, and it will almost always sound easy and comfortable, allowing you to make the mental adjustment to the volume window chosen. This is not a speaker that demands to be played within a narrow volume range.

Which brings us to the Clarity's overriding strength – that magnificent electrostatic panel is unbelievably quick, and it brings almost unprecedented detail and clarity to the sound. Seldom was a loudspeaker better named. This is a model that is adept at reproducing dense, complex sounds – a fullon orchestra for example – while allowing

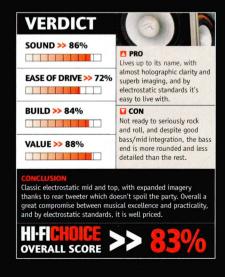
each instrument to be audible

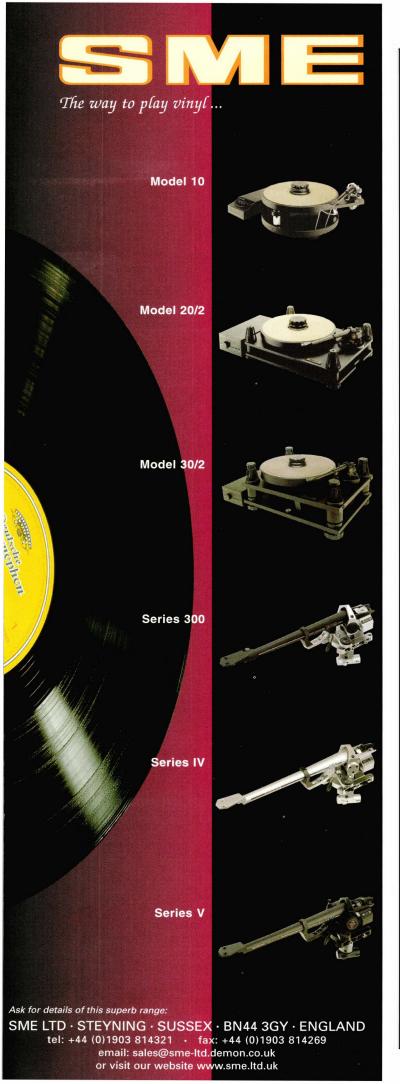
in the context of its
neighbours. It does this
without pulling the music
apart – by sounding bright
for example. It is simply
naturally transparent to the
kind of detail that you will
often find on well-recorded
discs, and which many
speakers cannot resolve.
So does the Clarity

understand how to rock and roll? Ultimately, not quite. It does much better than you might expect, but it has its limits, and they will be as significant with full-on rock as they are with full-on home cinema, and for much the same reasons. But where subtlety, grace, elegance and clarity top the list of priorities, there can be few better equipped at the price.

And guess what – the Clarity is ultraresponsive to the amp that is used to drive it. With the Arcam A80, the combination sounds more dynamically constrained than when attached to the beefier output of an Arcam P7 multichannel power amp, and the extra detail from the excellent new Krell KAV-400xi was all too apparent. With the Clarity, everything suddenly becomes very clear. Pun most definitely intended. **HFC** 

Alvin Gold





# definitive audio

### Peddlers of fine wares, including:

Record players: SME models 10, 20 and 30; Kuzma Stabi, Stabi Reference; Nottingham Analogue Interspace, Space Deck, Hyperspace and Dais; Michell Orbe; VPI AriesScout; Avid Volvere, Sequel and Acutus.

Arms: Rega 300/600/900; SME Series IV and V; Kuzma Stogi; Triplanar.

Cartridges: VanDenHul Grasshopper and Colibri; Kuzma KC Ref; EMT;

Reson Reca and Elite; Cartridge Man Musicmaker; Benz-Micro including

Ruby Open Air; Kondo lo J.

Amplifiers: Border Patrol; Canary; Sugden; Art Audio; Monarchy;
Western Electric; Icon; Tom Evans Audio Designs; SJS.

CD Players: Wadia; Sugden; Primare; Resolution.

Louspeakers: Living Voice; Vitavox; Lowther.

Cables and Tables by Living Voice.

Sale of Part Exchange and Ex-dem Items	Sale	New
SME Model 20 / 2 - 5 years old	£1500	£3658
Dynaudio Confidence 3 - Rosewood - perfect, boxed - giveaway	£2300	£4800
Horning Agathon - 98dB 2 way horn - Mahogany	£1500	£3800
Mirage 890i - fine condition - giveaway	£200	
Art Audio Symphony - 300B SE 10 watts integrated - full chrome	£2250	£4000
Art Audio Vinyl 1 - moving magnet phono stage - chrome - fabulous	£1100	£1550
Art Audio VP1 - line pre-amp - chrome	£1000	£2000
Art Audio Concerto - 6550 line integrated	£1200	£2650
Art Audio VP1 special - line pre-amp - full of Hovlands	£1150	£2250
Canary Audio CA 301 - 300B - 22 big watts - very good	£3400	£5400
Canary Audio CA 303 - 300B monos - 22 lovely watts - better	£5400	£7400
Canary Audio CA 309 - 300B parallel p.p 45 mad watts - superb	£9500	£13500
Canary Audio CA 601 - line pre-amp - very, very good	£1900	£2750
Canary Audio CA 300 - single ended monos - valve rect 8 watts	£2000	£3500
Nottingham Analogue Hyperspace - turntable - 2/3 years old	£1000	£1700
Nottingham Analogue Space - tonearm	£250	£450
Nottingham Analogue Mentor - tonearm	£390	£800
Jamo Concert 8 - loudspeakers - 21/2 years old - spotless	£800	£1365
Townsend Seismic - speaker stands - for bookshelf speakers	£450	£695
Tube Technology MAC - mm and mc phono - nearly new	£700	£1400
Audio Innovations L2 - line pre-amp	£350	£750
Audio Innovations Series 1000 - silver circuit - 50 watts class A	£1100	£2500
Audio Research SPLS2(B) - line pre-amp	£1250	
Alchemist Forsetti ADP 15A - integrated amp	£700	£1400
Alchemist Forsetti ADP 20A - stereo power amp	£700	£1400
AudioNote Soro - phono integrated - serviced - new valves	£700	£1900
Sonus Faber Guarneri	£3000	
Unison Research Feather One - line pre-amp	£450	£800
Clear Audio Master Reference - turntable with Master TQI arm.		
2 years old - Incredible. Go on, be crazy! A snip at only	£8000	£13000
Audio Research LS2 B - line pre	£1250	
Pro Ac Tablette - Cherry - cute - perfect	£300	
Meridian 502 - pre-amp - 4 years - techy - spotless	£700	£1385
Meridian 557 - power - 4 years - techy powerhouse lump - spotless	£800	£1525
Voyd Standard - turntable - Black - perfect - collectable joy	£1500	
Sugden Masterclass - CD player - very nearly new	£2000	£2500





# Auditorium Avatar

Hi-Fi Plus *Editor's Choice* Hi-Fi Plus *Product of the Year* Hi-Fi Choice *Editor's Choice* 

"The Avatar is a near perfect balance of size, bandwidth, efficiency and tonal refinement. Its slim lines and small footprint deliver a genuine 94db sensitivity, and excel when it comes to delivering the scale, vibrance and colour of the music. Its unobtrusive quality allows it to cut straight to the heart of a performance, unlocking the music trapped in the recording, whilst its refinement makes it equally at home with both basic and surprisingly expensive amplification."

AMEX VISA MASTERCARD
Tel 0115 973 3222 Fax 0115 973 3666
internet: www.definitiveaudio.co.uk email: shout@definitiveaudio.co.uk

# BRAZILIAN IMPRESSIONS

Unusual valve amp offers timbre matching to speakers and claims to reduce system distortion

**PRODUCT** Audiopax Stereo 88

TYPE Valve power amplifier

**PRICE** £5,999

KEY FEATURES Size (WxHxD): 23x34x37cm ○ Weight: 19kg ○ Single-ended valve design ○ 15W max output Adjustable bias ('Timbre Lock')

ven the source of this singleended triode amplifier is unusual - not much hi-fi originates in Brazil, but that happens to be the home of Audiopax designer Eduardo de Lima. He's clearly a great thinker, and his website includes a very considered article by him reviewing the state of single-ended valve amp design and its enduring appeal in the face of much superficial objective evidence that its capabilities are limited, not to say hobbled.

Among other things, it addresses the simple but often overlooked point that most SET amplifiers have a high output impedance (low damping factor) which with the majority of loudspeakers on the market causes frequency response to deviate significantly from that achieved with more conventional amplifiers. Note we don't say that it 'deviates from flat' because it probably wasn't perfectly flat in the first place, but the fact remains that in comparisons between SET and other amplifiers there are changes in frequency balance which can be misleading. For this reason alone it's worth auditioning any SET amp over a protracted period so that you get a picture of what it really does well.

What's considerably more intriguing, however, is de Lima's claim that his amplifiers can reduce total system distortion. Snake oil? Not at all. In simple numerical terms, system distortion is normally dominated by the loudspeaker. Speaker distortion can be lowered by using an amplifier with a very high output impedance, driving the speaker in 'current mode'. The output impedance of most SET amps is not high enough to reap the full benefit of that (and pure current drive to normal speakers results in a completely outto-lunch frequency response), but de Lima points out that an alternative approach is to generate an opposing distortion term which cancels the distortion of the speaker.

In other words, the distortion of a SET amp can be 'tuned' to null that of the speaker itself, leaving, ideally, a cleaner spectrum than that produced by such lowdistortion tours de force as the 'Super-Fidelity' Halcro models, Brystons and so on. Mathematically, it's perfectly possible to determine the 'transfer function' of any bit of audio kit and derive a correction function which completely linearises it. In practice, complete distortion cancellation is obviously too much to hope for, but it was interesting to run some tests on Sr de Lima's claims.

First, it is clear that his recommendation to

with reversing polarity by swapping speaker cable connections is worth the trouble, as this can cause distortion to add or cancel, more or less. Even so, with simple test signals there is at best only cancellation of some harmonics, and only partial cancellation at that. Complex signals seem to benefit much less, if at all: but all the same some very highorder intermodulation distortions, of uncertain provenance, seemed to be a few dB lower with the Audiopax than with a selection of other amps. These tests are timeconsuming and rather difficult to make consistent, so the jury must remain out at present, but he may be on to something.

experiment

On the circuitry side, the Stereo 88 is distinguished by an unusual valve/ transformer connection which configures a KT88 tetrode in a way which, de Lima claims, performs in an even more triode-like manner



# "SETs as a breed are famed for their natural sound, and the Stereo 88 gives a very lifelike presentation over a range of material."

than a triode. Transformer taps for screen grid and cathode are used, a bit like a cross between classic Ultralinear and Quad circuits, but single-ended rather than push-pull. The input uses an SRPP-connected ECC81.

A unique feature is that bias can be adjusted over a relatively wide range (about 60mA to 100mA) using a rotary control and a simple ten-position LED meter. Audiopax dubs this 'Timbre Lock' after the way in which it subtly affects the timbre of the amp by varying its distortion spectrum; thus, by implication, giving better or worse distortion cancellation with the speaker in use. A subtle and cunning idea. It also affects total output power, down from a notional 15 watts at LED 10 to about eight watts at LED 1 (bass output power drops off at any Timbre Lock setting,

Small-signal bandwidth is wide and noise usefully low.
Sensitivity is low (2.4 volts for 15 watts out) so don't even think of using a CD player and passive preamp. Construction of the amp is smart, though some of the internals look a bit 'shoehorned'. The chassis is made entirely of non-magnetic

falling to less than one watt for

reasonable distortion at 20Hz).

materials, including fixings, and component quality is generally good. A valve cage is not even an option, which is regrettable.

# **SOUND QUALITY**

It is axiomatic that SET amps are low-power beasts and therefore work best with high sensitivity speakers. Accordingly, a lot of the listening was carried out with a pair of Lowther speakers which are very sensitive and renowned for their sympathy with such amps. Also tried were Quad original electrostatics and ATC SCM20s, both much less sensitive than Audiopax recommends but fairly easy

loads, giving good results where loud listening is not required, and an all-tooshort evening was spent with B&W's magnificent Nautilus 802.

Given the variables of the Timbre Lock and also the question of polarity, it's possible to spend far too much time fiddling. But relax: the amp's basic sound is pretty consistent, at least in comparison with others. SETs as a breed are famed for the naturalness of their sound, and indeed the Stereo 88 does make for a very lifelike presentation over a wide range of material. It's

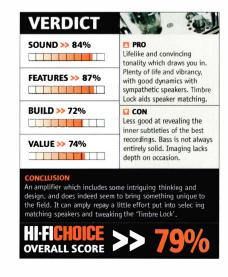
particularly realistic with the human voice, and across a range of singers from Nina Simone to Ray Charles to a couple of opera debutants I'd just recorded it produced a most inviting and lifelike rendition.

The fate of the varied accompaniments to those voices was not entirely consistent. Piano fared well, nicely voiced and very accurately placed spatially, and small bands were on the whole well treated too, but larger ensembles seemed to lose a little focus and precision, with image depth slightly compromised – in general, sounds are brought forward rather than pushed back. Likewise, in orchestral music there was a slight tendency to bring things a touch upfront.

All the same, the immediacy that this amp can bring to recordings is a distinct asset, making one feel that supposedly familiar recordings have gained an extra dimension and encouraging protracted listening sessions. It's a trait of SETs that they open the window on the music just that little bit wider – or to be pedantic, they give a beautifully clear focus on the 'big picture'. If one seeks the little inner details within a sonic panorama these may not be so easy to find, and this remains true with the Stereo 88 too.

There is then a degree of compromise here. First with speaker sensitivity - though in fact the ATC and Quad speakers gave rather fine results, just limited loudness. Then there's the compromise between the excellent immediacy and generally lifelike character of the sound and its slight lack of fine detail. There's also a hint of bass slackness at times, this again depending on speakers and barely noticed with the Lowthers. However, this amp is certainly a very informative musical communicator, notably so even among its SET competitors, and the Timbre Lock offers a subtle but worthwhile performance lift in many situations if you've the patience for a little experimenting. The claims about overall distortion may or not be on the mark, but the sound certainly repays a good listen. HFC

Richard Black



# **GROUP TEST: PAUL MESSENGER LAB REPORTS: PAUL MILLER**

# SPEAKERS

From the tiny and compact to the really quite huge, there's a wealth of variety and sonic quality in the latest batch of loudspeakers up to £1,500

his month's test group covers a pretty wide price range, but an even bigger spread of design variation, ably displaying just what a wide and varied choice faces the speaker purchaser today.

Our group of eight is split 50/50 between standmounts and floorstanders, but that's not even the half of it. The standmounts include what may well be the smallest standalone miniature on the market – the Leema Xen. At the opposite end of the scale, KEF's stylish XQ3 standmount is as big or bigger than Castle's floorstanding Pembroke.

The latter is undoubtedly one of the smallest floorstanders around, with a main driver no bigger than the typical miniature, and a very pretty set of real wood-veneered clothes. In considerable contrast, Mission's V63 will provide a whole lot more speaker for an extra £100. It's stylish too, in its way, but doesn't look as cute or classy.

The other two floorstanders are, in their own very different ways, both unusual and distinctive. Monopulse is a brand new operation, founded with the prime intention of providing accurate 'leading edge' definition, but also incorporating attractive and unorthodox construction and styling, with very tough metalwork.

In complete contrast, Mirage is one of the brands operated by the Canadian Audio Products International (API) operation, which is one of the largest speaker makers on the world stage. Its Energy brand concentrates on conventional forward-facing speaker designs, while the Mirage models tend to be omnidirectional or bi-polar in operation, ensuring a very different room interaction from the norm.

There's plenty of contrast among the standmounts too. The Leema Xen is not only incredibly tiny, it's also incredibly strongly built, with steel casework again putting in an appearance here.

JMlab's Cobalt 806S – an upgraded version of an 806 we reviewed as part of a surround sound system some eighteen months ago – is really the only standmount here that fits the 'classic' two-way 14-litre stereotype. Tannoy's new Sensys DC1 combines a two-way dual concentric driver with a super-tweeter, while KEF's XQ3 combines its Uni-Q variation on the

dual-concentric theme with both super-tweeter and an extra bass unit – a four-way standmount, no less! Variety is unquestionably the spice of the loudspeaker reviewer's life! **HFC** 

# **EQUIPMENT USED**

- Naim CDS 2 CD player
- Rega Jupiter CD player
- Linn LP12 turntable
- Linn Akiva, Dynavector XV-1 cartridges
- Magnum Dynalab MD 102 tuner
- Naim NAC552 preamp
- Naim NAP500 power amp
- Naim NACA5, Nordost Valhalla speaker cables

# **MUSIC USED**

- White Stripes Elephant

- O Alison Krauss + Union Station Live
- ► LSO Live Shostakovich Symphony No11
- O Christy Moore Live At The Point
- BBC Radio 3 and 4

# ON TEST CASTILE PEMBROKE FOCALJMLAB COBALT 806S KEF XO3 E1,500 MIRAGE OMNI 260 MISSION V63 E799 MONOPULSE 32 TANNOY SENSYS DC1 E449



# LISTENING TESTS

Loudspeaker listening poses a more complex set of problems from those involved in assessing components further up the hi-fi chain. Speakers vary dramatically in size, type and tonal balance, and also interact strongly and often unpredictably with the room. The fatal difficulty facing sequential unsighted loudspeaker presentations is the strong tendency to judge each example according to how its balance differs from the model that preceded it. Accordingly, extended hands-on listening sessions were adopted, giving proper scope to adjust to the inevitable changes in balance and to experiment with positioning.

# LAB TESTS

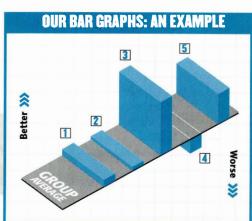
The speakers were tasked by a mix of external, GPIB-controlled signal generators and analysers. The returned data is processed via virtual instrument software, allowing us to build very high resolution plots of the loudspeaker impedance and phase angles, nearfield responses and distortion trends. All this information is collated, processed and revealed, in a highly condensed fashion, by our at-a-glance bar graphs.

No other magazine offers an equivalent test and listening programme for comparative tests.

# **LAB REPORTS: THE BAR GRAPH**

Our 3D bar graphs are a simple way of showing how the products compare across five technical parameters. In each case, a percentage is given that falls above or below the group average. In this test, the five parameters are:

- 1] Sensitivity: The speaker's axial output at 1 m distance with an input of 2.83V. The level is averaged across 3rd-octave bands from 500Hz-8kHz.
- **2] Loudness:** The capacity of speaker pairs to generate short-term musical peaks without compression, at a given amplifier power output and at 2m distance.
- **3] Ease of drive:** Peaks and dips both in impedance and phase, along with the average impedance across the audioband, are all considered.
- **4] Bass extension:** The perceived bass extension will vary from room to room and certainly with speaker positioning, so this projected value represents an 'average' result at -6dB below the mean output of the speaker.
- **5] Low distortion:** An estimation of the impact that harmonic distortion across the audio range has on the 'colour' of the speaker. Generally, higher bar graph values suggest a more neutral sound.



**£500** per pair 201756 795333 @ www.castleacoustics.co.uk

# **CASTLE PEMBROKE**

# One of the smallest and prettiest floorstanders around

loorstanders come in a wide range of shapes and sizes, and this Pembroke is among the most compact examples around, standing just 73cm off the deck, and therefore placing the drivers – especially the tweeters - significantly below ear level.

It looks, to all intents and purposes, very like a half-scale model of the excellent Conway 3 we reviewed in HFC 237. Where the latter used a pair of 165mm main drivers and a 28mm tweeter, this little cutie - 'cute' seems entirely the most appropriate adjective here - uses a single 130mm main driver and 19mm tweeter.

Castle makes some of the prettiest real wood veneer speakers around, and our Pembrokes came in a rich red mahogany veneer, though seven alternatives are available at the 'standard' price, with luxury options like yew and rosewood at a premium. Build is lightweight - at 9.5kg it's just a nip heavier than two of our standmounts.



The front edge of the enclosure is nicely radiused, as is the fiddly-to-fit plinth. The latter usefully improves stability, but the 6mm spike sockets are weakly secured. The two speakers of a pair - and also the triangular grilles - are mirror-imaged to preserve visual and acoustic symmetry, and the twin terminal pairs are sensibly set low to the ground.

The port arrangement is interesting, as it's concealed within the base, and because its output comes through a fairly narrow slot between enclosure and plinth, a measure of resistive damping is automatically applied. It's even possible to adjust this damping by leaving out one of the spacer washers.

The Conway 3 sailed through the listening tests with aplomb and success, so it came as something of a surprise that this little Pembroke failed to shine to the same degree. Dynamics sound decidedly muted here, an impression which is doubtless a consequence of a lack of any real presence 'punch'.

Restraint is very much the order of the day here, and while a measure of this is often desirable, especially when operating with lowcost electronics, the Pembroke seems to have gone a little too far. Voices are clean, well formed and even, but also a little 'shut in', while the overall tonal balance seems lacking in energy right through the upper registers significantly so when compared to the average for the group assembled here.

In truth, it's a little dull, and this means you have to wind up the volume a little higher than usual to establish good intelligibility. Even so, there's more than a hint of nasality on speech here. The corollary, however, is that you can play it quite loudly without the sound tending to become aggressive.

Deep bass isn't on the agenda here, and experimentation did suggest that some closeto-wall bass reinforcement will be beneficial certainly it's worth trying, and was used in our tests. What bass there is sounds lively enough, but there's no great weight or drive, and a measure of boxy coloration adds some textural thickening in the upper bass region.

Arguably the prettiest speaker in the test group, as well as the most cost-effective (since no additional stands are required), the combination of a high-class real wood veneer and attractively shaped and very compact enclosure looks very tempting. If the sound is a little dull, perhaps in part due to the low-set drivers, this could still suit close-up listening in a small room. HFC

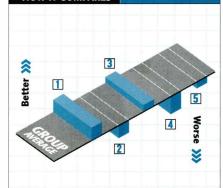


# LAB REPORT

The Pembroke's averaged third octave response shows a generalised depression of some 3-4dB from 2-6kHz. which may lie behind our reviewer's impression of the speaker sounding a little dull. A narrowband analysis reveals this notch in the Pembroke's output to be at 3.15kHz, possibly just after the crossover to the offset treble unit. There's also a roll-off in the speaker's high treble beyond 16kHz, but this area is generally the preserve of sharp-eared young guns and not seasoned reviewers such as ourselves!

Distortion is moderate at ~1% through the bass and ~0.5% through the midrange (before the notch), although the LF sweep did excite a slight 'buzz' from the cabinet as if some part of the driver basket or internal crossover were not fully secured. Distortion is assisted by Castle's generous 89.6dB sensitivity. which is appreciably higher than its 88dB specification. The speaker load is a little irregular. with fairly big swings in impedance (38ohm at 90Hz to 4.1ohm at 8.4kHz), but quite easy going overall.

### **HOW IT COMPARES**



- 1] Sensitivity >> +20%
- 21 Loudness >> -15%
- 31 Fase of drive >> +10%
- 4] Bass extension >> -25%
- 51 Distortion >> -10%

SPECIFICATIONS		
Measurement	Rated	Actual
Sensitivity @ 1 m/2,83V	88dB	89.6dB
Impedance (nominal/mean)	8ohm	10.0ohm
Estimated bass extension	none supplied	50Hz

# VERDICT **SOUND** >> 56% The combination of a

PRACTICALITY >> 80% 

**BUILD >> 82%** 

**VALUE** >> 72%

high-class real wood veneer,

enclosure is tempting to the

eye. But the sound is a little

dull and best suited to close-

attractive shaping and a

compact floorstanding

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# **FOCAL-JMLAB COBALT 806S**

Cobalt standmount now tweaked to 'Signature S' status

ased in the engineering city of St Etienne, JMlab has grown into France's number one loudspeaker brand and a genuine big-hitter globally. The company is known as much for the Focal drivers it makes, uses itself and supplies to a handful of select other brands, as for the complete speakers it sells under the JMlab banner (the JMlab brand name is now morphing into 'Focal-JMlab' – Ed).

We first featured the Cobalt 806 three years and several JMlab reviews back. Now there's a new 'Signature S' version, based closely on the standard model but incorporating a substantial under-the-skin revamp and putting an extra £70 on the price. It's part of the same range as the floorstanding Cobalt 816S, which scored a Best Buy in *HFC* 242.

Much of the technology here has 'trickled down' from the Utopia and Electra ranges. Key Signature S elements include the 165mm main driver with 'W-sandwich' (foam/woven glass fibre) cone, a new acoustically transparent dust cap, a more effective cabinet damping material (borrowed from the Electras) and the Tioxid 5 version of the company's inverted titanium dome tweeter. The crossover network has allegedly also been realigned, though this is less obvious, since the impedance trace through the crossover region looks exactly the same as before.

The styling certainly differs from the British norm, with 'red cherry' real wood veneered sides, metallic-look front and top panels and an emphatic light-grey perforated metal grille. Round the back are twin terminal pairs, and a crossover network inspection panel. The enclosures are ported and bungs are supplied.

One thing's for certain, it's very dangerous to try and predict how a particular speaker will behave. Our recent experience with the 816S inevitably lead one to anticipate some results with this 806S, and for the 806S to have similar voicing to its larger stablemate, but that didn't turn out to be the case at all.

Where the floorstander delivered voices with a beautifully open neutrality, this standmount seems to lack presence energy, and sounds a bit shut in as a result. It also unfortunately compounds the felony with a decidedly strong and potentially fierce treble 'sting'.

The combination is particularly unfortunate, because one wants to turn up the volume in search of extra presence energy and vocal intelligibility, only to find the treble proper rapidly starting to sound aggressive. For example, Christy Moore's *Live At The Point* is a top-notch recording with some high-class vocal gymnastics. But to hear these clearly it was necessary to wind up the volume to the point where the audience's applause was starting to sound unpleasantly obtrusive.

This is a shame, since the performance through the broad bass and midrange is close to exemplary, with the sort of clean clarity and freedom from boxiness that is the major strength of a high-class standmount.

The way this compact speaker could drive along solid and heavy

material like Massive Attack's

100th Window – clean, fast,

completely free of overhang

was quite remarkable.

An initial impression that the overall balance was a tad bass-light was soon resolved by the discovery that the ports had been blocked with the optional foam bungs. Even after these had been removed, some wall reinforcement was deemed preferable to true free-space siting.

The 806 Signature does produce great bass and midrange from a very lounge-friendly package, but rather loses its way in the voicing of the vital presence region. HFC

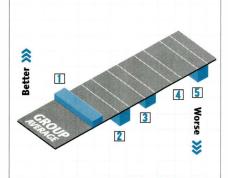


# **LAB REPORT**

The 'fizzy' lower treble described in the review is realised as a sharp peak at 3.2kHz, above the notional 2.2kHz crossover frequency of this two-way design. There are additional swings in phase and impedance plus a cluster of smaller resonances after this peak, which are sufficient to reinforce the energy in this region and add some 'zing' to the overall balance. Although such changes in response may colour the sound, so do changes in distortion and so it's interesting to see that THD also increases to ~1.6% through this same lower treble region.

Once the Tioxid tweeter gets into its stride at higher frequencies, distortion falls back to a more creditable ~0.35%. Otherwise, the 8065's sensitivity is quite high at 89.3dB (though not quite as high as its 90dB specification). Bass is broadly tuned from 25Hz-92Hz (-3dB points) through the port, but with a sharp driver null at 37Hz and impedance minimum at 40Hz. The upshot is a predicted in-room extension not far shy of 45Hz.

### **HOW IT COMPARES**



- 1] Sensitivity >> +10%
- 2] Loudness >> -20%
- 3] Ease of drive >> -15%
- 4] Bass extension >> 0%

5]	Distortion	<b>&gt;&gt;</b>	-20%
CONTRACTOR OF THE PARTY OF THE		THE REAL PROPERTY.	-

Rated	Actual	
90dB	89.3dB	
8ohm	8.6ohm	
45Hz	45Hz	
	90dB 8ohm	90dB 89.3dB 80hm 8.60hm





# £1,500 per pair ☎ 01622 672261 ⊕ www.kef.com

# KEF XQ3

KEF's new standmount uniquely features a four-way driver array

EF has produced a considerable number of new models over the last year or so. Among the most recent, the XQ-series sits well up the hierarchy, just one step below the prestige Reference series. As you might expect, they share several of the References' concepts and ingredients, including top-mounted super-tweeters, but are also impressive models in their own right, most obviously in their original approach to styling - the most unusual feature here being the curved base and top surfaces.

This XQ3 is the middle model of three stereo pairs, and is one of the largest and most complex standmounts Hi-Fi Choice has ever seen. A four-way driver line-up, alongside elaborate cabinet construction, are major factors that help account for its substantial £1,500 per pair price tag, while the considerable 14.5kg weight - heavier than many floorstanders - is strong evidence for its very solid build.

Presentation is distinctive in several ways. The finish options do include one (maple) real wood veneer, but also four deep-gloss colours - white, red, silver or the charcoal supplied for this review. The sides, top and bottom are all curved, the shape tapering strongly from front to rear, while an attractive alloy trim covers the front panel, hiding the driver fixings.

Said front panel accommodates what looks like two main drivers plus a port. The lower 165mm unit is a bass-only device, operating within its own ported enclosure, while the upper one is a co-axial Uni-Q - two drivers in one, where the cone operates through the midband only, while a tweeter placed in its centre takes over for treble duties. Icing is then provided on this particular cake by fitting a 'Hypertweeter' in its own little nacelle onto the top surface, set back a little to time-align with the Uni-Q tweeter.

Twin terminal pairs separate the high order crossovers feeding the different drive units. The curved base naturally prevents Blu-tack coupling to flat-topped stands so KEF supplies three chrome cones for flat surfaces - though regular 6mm spikes also work fine. Because this is a relatively tall standmount, lower than usual stands are needed - 40 to 50cm will do the job, rather than the usual 60cm height. KEF supplies matching stands with little clamps, though these are quite costly at £269 per pair.

Although flattened bungs are provided to block the ports if desired, these are probably only appropriate if the speaker has to be close to walls, as the XQ3 balances out quite beautifully with the ports open and the speakers sited clear of walls.

Thus placed it delivers a bottom end that's dry, smooth, even, well extended and free from any unwelcome texture thickening. Massive Attack's 100th Window had fine authority and a welcome freedom from the 'thumpy' quality that often accompanies such a heavy recording - clear evidence of the fine control over box coloration here.

All told, this is a delightfully neutral loudspeaker which is very easy on the ears, sounding nicely open through the vital voice bands, with a slightly 'shiny' quality that never crosses the line into unwanted aggression. That said, it could have been more transparent. There's some lack of dynamic tension here, and there was no avoiding the observation that KEF's more costly Reference 205 (reviewed this issue, p40) has significantly greater dynamic range.

A very attractive but complex loudspeaker, this costly design has impeccable balance but rather less transparency. HFC

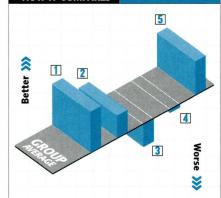


# **LAB REPORT**

Rated at a generous 89dB, the sensitivity of this compact four-way is actually higher still at 90.9dB. This high sensitivity hasn't been achieved at the expense of its response uniformity because, even over an extended 200Hz-20kHz span, the third octave sensitivity stays a consistent 90.8dB. A narrowband response analysis sees a ~5dB notch at 12.5kHz just prior to the 15kHz crossover of KEF's 'Hypertweeter' and a broader depression around 5kHz where the aluminium dome tweeter is working out from the Uni-O driver. Still, the averaged in-room response looks to be both extended and impressively flat.

Maximum output is good at 106dBA and distortion remains <1% right through the midrange at 96dBA. At very high frequencies, the Hypertweeter keeps distortion to ~0.1%. The moderate Q bass tuning has the driver null, port resonance and impedance minimum occurring at 33Hz, 38Hz and 35Hz, while there's no sign of peakiness that might contribute to a falsely impressive 'wack' in the upper bass.

# **HOW IT COMPARES**



- 1] Sensitivity >> +55%
- 2] Loudness >> +30%
- 31 Fase of drive >> -30%
- 4] Bass extension >> -5%

5] Distortion	» +45%
---------------	--------

<b>SPECIFICATIONS</b>			
Measurement	Rated	Actual	
Sensitivity @ 1m/2.83V	89dB	90.9dB	
Impedance (nominal/mean)	8ohm	7.0ohm	
Estimated bass extension	55Hz	44Hz	

### VERDICT SOUND >> 80% An attractive but also complex loudspeaker, with its four-way driver line up. This factor PRACTICALITY >> 63% probably helps the beautifully smooth and even balance, but may also contribute to the BUILD >> 92% XQ3's high cost and relatively modest transparency **VALUE** >> 73%



# **£1,000** per pair ☎ 01442 255405 ⊕ www.leema-acoustics.com

# **LEEMA XEN**

# Leema's metal-jacket Xen makes a strong 'small is beautiful' claim

elative newcomer Leema Acoustics was founded in 1998 by two respected and experienced ProAudio engineers, Lee Taylor and Mallory Nicholls. Their declared aim was to re-invent the miniature loudspeaker - partly to help accommodate the numerous extra channels now required for monitoring surround sound mixes.

The Xen is the elder but smaller brother of the Xyp (reviewed in HFC 243), and essentially the company's core product. It's a tiny 'mini-monitor' and must be one of the smallest speakers that Hi-Fi Choice has ever reviewed - yet at £1,000 per pair it's definitely a long way from the cheapest. Those who equate bulk with value should clearly look elsewhere, but bulk isn't necessarily directly related to manufacturing costs. Indeed, many enthusiasts and consumers consider that small is beautiful, especially when it comes to loudspeakers.

The Xen isn't going to set any records for superficial perceived value for money, for sure, but it's certainly beautifully built using the very finest ingredients, and a lot of thought has clearly gone into maximising the performance and minimising the size. The braced and damped steel case feels very stiff and inert, yet is only 1.6mm thick, while 25mm veneered MDF is used for the front. A two-way port-loaded design with an internal volume of just five litres, it uses a 100mm Seas bass/mid driver with an 80mm diameter cone, plus a 25mm Vifa soft dome tweeter. Twin terminal pairs feed an audiophile

Solen capacitors. There's no grille provision.

Sonically the Xen is a joy, especially when being used to monitor speech in particular, and voices in general. There's not much bass, even with the recommended close-to-wall siting, and none of the really deep stuff - for that check out Leema's partnering SPLX subwoofer. But what it does do - and that is certainly most of the audio band, and the most important parts thereof - it does quite remarkably well, with a very convincing coherence and freedom from time-smear.

Most immediately striking is its remarkable freedom from boxiness. Not totally unexpected perhaps, as there's very little box, but very welcome and remarkable nonetheless, and a powerful reminder of the crucial role that the enclosure plays in any loudspeaker, and just how effective a very small loudspeaker can be.

Obviously the sensitivity is low, but the Xen handles power with some aplomb, and will go surprisingly loud without showing signs of distress. However, the balance is on the forward side of neutral, and while this makes for a very clear and open soundstage, it also has a slightly 'shouty' tendency that is some disincentive to playing the speakers loud.

It's no surprise to find that the stereo imaging is top of the class, even with the speaker close to the wall. The dynamic range is very wide indeed here, although the dynamic contrasts might have had a little more tension. And even though there's no

deep bass weight, the bass

harmonics are properly and smoothly reproduced, and

> actually contain most of the musical

information

Not an ideal choice for those who like their music warm and cuddly perhaps, the Xen is nevertheless a true monitor speaker with remarkable powers of analysis, and capable of great musical insight. It must surely be recognised as one of the finest mini-monitors around. HFC

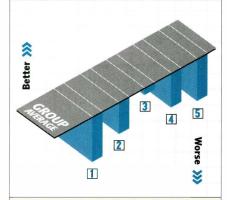


# **LAB REPORT**

While the Zen's room-averaged response suggests it may have a slightly lumpy-sounding bass, an axial narrowband response shows this to be very flat. Either way, if you are to experience the transparent mid quality described in the review, then the Zen should not be used hard up against a rear wall and certainly not in room corners - two positions typically occupied by miniature loudspeakers.

Limited cab volumes can breed limited sensitivities and indeed, the Zen's low 85.8dB output will hardly raise the roof even if this is still generous by the standards of historic mini-monitors like the LS3/5a. Similarly, the miniature bass/mid unit has a -6dB point of just 75Hz while the port is closely tuned at 70Hz, so deep bass is absent. Distortion is necessarily high through the bass at high-ish levels but falls to ~3% through the midrange and ~0.35% once the treble unit is engaged. Finally, although the Zen's load falls below 80hm through much of the midrange, it never dips below a minimum of 5.9ohm.

### **HOW IT COMPARES**

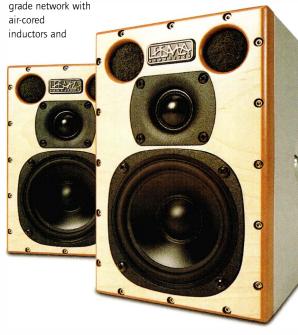


- 1] Sensitivity >> -60%
- 2] Loudness >> -40%
- 3] Ease of drive >> -5%
- 4] Bass extension >> -45%

51	Distortion	>>	-50%
	DISCOLLIOIT	-	30 /0

SPECIFICATIONS		
Measurement	Rated	Actual
Sensitivity @ 1m/2.83V	84dB	85.8dB
Impedance (nominal/mean)	8ohm	9.0ohm
Estimated bass extension	not supplied	65Hz





£799 per pair № 01787 249656 ⊕ www.miragespeakers.com

# **MIRAGE OMNI 260**

Omnidirectional speakers do it differently, as this Mirage shows

irage is one of the brands operating under the umbrella of the large, Toronto-based API Group. API's brand portfolio also includes Energy, which concentrates on conventional box loudspeakers with forward facing drivers, while the Mirage range essentially consists of models with omnidirectional sound radiation patterns (which is variously described as 'bipolar' and 'omni-polar').

The 260 sits at the top of Mirage's fourstrong Omni-series stereo speakers. It's a twoand-a-half-way design, featuring two 165mm main drivers, operating in tandem (with a reflex port) through the bass region, the lower one rolling off above 700Hz, while the upper one continues up through the midband to the 2kHz tweeter crossover point.

While the bass-only driver and port are



conventionally mounted on the front of a regular rectangular enclosure, part of the top of the box has been sliced away to create a surface tilted towards the front at around 30 degrees from the horizontal, into which the main bass/mid driver is fitted.

An alloy casting, consisting of a downwardfacing conical deflector and incorporating an upward-facing tweeter complete with its own tiny deflector cone, is fixed to the rearward, flat part of the top surface, so that it sits just above the middle of the main driver.

This arrangement is intended to make the speaker radiate all frequencies in every horizontal direction, but with a slight forward bias. So listeners will hear an increased ratio of room-reflected to direct sound compared with conventional forward-facing speakers.

An elaborate double-grille arrangement has been designed to cover up all the drivers. The box is finished in rather mundane black or cherry vinyl woodprint, decorated with plastic trim strips. A single pair of terminals are fitted, and a set of plastic mouldings extends the footprint for superior stability.

The largest in our test group, it's no real surprise to find that this unusual design delivers a big, generous sound - partly because it underpins everything with a big and generous bottom end. Wall reinforcement will not be needed here - nor is it desirable. given the omnidirectional nature of the mid and top, as close-to-wall reflections will tend to introduce midband coloration.

Given plenty of room, the 260 provides a lovely all-round spaciousness, and bringing more of the room into the equation helps the speakers create the illusion that the musicians are actually there, which many listeners will find attractive. The corollary to this, however, is that stereo images are a little less sharply focused and precisely defined than usually found with more conventional designs.

The overall tonal balance is good, but also somewhat uneven, and while there's a decent measure of low bass weight, there's also some lack of midbass drive and upper bass warmth. The upper mid and presence bands are very nicely judged, but the sound is then compromised by some top end 'sizzle', which seems to be consistent, rather too insistent, and a little too obvious to ignore.

That treble 'fizz' is the Omni 260's most serious limitation, and may well put some listeners off. But in most other respects it's a well founded and well behaved design. HFC

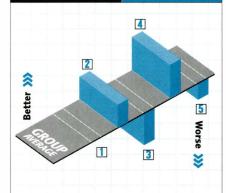


# LAB REPORT

Although the 89.1dB sensitivity seems shy of the claimed 93dB, it's an effect of its omnidirectional radiation pattern. Indeed, my figure is a forward sensitivity while Mirage's is a measure of its hemispherical 'room efficiency'. At the listening position, an averaged, 3rd-octave response shows a generally downtilted balance because of the upward orientation of the treble unit, but the response does liven up as you move above the axis of the speaker.

Indeed, because the speaker relies more on reflected than forward energy, the 'brightness' of its balance will depend more on its environment than many other speakers. Distortion is lowest through the midrange (~0.25%) while the bass end of things is very well-engineered with a strong but clean 30Hz port resonance reinforcing the output of the front bass driver (-6dB at 55Hz). Otherwise, the 260 is a tough load to drive with an acceptable 3.8ohm minimum at 1.2kHz but a current-hungry average impedance of just 5.95ohm from 20Hz-20kHz.

### **HOW IT COMPARES**



- 1] Sensitivity » 0%
- 2] Loudness >> +30%
- 3] Ease of drive >> -40%
- 4] Bass extension >> +45%
- 5] Distortion >> -20%

SPECIFICATIONS			
Measurement	Rated	Actual	
Sensitivity @ 1m/2.83V	93dB	89.1dB	
Impedance (nominal/mean)	8ohm	5.95ohm	
Estimated bass extension	35Hz	30Hz	

### VERDICT **SOUND >> 68%** This design's omnidirectional feature gives it a distinctive 'in the room' character that some PRACTICALITY >> 61% may find very persuasive. In most other respects it's a competent and capable enough BUILD >> 67% design, somewhat hampered by a degree of treble 'fizz'. **VALUE** >> 70%

# **£600** per pair ☎ 01480 423700 ∰ www.mission.co.uk

# MISSION V63

# A substantial real wood floorstander at a very sharp price

t's only a year since Hi-Fi Choice reviewed the Mission M53, a good looking speaker which also seemed to provide fine value for money at £550 per pair. Now Mission has replaced it with the new V63 - V for Volare which is very similar in many respects, but sells for a slightly higher £600 per pair.

It's a two-way design based on the so-called d'Appolito configuration, in which twin bass/mid drivers are placed above and below a solitary tweeter, with the advantage of providing plenty of cone area while keeping the front panel nice and slim. The Volare styling package is less extreme than the M-series range, but still very neat and tidy in the Mission tradition. Once again finish is a real wood veneer, but a rather bland and undistinguished example thereof, with black, cherry and beech options.

The magnetically shielded 150mm drivers



have 115mm Paramid cones - a homogenous polymer sandwich cone loaded with aramid fibres. The tweeter has a delicate 25mm fabric dome with mechanical decoupling. The box is internally braced, loading the main drivers with a 30-litre air volume and a generous port. Bi-wire/amp terminals feed a crossover network with polypropylene capacitors and silicon-iron cored inductors.

The construction is substantial, using a front panel 38mm thick with post-formed edges to promote good lateral distribution. The size and weight confer good basic stability and chunky spikes are supplied, though these are locked by rather inadequate thumbwheel nuts which have a tendency to work loose.

Sonically the V63 errs somewhat on the side of caution, not exactly hiding its light under a bushel, but certainly making certain that it doesn't cause offence by delivering a sound that's too upfront for delicate sensibilities. It might, in truth, be a little too laid back, as this does rather reduce the impact and projection of dynamics.

But that does in turn enable even relatively aggressive recordings like the White Stripes' Elephant to be played at quite high levels without distress. However, the top end proper is slightly exposed here - probably standing out as a consequence of that restrained upper mid and presence - and this can be a little obtrusive with some material.

Mission suggests the V63 be sited 20-80cm from a wall, but our experiments indicate that the latter should be regarded as a minimum rather than a maximum distance, if unwanted mid-bass 'thump' is to be avoided. Clear of walls, the bass shows good weight, power and agility, providing a firm foundation for driving along rock and dance tracks.

However, there's also a slightly hollow, echoey quality here, adding a measure of colour and thickening to the lower registers. Massive Attack's 100th Window has plenty of inherent sustained bass, and while the V63 delivered plenty of power and energy, it didn't have quite the agility, clarity and stop/startability of the smaller standmounts.

This speaker is good for those who like to play their music fairly loud, as this will suit the rather laid-back upper mid and presence regions, taming the aggressive tendencies that tend to come to the fore when the wick is wound up. As a whole it's good value for money, delivering plenty of welly in a good looking suit of clothes. HFC

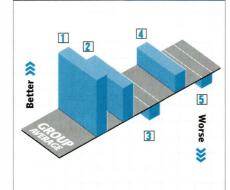


As some previous Mission speakers failed to achieve their claimed sensitivity, it's good to see the V63 is under-rated at just 89dB when a figure of 91.6dB (2.83V/1m) is possible. With a substantial 150W maximum power rating, this suggests peak in-room

levels of 108-109dBA, if you have scant regard for your long-term hearing. The averaged in-room response shows a very flat and even output from upper bass through midrange and treble but some bass lumpiness, aggravated by near-wall siting.

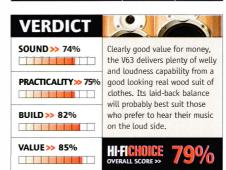
Bass tuning is complicated by a quarterwave resonance that escapes the port above its notional 35Hz Helmholtz frequency and also shows up on the LF response, impedance and phase angle curves. Also, a narrowband response analysis reveals small but sharp peaks at 3.5kHz-4.7kHz, not unlike the JMlab which was described as sounding slightly 'fizzy'. In a further parallel, distortion also increases to ~1.6% through this upper mid/lower treble region despite enjoying levels as low as ~0.7% through the bass.

# **HOW IT COMPARES**



- 1] Sensitivity >> +75%
- 2] Loudness >> +45%
- 3] Ease of drive >> -20%
- 4] Bass extension >> +25%
- 51 Distortion >> -15%

SPECIFICATIONS		
Measurement	Rated	Actual
Sensitivity @ 1m/2.83V	89dB	91.6dB
Impedance (nominal/mean)	8ohm	7.5ohm
Estimated bass extension	44Hz	38Hz



**£695** per pair **☎** 07785 558238 **⊕** www.monopulse.co.uk

# **MONOPULSE 32**

A radical look and sound from a newcomer with bright ideas

brand new name on the scene, MonoPulse was founded by long-time hi-fi enthusiast Allan Hendry, who has experimented with speakers for decades, but until recently earned his living in electronics, working on phased-array radar systems.

It's experience that may not seem to have much relevance to speaker design, but it has made him particularly conscious of the phase relationship between bass/mid driver and tweeter through the crossover region. That's very much reflected in the way the network is designed and the drivers are spaced.

No less interesting is the styling here, which is very original and also decidedly attractive to these eyes. A thick and wide metal strip, which may be anodised in a wide range of colours, form a tall inverted U, covering the sides and top. This provides both mass and stiffness, and is firmly bolted to the shallow wood-composite enclosure which holds the



165mm Aerogel-cone bass/mid driver.

A reflex port is fitted into the base of this enclosure, firing downwards and held an appropriate distance off the floor by some very well founded and purposeful spikes – the footprint might be modest, but stability seems good here, helped by the hunky 19kg total weight. The tweeter is mounted on its own separate small panel above the main enclosure, mechanically isolated and set back slightly, presumably to aid time-alignment. Like the metalwork, the two separate grille cloths are available in a variety of colours, while connection is made via twin terminal pairs, allowing for bi-wiring or bi-amping.

There are many exaggerated claims for superior performance in this business. Happily, the MonoPulse fully lives up to the claim that it will supply superior stereo precision and focus. Although the sound here is not particularly smooth, and does consequently suffer from a certain amount of coloration, it's pretty well balanced overall, and delivers a coherence and timing that's positively electrifying.

It's a vivid, edge-of-seat experience, which somehow seems to 'direct-couple' the music to the brain much more effectively than most. Playing Christy Moore's *Live At The Point*, it was almost as though one had been transported to that famous Dublin venue.

The exceptional image precision, alongside the fact that small head movements result in significant shifts in the perspectives, are very reminiscent of what one hears with widerange electrostatic panel speakers – and a sure sign that this speaker does indeed have phase accuracy that's very rare indeed in a regular box speaker.

That said, there is a slight tendency to fierceness here, and while this can bring some worthwhile extra 'bite' to inherently rather bland digital TV sound, it can also sound a little edgy with the wrong material. Experimentation suggests that this speaker should be kept clear of walls for the best bass alignment, though if this is inconvenient it would be worth considering blocking up the 50Hz-tuned ports.

While MonoPulse might lack the security of an established track record, this 32 is an exceptionally creative design, not just in its unusual appearance and methods of construction, but more especially in its vivid sound quality, which simply gets you closer to the music than most of the competition. **HFC** 

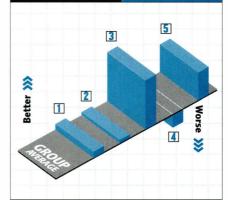


# **LAB REPORT**

The irregular balance noted in the subjective listening tests are confirmed by a third-octave response which shows the output increasing from 600Hz-4.8kHz, followed by a brief suckout at 6.3kHz and then a further boost to 16kHz as the soft dome tweeter gets into its stride. There's no argument with Mono's 89dB rated sensitivity (89.3dB for 2.83V/1m) but this is assisted by the +5dB peak around 4kHz. Wobbles in balance aside, distortion through the midrange is the test's lowest at 0.18%.

Second harmonic distortion increases to ~1% through the bass and there's some evidence of 'buzzing', typically due to some component not being sufficiently nailed down. Otherwise the LF alignment is very messy with a strong quarterwave resonance escaping the port at 240Hz (tuned to 60Hz) which coincides with a significant notch in the bass driver's forward response, phase and impedance traces. Mono should use nearfield measurement techniques to identify and clean up this bass region.

# **HOW IT COMPARES**



- 1] Sensitivity >> +10%
- 2] Loudness >> +5%
- 3] Ease of drive >> +65%
- **4]** Bass extension **»-20% 5]** Distortion **»+35%**

SPECIFICATIONS		1
Measurement	Rated	Actual
Sensitivity @ 1 m/2.83V	89dB	89.3dB
Impedance (nominal/mean)	6ohm	12.1ohm
Estimated bass extension	not supplied	48Hz

### VERDICT **SOUND** >> 81% Very creative in both appearance and construction, this model 32 from newcomers PRACTICALITY >> 78% MonoPulse also delivers an unusually vivid if less than smooth sound, which simply **BUILD** >> 80% gets you closer to the music than most of the competition **VALUE** >> 84%

**£449** per pair **2** 01236 420199 **www.tannoy.com** 

# **TANNOY SENSYS DC1**

Impressive drive unit technology in a highly affordable box

annoy's recent takeover by the Danish TC Group might have brought it a considerable increase in DSP knowhow, but it doesn't seem to have affected the company's speaker design philosophies one iota. The new mid-price Sensys range is pure Tannoy in concept and ingredients – and there's nothing wrong in that.

The Sensys comprises two ranges in one. The less expensive models use conventional separate midrange and tweeter drive units, while the more costly DC models, like this one, are equipped with new dual-concentric main drivers and top-mounted super-tweeters, plus unique five-terminal connection blocks – making audiophile features more affordable, according to the blurb.

The DC1 is a tough, chunky little box, built from 15mm MDF with additional bracing, and with the sort of shape and dimensions which should work very well acoustically.

With a history that goes all the way back to the 1940s, Tannoy's dual-concentric drive unit is a two-in-one affair, firing a horn-loaded tweeter out through the centre of the bass/mid driver cone, and effectively creating a 'point source' for nearly the whole of the frequency range.

Built into a substantial cast housing, the super-tweeter only comes in at a nominal 16kHz, close to the limit of human hearing. It presumably serves to widen the sound distribution at very high frequencies, as well as extending the frequency response into the ultrasonic region.

Why five terminals? Four provide the usual bi-wire/amp option for those who want to feed bass/mid and tweeter drivers with separate runs of cable. The fifth is an earth terminal: given the right cable with a fifth conductor, this permits the cast chassis and other metalwork of the main driver to be earthed to the amplifier, and so avoid picking up any radio frequency interference.

Sonically the DC1 is a very impressive performer – beautifully balanced and voiced, and smooth too for a relatively inexpensive model, though relatively high volume control settings suggest a modest sensitivity.

The supplied port-blocking bungs seem largely unnecessary, under our conditions at least, as the best results for bass alignment were obtained with the ports left open and the speaker mounted close to a wall.

Wall proximity not only provided worthwhile bass reinforcement, it didn't seem to produce the unwanted midrange coloration that often also results from wall reflections, perhaps reflecting the chunky shape and careful directivity control.

The DC1 was free from boxy effects, and beautifully neutral too. Its impressive stereo focus and natural perspectives served classical material very well indeed, and reproduced live acoustic recordings like Christy Moore's *Live At The Point* with great atmosphere and delicacy, and very convincing applause.

The bottom end proved lively and agile, driving Lambchop's *Nixon* along with

enthusiasm and purpose while also establishing an appropriately firm foundation underneath

Massive Attack's 100th Window. This speaker reaches down pretty well into the deep bass, yet more importantly stays crisp and clean throughout the mid and upper bass.

The Sensys DC1 would seem to fully vindicate Tannoy's plan to provide audiophile performance at affordable prices. The vinyl surface finish is an economy measure that has allowed resources to be oriented towards performance, ensuring a fine loudspeaker at a very

realistic cost. HFC

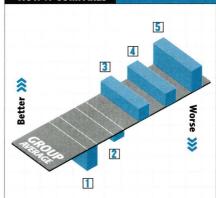


# **LAB REPORT**

On Tannoy's earth connection: while there's some benefit in grounding RF loops, for example, extreme care should be taken when using balanced, bridged or other floating-output amp designs with this type of speaker. Otherwise, the 88dB spec was broadly met (87.5dB from 500Hz-8kHz and 88.2dB from 200Hz-20kHz) but while it has a uniform midrange and extended ultrasonic response, there's a ~+6dB peak at the 16kHz crossover to Tannoy's titanium super-tweeter. Only the most acute (younger) listeners may detect this very high frequency 'fizz'.

Bass distortion is above 1% thanks to a second harmonic, but falls away beyond 250Hz or so to an acceptable ~0.5% which is maintained consistently through the mid and treble. Bass tuning is also well-judged and moderately damped, not unlike the KEF system, so the foam plugs are unlikely to offer much advantage. While the speaker load is not especially current-hungry there are big swings in impedance up to 400hm at 2kHz and down to 40hm at 20kHz.

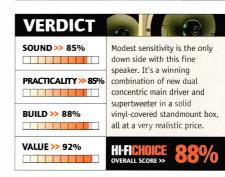
### **HOW IT COMPARES**



- 1] Sensitivity » -30%
- 2] Loudness >> -10%
- 3] Ease of drive >> +20%
- 4] Bass extension >> +20%

5] Distortion >> .	+30%
--------------------	------

SPECIFICATIONS		Actual	
Measurement	Rated		
Sensitivity @ 1 m / 2.83V	88dB	87.5dB	
Impedance (nominal/mean)	8ohm	14.8ohm	
Estimated bass extension	39Hz	40Hz	



























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The Hidden Hi-Fi Store

# CONCLUSIONS

# There's no shortage of differing approaches in the search for the perfect loudspeaker

his is a quality group of speakers. All are competent, but also cover an unusually broad range of sizes and types, so the end results vary substantially.

The group splits evenly four-byfour between standmounts and floorstanders, providing a good opportunity to compare the two approaches. It's not easy to make accurate value comparisons, because the standmounts may require additional expenditure on stands, but ignoring that factor

the performance advantages would seem to lie with the standmount, which certainly tend to have less cabinet coloration.

One tends to assume that the floorstanders will have superior bass, but that's not necessarily the case. More bass is by no means the same as better bass, whereas more box almost invariably means more box coloration. Furthermore, a reasonably sized standmount like the Tannoy Sensys DC1 is quite capable of delivering deep

in-room bass, together with a shape and surface area that will minimise colorations.

It's interesting and unusual to find that two of the speakers the Leema and the MonoPulse used metal extensively in their cabinet construction, and both had very low enclosure signatures. This could be a sign for the future.

Two other models feature extra ultrasonic tweeters - Tannoy calls them 'Supertweeters'; KEF 'Hypertweeters' - and these could also have a future. Whether that's to do with extending the bandwidth or improving the dispersion (or both) is hard to say, though it might be significant that both the KEF and the Tannoy use co-axial main drivers that will tend to narrow the dispersion of their main tweeters, so the extra top end will tend to compensate.

Much of the fascination of speakers lies in their diversity, which is something this group exemplifies very aptly indeed. HFC

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### **HINTS AND TIPS**

- Floorstanders need good floor coupling arrangements. A generous fore-and-aft footprint is sonically important, but decent lateral stability is handy too.
- Expect speakers to improve over the first 100 hours or so.
- Standmounts need the best possible stands for best results.
- Space is important. Do take time and trouble experimenting, as even small changes of position can have a big effect.
- Don't skimp on speaker cable.

# **LOUDSPEAKERS AT A GLANCE**

















	00	00		ča	9			HI-FICHULE
MAKE MODEL	Castle Pembroke	Focal-JMlab Cobalt 806S	KEF XQ3	Leema Xen	Mirage Omni 260	Mission V63	MonoPulse 32	Tannoy Sensys DC1
PRICE	£500	£599	£1,500	£1,000	£799	£600	£695	£449
SOUND								
PRACTICALITY								
BUILD								
VALUE								
OVERALL								
CONCLUSION	Very compact classy real wood enclosure, sounds a little dull but could suit smaller rooms.	Clean, even and agile bass and midrange, but lacks presence and has a treble 'sting'.	Attractive but complex speaker has beautifully smooth and even balance, but modest transparency.	One of the finest mini-monitors around today, with remarkable analysis and musical insight, but limited bass.	Omni feature gives an attractive 'in the room' character, hampered by some treble 'fizz'.	Plenty of loudness capability, and laid-back balance suits those who like their music loud.	Creative appearance and construction, with a vivid sound that gets you close to the music.	A winning mix of new dual concentric main driver and 'Supertweeter' in a solid vinyl- covered box.
KEY FEATURES					A SAME			
SIZE (WxHxD) (cm)	19x73x21	22x39x28	23x57x31	14x22x23	23x107x38	20.5x97x33	21x98x23	21x41x29
DRIVER CONFIG	2-way	2-way	4-way	2-way	2.5-way	2.5-way	2-way	3-way
MAIN DRIVER	1x130mm	1x165mm	2x165mm	1x100mm	2x165mm	2x165mm	1x165mm	1x165mm
STAND/ FLOOR	Floor	Stand	Stand	Stand	Floor	Floor	Floor	Stand
BI-WIRE	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
LAB CONCLUSIONS	E = EXCELLENT •	G = GOOD • A = A	VERAGE • P = POOR					
SENSITIVITY (2.83V/1m)	89.6dB G	89.3dB G	90.9dB <b>E</b>	85.8dB P	89.1dB A	91.6dB <b>E</b>	89.3dB <b>G</b>	87.5dB A
MAX LOUDNESS @ 2m	103dBA@ 75W	103dBA @ 75W	107dBA @ 125W	101dBA @ 100W	107dBA @ 200W	108dBA @ 150W	105dBA @ 120W	104dBA @ 150W
MIN/ AVERAGE IMPEDANCE	4.05/10.0ohm G	3.1/8.6ohm A	3.1/7.0ohm A	5.85/9.0ohm A	3.8/5.95ohm P	3.8/7.5ohm A	7.4/12.1ohm E	4.0/14.8ohm A
DISTORTION@ 96dBA	0.14-1.5% A	0.35-1.6% A	0.11-1.0% <b>E</b>	0.35-~5% P	0.25-1.6% A	0.14-1.6% A	0.18-1.1% <b>G</b>	0.4-1.1% <b>G</b>
IN-ROOM BASS	50Hz	45Hz	44Hz	65Hz	30Hz	38Hz	48Hz	40Hz



# The recording process

The first of a four-part series looking at the journey of recorded music from its initial capture to eventual replay starts with the birthplace of most recordings the studio. Feature: Richard Black

he whole point of hi-fi equipment is to play recordings. We in the hi-fi world are at the mercy of but also very much indebted to - the folks in the recording world who make it all possible. But there's often a surprisingly large gulf in knowledge and understanding between the two spheres, and the whole business of recording can seem very mysterious. We thought it was about time someone put together a series of articles looking at the various stages of how recordings are made, from the sound going into the microphone to the finished disc.

In general terms, that whole process comes under the heading 'recording'. Within the pro-audio community, however, nomenclature is stricter. Recording is only the first stage in a chain which may include mixing, editing and mastering, not to mention manufacturing. In subsequent articles we'll cover those processes, but the following few pages give, we hope, some insight into what goes on at the original sessions where music is first committed to tape or disc.

### IN GRANDFATHER'S DAY

Recording as an art is about a century old. It started with purely acoustical recordings, where sound waves were 'collected' by a large horn and transferred to a stylus which carved a wiggly groove on to a wax disc or cylinder. The same process in reverse was used for replay. By 1925, when electrical recording methods took over completely, a degree of progress had been made but results were never

In 1925, engineers first coupled a microphone through an electronic amplifier to an electrically-driven disc cutter and thus took the first steps towards high fidelity. The results were an obvious advance over acoustical recording and improved further over the next few years. Importantly, electrical recording meant that performers no longer had to huddle together around the mouth of the recording horn, the

greater sensitivity of the microphone

musically satisfactory arrangements.

allowing more comfortable and

in any danger of being termed 'hi-fi'.

Since then, there have been many changes in the way recordings are made, but the basic idea is the same performers sit somewhere in front of a microphone which picks up the sound waves, converts them to electricity and sends them to some kind of recording apparatus. Conceptually, the biggest change has been from the simple approach of a single microphone recording the whole soundstage to multi-microphone techniques, with or without separate recording of each

# **KEEP IT SIMPLE...**

microphone's output.

Many classical recordings to this day are made using the simple approach. Of course, for stereo a pair of microphones is obligatory rather than a single one (stereo microphones exist but are only a pair of capsules sharing a body), but it's perfectly possible to make a very satisfactory recording with a simple pair feeding a stereo recorder, with little or no manipulation of anything. Take 🔀

"Recording is only the first stage in a chain which includes mixing, editing, mastering and manufacturing."

### REACTIONS TO RECORDING

It's interesting to read early comments on recording. Even in 1900 people were already prepared to describe recordings as a "perfect facsimile" of the original. The conductor Thomas Beecham was rather more circumspect – he was happy enough to make recordings but said of the gramophone in its early days, "it will take a hundred years to make it any good". It doesn't take much searching to find a similar range of opinions at pretty much any point in the following century!

■ some basic care
in arranging performers and
microphones, and you'll get a nice
recording. Indeed, many engineers and
listeners maintain that this is really the
only way to do things unless adverse
conditions (poor acoustics, tricky
instrumental combinations) demand it.

Given just two microphones, there are many things one can do with them. Indeed, there are many choices of microphone, priced between a few pounds and several thousand and using at least three different operating principles. By far the commonest type is the 'capacitor' (or 'condenser') microphone, available in various packages and with various spatial responses, directional or not. Practically every possible combination of microphone characteristic and relative spacing has been tried, the most famous being the 'Blumlein pair',



# **SURROUND SOUND AND NEW FORMATS**

Although the introduction of surround sound has meant that engineers need to buy more monitoring speakers and get used to a few new microphone arrangements, on the whole there's no great culture shock involved. Mic set-ups for 'minimalist' recording are often based on the Ambisonic array invented by the late, lamented, Michael Gerzon, with suitable decoding to 5.1 (or however many) channels which are then recorded on some suitable multitrack deck.

In entirely multitrack recording on the other hand, the whole thing is pretty much by definition 'fixed in the mix'. As for new formats like DVD-Audio, many engineers have been 96kHz-equipped for some time and just waiting for an opportunity to use it, similarly for SACD's Direct Stream Digital process. It's more a question of faith by the record labels than any technical limitation.

named after its inventor Alan Dower
Blumlein who first described it in the
1930s. Basically, two directional
microphones are arranged so that
their capsules are very close
together but pointing ninety
degrees apart. Intuitively this
sounds reasonable and
mathematically it makes sense too,
so it's no surprise that it can give very
good results over both speakers
and headphones.

### OR KEEP IT FLEXIBLE...

Some engineers prefer to use a multitude of microphones, one per instrument or group of instruments, perhaps with additional 'mics' picking up ambience too. In its more extreme forms, this kind of practice allows the balance to be dictated almost entirely by the engineer. Acoustic screens around the instruments may be used to reduce 'spill' so that each microphone picks up only the sound source it was intended to pick up. The obvious disadvantage of this kind of approach is a musical one: the performers are starting to lose contact with each other and the music

is in danger of losing its homogeneity.

However, in a lot of current pop and rock recording, there is no attempt whatsoever at homogeneity, at least not in real time. Each instrument is recorded separately, the musicians playing against a 'click track' or perhaps against the first track to be laid down (usually the percussion). This has been possible ever since the first multi-track recorders came along - you could even do it, in mono, on a stereo deck - but these days with 48 tracks of digital recording available at very low cost it's a popular option. The arguments for this approach largely rest on flexibility; those against, on the lack on spontaneity it often engenders. Practically all the great pop records of the fifties and sixties were recorded whole and often in a straight take too, and there is something of a move back towards that practice in some quarters.

Of course, given that so many instruments in today's pop world are intrinsically electric (synthesisers of all sorts, electric guitars and so on) it's perfectly possible to record almost everything except voice without a single microphone – just plug each instrument directly into the recording kit ('direct injection' or 'DI'). The sounds may then require some reverberation, response shaping and so on, but all that can be done electronically at the time of recording or subsequently. Even so,

many producers and engineers still swear by such apparently paradoxical practices as pointing a microphone at the loudspeaker of a guitar amp, for instance, to capture the classic character familiar from albums and concerts of old.

### THE SIGNAL PATH

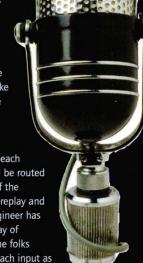
What actually happens to the various signals from microphones and DI'd instruments? By and large, in typical studios, everything centres on the mixing desk (known familiarly as 'the desk' or 'the board'). This may have several dozen inputs and outputs, can vary from about two feet square to the size of a boardroom table, and can cost as much as a nice flat in London's Mayfair. Each input can be configured for microphones - complete with 'phantom powering' to run the first-stage electronics which must always be physically close to the capsule - and line-level sources, with adjustable gain, basic equalisation and a multitude of routing switches to send signals to individual outputs (to a multitrack recorder) and mixed stereo and/or multichannel outputs.

All this requires an impressive amount of amplification and buffering, and if you're a devotee of 'simple' signal paths you may wish to turn away while we reveal that by the time it's been through a mixer a couple of times a signal may well have traversed upwards of two dozen op-amp gain stages. No wonder cheap mixers can sound pretty dreadful. Good ones, however, are remarkably transparentsounding and the best designers take great pride in the

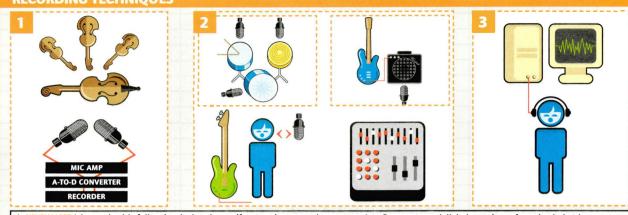
integrity of their

audio circuits.

In a multitrack
recording set-up, each
input's signal will be routed
to one channel of the
recorder for later replay and
mixing. Every engineer has
his or her own way of
working, and some folks
prefer to record each input as
unprocessed as possible so that
all decisions on equalisation,
dynamic range manipulation
and so on can be made at the
mixing stage. Others apply



# RECORDING TECHNIQUES



- 1. MINIMALIST A 'crossed pair' of directional microphones (for stereo) connected to an amp. A-to-D converter and digital recorder eg for a classical string guartet.
- 2. MULTITRACK In a multitrack pop or rock recording, multiple mics and sound-proof booths are typically used, hooked to a mixing desk.
- 3. MODERN DANCE MUSIC Completely electronic music just needs one person and a computer to compose and record no mics and no engineers!

# "By the time it's been through a mixer a couple of times a signal may well have traversed over two dozen op-amp gain stages."

such effects at the recording stage so that the multitrack master needs little more than simple mixing, although in practice a bit of extra tweaking is often judged beneficial. Some people still mix live to two tracks, though this is getting rare even in live concert recording. Sound engineers for live radio and television are the leading practitioners of the art of live mixing.

If on the other hand the recording is a simple affair with only a stereo pair of mics, or perhaps that pair plus a couple of spot and ambience mics, there's no need for a big mixer and live mixing is perfectly possible, sometimes even with a passive mixer. Many 'audiophile' recordings have been made just this way, with a high-quality mic amp sending the signal over suitably audiophile cable to a recorder of some kind. Personally I like to use a mic amp as close to the mics as possible (at the foot of the stand, basically) with a high quality analogue-to-digital converter right next to it, so that analogue cabling is kept to a minimum. A single digital cable then carries the stereo audio to a digital recorder.

# **DIGITAL CAPTURE**

Digital recorders themselves have advanced in quality consistently over the years. If used with an external ADC (analogue-to-digital converter), the recorder itself is no more than a 'bit bucket' but it's nice if it can operate at more than 16 bits. Even if the finished CD will be only 16 bits, any processing at all between recording and final disc will raise the noise floor unless more

than 16 bits were recorded, and various high-bit recorders from Otari, Tascam, Nagra and others can store up to 24 bits (and in some cases higher sampling rates). CD-R does have the advantage of costing effectively nothing to run, though - 50p per hour for blank discs is less than the tea and biscuit consumption of most engineers.

Some studios still use DAT, which may have failed as a consumer medium but has proved enduringly popular in lowerend pro circles. There's a rumour that its sound quality is better than CD-R, goodness knows why since apart from the fractionally higher sample rate (if you use it at its 48kHz default) there's little to distinguish it except its poor reliability. If one uses the analogue inputs and outputs of a recorder, their performance is likely to dominate the sound quality of the medium.

# WHAT NEXT?

Once all the tracks of a recording have been laid down, it's time to progress to the next stage. In a multi-track environment this is likely to be the 'mixdown', while if there are only two tracks the next stage will generally be editing. In the next article of this series we'll have a look at what happens in those processes. Throughout all the various stages of a recording, one thing's for certain: no one stage is more critical than any other, from any point of view. However, once everything has been captured safely to tape or disc, there is at least the option of remixing/editing/mastering later with better results. That can be very much

later, as is the case with reissues of material from years gone by, which thanks to advances in replay technology and know-how can in some cases surpass the sound quality of the original master tapes, as heard at the time. Who knows what generations to come might make of the recordings we create now? HFC

Next month: mixing and editing



# **BETTER AND SMALLER**

Multitrack recording started in the 1960s with four-track decks (as used, famously, by the Beatles) and by the 1980s had evolved into 24 tracks on two-inch analogue tape. Many analogue multitracks are still in use and, as in the field of home audio, there's plenty of support for the superiority of analogue recording. But over recent years the price of digital multitrack recording has fallen from six figures to four and this is now the choice of the cost-conscious engineer.

Some associates of Hi-Fi Choice recently bought a 24-track digital recorder which is hardly bigger than a typical desktop PC - actually in many respects it very nearly is a desktop PC! By contrast, the first digital multitrack, a 32-track beast from 3M, was a huge console machine which three of us struggled to load into a van, and that was after a hundredweight of power supply had been removed from the chassis.

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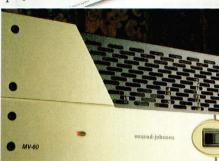
### 2. Avalon Symbol loudspeaker

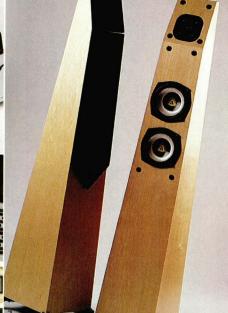
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### 3. GamuT CD 1 player

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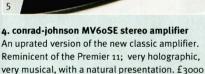












5. Nottingham Analogue Horizon turntable
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**6. Wadia 861 CD player**; **2 NEW versions.** This remarkably musical player is now available in two new variations on the regular version. 861B with no input cards £5999. 861SE with their own, new transport mechanism £9999. The SE transport can be retrofitted to any 861 or 860 model for £2000.



7. VPI Scout turntable with JMW Memorial 9" tonearm Superb sound and value at £1350. Cartridge shown is Benz-Micro Glider at £650

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# RETRO

AUDIO NOTE ONGAKO VALVE AMPLIFIER

I recall receiving a sample of the Audio Note Ongaku amplifier for review what must been the best part of fourteen years ago - it cannot have been much more as the product was only launched in 1988. Theoretically it remains available to this day in a revised form but the main power valves are reportedly no longer available, and there no longer appears to be much active distribution in the UK. I can tell you that it was a relatively compact but unfeasibly heavy beast, which on the one hand operated as a stereo power amp, but which had some extra line inputs and was technically therefore an integrated amplifier. The price was £33,000 at the time, and the power output was 27 watts per channel, or was it £27,000 and 33 watts? It hardly matters. I remember also sighting along the top of the amplifier, and noticing that nothing quite lined up properly. This was no mass production item; it had never seen the sharp end of a modern production line. By reputation the Ongaku was famously hand-built, and I guess this was the proof.

There are very few people that I can get on the end of a phone to try and plug the gaps. The Ongaku was launched not long before a famous split between the Japanese company, Audio Note (now known as Kondo after its designer Hiroyasu Kondo) and the UK importer, which became Audio Note UK and went on to produce some very fine valve amplifiers under the Audio Note banner. And let's not get into the rights and wrongs of that particular can of worms. I do remember being told that a significant proportion of units that made their way onto world markets did so via Russia, where they were regarded as the next best thing to hard currency for moving resources from one country to another. But that could just be scurrilous tittle tattle...

What I do know, however, is that the Ongaku was a singleended true Class A (i.e. Class A up to full output) amplifier which ran very hot, and which was based on a transmitter valve known variously as the UV211 or VT4C. It was designed in 1919, with antecedents going back to 1911, and its home was a very simple zero feedback circuit. It was equipped with hand-made transformers that were wired with high purity silver windings.



# "It made the most magnificent, beguiling music. At the time I was quite convinced that I had never heard another amplifier to touch the Ongaku."

Oh, and it made the most magnificent, beguiling music. At the time I was quite convinced that I had never heard another amplifier to touch the Ongaku. It seemed incapable of doing anything ugly or out of place. More than that, it provided an open window that was simply wider and more direct in its musical expression than I had experienced before.

There is a question here that is almost embarrassingly simple to state, but which at this distance is impossible to answer. Was the Ongaku really as good as I remember? I was not the only one to be convinced of it at the time – there were plenty of others who took the same view. The Ongaku more than any other single product was the one that made Hiroyasu Kondo or Kondo San as he is more often known – into one of the most famous of all high-end designers, much like Sugano who founded Koetsu. They are similar too in that they became famous not for inventing new components or circuit topologies, but for taking familiar, tested ideas and stretching them to their ultimate conclusion.

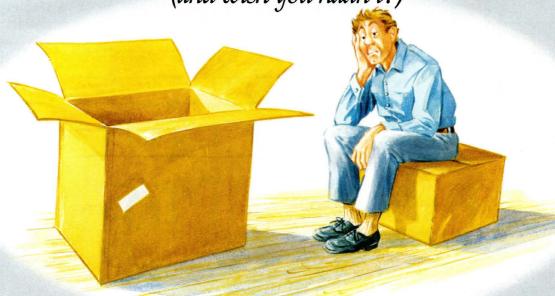
The Ongaku was certainly close to the ultimate valve amp. More than this, within its power limits, it was very much a contender for the accolade of 'ultimate amp' regardless of its enabling technology. I have never been much of a fan of valve amps in general, but this one really did deliver. It wasn't soft or obviously valve-like and it didn't flatter to deceive. It just made wonderful music. And who knows if and when another amplifier this great, this vital will ever appear again? HFC

Alvin Gold

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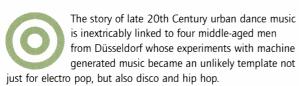








TRANS-EUROPE EXPRESS KRAFTWERK



Ralph Hütter and Florian Schneider met as classical music students at the Düsseldorf Conservatory in the late sixties and have been recording together, with various collaborators, ever since. Their early experiments with avant-garde electronic music met with little success or interest until the release of *Autobahn* in 1974. This metronomic paean to Germany's speed-limit-free highways brought a pop sensibility (along with a heavy dose of cold irony) to their sound and earned them praise and interest from, among others, David Bowie, whose trio of albums recorded in Berlin in the mid seventies remains among his best.

Despite gaining a hit in the US with their Teutonic flip side to the Beach Boys' driving anthems, Kraftwerk chose to squander their kudos on *Radio-Activity*, an album which subjugated melody and rhythm beneath challenging electronic bleepery.

But 1977's *Trans-Europe Express* fused their intellectual stylistic traits and pop sensibilities perfectly with a mix of bare but catchy electronic themes and a sound that seemed incredibly new, not to mention a world away from the gutteral thrash of punk which was by then very much the in thing. They also started 'singing' in English, which didn't hurt.

Despite their cold, machine-like demeanour, and the glacial 'otherness' of their music, Krafwerk's experimental roots also betrayed an interest in music and lifestyles which seemed far removed from their own. They were fascinated by the early New York disco scene for example, and in turn influenced it with their reliance on a metronomic beat which, by adding some loping basslines and high energy vocals, leant itself extremely well to dancing. The opening "Eins, zwei, drei, vier" count on *Showroom Dummies* was apparently meant as an oblique tribute to one of their favourite bands of the seventies, the Ramones, who often started their songs with a cry of "One, two, three, four!" No-one could say those Düsseldorf boys didn't have a sense of humour.



# "The opening 'Eins, zwei, drei, vier' count on *Showroom Dummies* was an oblique tribute to one of their favourite bands of the seventies, the Ramones."

But it wasn't just their pioneering use of electronics and drum machines that influenced techno and subsequent electronic music – it was also one of the building blocks of hip-hop. In the early days of the genre, Grandmaster Flash would play *Trans-Europe Express* to eager punters in St Ann's Park in the Bronx. He said, "I never had to break that record, it would break itself. I could just leave it on and go get something to eat, go to the bathroom. It was perfect." That other pioneer of early hip-hop and electro, Afrika Bambaataa was equally impressed. "I thought, who are these funky white guys from Germany. I gotta hear more of this". He got more than he bargained for when he sampled a riff from the album's title track to form the basis of his 1982 embrionic hip-hop release *Planet Rock*. Miffed by the lack of credit they received, Kraftwerk sued, eventually receiving royalties and credit for the song.

Bambaataa was not alone. After James Brown, Kraftwerk are generally credited with being among the most sampled groups in the world, not just for melodies and rhythm patterns, but often just for individual drum sounds – their influence goes deeper than anyone can really measure.

Trans-Europe Express was the album where they first managed to combine their concept of machine-made music with an accessible pop edge. 1978's Man Machine took the pop side further and yielded the international hit The Model, but it was Trans-Europe Express with its themes of image, European unity and Mensch Maschine Musik, matched to hypnotic beats, wistful melodies and detached Teutonic vocal mannerisms that best captures the essence of Kraftwerk. HFC

Dave Oliver

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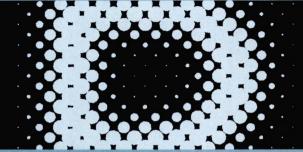
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ARE DEDICATED CD PLAYERS BETTER?

With all the attention given to exciting new digital technologies like SACD and DVD-Audio, it's easy forget that the vast majority of audiophiles remain 'CD-centric' in their listening. Indeed, perceived wisdom suggests that to get the very best from this 20-year old digital format you still need a dedicated CD player, rather than an SACD, DVD-Audio or universal player.

Even if this 'wisdom' is based more on prejudice than back-toback listening tests, it might be justified if we compare the relative simplicity of a CD player - a design focused on one task only – with the inherent complexity of a DVD player. CD replay is just one facet of a DVD player's task list, with its raft of demands dominated by intensive video processing. Indeed, the first few generations of DVD players were often littered by the sort of interference and jitter that would never see the light of day in any self-respecting budget CD player. Which is one reason why they typically sounded 'fluffy' and uninspiring.

Today's DVD-Audio players are usually much 'cleaner' in execution and offer a technical performance that rivals the very best CD players with 16-bit/44.1kHz software. With 24-bit/96kHz or 192kHz DVD-A software, these same players improve still further, stretching out to higher frequencies and delving deeper to resolve signals well beyond that of the CD standard. And it's this evolution in software standards that drives the development of new DAC solutions. The major silicon producers, including Burr-Brown, Crystal, Wolfson and Analog Devices have geared their research towards compatibility with 24-bit/192kHz and DSD digital audio. After all, if you are a progressive company, then boasting the release of a new '16-bit/44.1kHz' audio DAC is hardly going to raise your profile.

Let's look at Cirrus Logic, the people behind Crystal's DACs, by way of example. At the time of writing, it has no less than four different multichannel DACs available, each offering compatibility with 24-bit/192kHz PCM audio over six channels. In addition, there are 12 stereo DACs on its books. Seven of these are optimised for use with 24-bit/192kHz PCM audio, one is a multistandard device (i.e. it will accommodate 24-bit/192kHz



# "If you are a progressive company, releasing a new '16-bit/44.1kHz' audio DAC isn't going to raise your profile."

PCM and 2.8MHz DSD format data) while three stop short at 24-bit/96kHz. This leaves one remaining converter, the CS4390, which is specifically optimised for 32kHz, 44.1kHz and 48kHz digital audio. If memory serves, this chip was first used in CD players about five years ago - it's an historic piece of silicon and one of the first to accept a 24-bit word length.

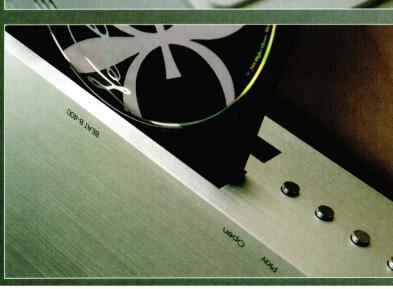
We have to go back 12 or more years to find devices that were specifically optimised for CD audio. Chips like Philips' SAA7350 bitstream DAC and the classic DAC7 combination that paired the SAA7350's noise-shaper with the TDA1547 bit-converter. In truth, these were not '44.1kHz specific' because the SAA7350 would accept incoming samples anywhere from 16-400kHz. Still, the internal 128Fs and 192Fs internal oversamplers were tied to 11.2896MHz and 16.9344MHz clocks, respectively, both of which are multiples of 44.1 kHz rather than 48kHz.

The situation is complicated in a DVD player because the 27MHz MPEG video and audio clocks must be synchronised. And, typically, they are anchored to the software's 48kHz data rate rather than CD's 44.1 kHz. The better players will use separate video and audio clocks, while the latter may be further sub-divided for 96kHz/48kHz DVD and 44.1kHz CD replay.

The point is, there is now a lot of shared technology in today's DVD and CD players, the latter making use of DAC technology developed for 48kHz, 96kHz and 192kHz DVD-A software. So perhaps the question is not, "Do the very best CD players still make a better fist of CD replay than the top DVD-Audio and universal players?", but instead, "Do today's CD players sound as good as the best players of a decade ago?" It's a tough one, but we'll take the first step in our search for an answer next month when Hi-Fi Choice looks at six of the very latest CD players. HFC

Paul Miller





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The most important improvement over the standard B-40U is the all-how DAC. The B-400 PLUS converter is based on our very highly regarded reference player, the B-400 NS. The PLUS DAC does not incorporate HDCD. but a 24-bit type which exceeds the standard B-400 in every way. A very effective demonstration of this is that the B-400 PLUS reproduces HDCD CDS in a much higher quality than the B-400, which does offer HDCD capability.

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# **CD PLAYERS**

Audio disc players for music only

Despite the emergence of new formats and the resurgence of an old one (vinyl), CD is still the king of formats if you require breadth of choice. And despite the fact that other sources will play CDs, if you want to hear your discs at their best there's little substitute for a dedicated CD player.

It's also the most enduring format on the market. Despite high-resolution contenders like SACD and DVD-Audio, nothing has been able to undermine this universally popular format.

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 socalled 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.

#### 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 44.1 kHz 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.

# **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.



#### 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.



#### 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.

# CD PLAYERS BUYER'S BIBLE

#### Our favourite BEST BLY EDITOR'S CHOICE **CD PLAYERS** HEADPHONE SOCKE CD-RW COMPATIBLE ELEC DIG OUTPUT Variable output OPT DIG OUTPUT LANALOGUE OUT ISSUE NUMBER Audio-only CD and SACD players COTEXT BADGE? PRODUCT COMMENTS UP TO £1 000 Arcam CD92 • 212 900 High-resolution player needs a touch of spit and polish to be completely convincing 0 • 241 Conland CDA 822 1 598 Well built and carefully thought out, if you go for the more sophisticated musical forms it is superb value EC 212 Cyrus CD7 New Cyrus player has strong all-round attributes to match its good looks db Exposure 2010 Undistinguished in the final analysis, but the 2010 nevertheless is a return to form for this famous marque . . 231 . 60 Linn Genki Explicit, rather bright-sounding player with strong multiroom appeal 212 995 . Marantz CD6000 OSF LF 300 Detailed, well rounded, at home in any musical context – a real bargain . 40 0 . 217 Marantz CD6000 KI Sig Impressive mid-market player is an unusually accomplished all-rounder, and is also well built • . . • • -231 Marantz CD-17 Mkll M 800 Insight, detail and rhythmic precision make the modified CD-17 Mkll M a top-draw player at the price 60 243 BB NAD C541i . . 231 330 High-octane player has the occasional rough edge, but is remarkable value for money Alla Rotel RCD-02 375 Against some strong competition in the same price area, the new Rotel generally holds up well • • 231 Rotel RCD-1070 495 Technically sound and well equipped, this player lacks a little excitement but shows excellent precision a 226 OVE \$1 000 Arcam FMJ CD33T EC 1,300 Engaging mix of refinement and muscle from svelte FMJ series CD23T replacement 6 6 . 6 243 Audionet ART V2 40 . 231 2.300 Built to last forever, this CD has a dark natural sound with excellent bass and would be cheap at twice the price Classé CDP-10 1.599 Very natural vet capable of revealing the finest of details in a coherent and engaging manner • . . 238 Exposure XXII 1,175 Natural sounding player, great with voices and acoustic instruments and makes for engaging listening --6 238 EC Gamut CD1R 2,350 Natural, precise and impressively 3D sound that marries precision with emotional communication 4 • 40 240 EC Krell KPS 25sc 24,998 One of the finest CD players available, this is also a state of the art preamplifier with Cast interface technology 0 -. . 236 EC Mark Levinson No390S 6,495 Superbly built and comprehensively equipped with genuinely high-resolution sound 6 6 -0 -231 Meridian 507 1,195 Unusually precise and considered performer that sounds as different as the discs you stick in the drawer -40 -238 Musical Fidelity CD-PRF24 2,000 Substantial player incorporates upsampling and extensive analogue and digital preamplification facilities 0 . 229 Musical Fidelity Tri-Vista • EC . 4,000 Limited edition stereo-only SACD/CD player that is simply the best player MF has ever made • 237 0 0 NAD \$500 1,200 A beautifully built machine that treads the fine line between precision and musicality with aplomb 4 -8 (8) 238 Naim Audio CD5 1,150 Recommended subject to audition - a dynamic machine, yet some physical minuses 212 EC Naim CDX2 2.650 Fine quality one-box CD player, but its best feature is upgradeability via outboard XPS supply 0 238 BB Primare D30.2 1.499 Superb high-resolution player gives a strong taste of musical structure and physicality a 433 226 BB Resolution Audio Opus 21 2,850 Dynamic, well timed and 3D performance with an analogue volume control and digital input for a second source . . 244 EC Sony SCD-XA333ES 1,200 High-end multichannel SACD player is excellent with CD, impressive in surround • 8 • æ 224 EC Sony SCD-XA777ES 40 -2.300 Superb multichannel player that set the benchmark for the format at its launch --223 6 EC TFAC D-70/P-70 13,000 This two-box solution is one of the best CD replay systems available, with a fantastic range of facilities . . -. . 239

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

3,650 Insightful player with digital preamp options and good onboard volume control. Try it direct for maximum effect



#### **Copland** CDA822 £1.598

Wadia 301

A beautifully built Scandinavian player with an equally attractive sound. If natural, fluid music-making sounds up your street, make sure you give it a spin.



228

# **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-AUDIO

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

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.

information - lyrics, images and so on. To

## 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.

#### CONNECTIONS



**ANALOGUE AUDIO OUTPUTS: For** stereo and multichannel connections. use these for best results with DVD-Audio, SACD and CD.

DIGITAL OUTPUTS: For Dolby Digital, DTS and PCM audio bitstreams.

VIDEO CONNECTIONS: Yellow sockets are composite; red, green and blue sockets are for component which gives best results, while the black multipin socket is S-video, which sits qualitatively between the two.

#### SCART CONNECTIONS:

These are a goodquality option for video, especially ones that output

# DVD PLAYERS BUYER'S BIBLE

	r favourite				S	PECIF	ICATI	ONS	
	VD PL	A	YERS	DVD-A C	SACD O	ELEC I	OPT I	HEADPHONE	ISSUE
\ud	io/Video disc playe	ers		COMPATIBLE	COMPATIBLE	DIG OU	OPT DIG OUTPUT	NE SO	UE NUN
ADGE?	PRODUCT	£	COMMENTS	JBLE.	JBLE.	OUTPUT	TPUT	SOCKET	NUMBER
	£1,000							TOT	
EC	Arcam DiVA DV88 Plus	1,000	The first DVD player (just) enabled to deliver progressive scan with UK-spec PAL discs. Superb picture and good sound			•	•		238
	Cambridge Audio DVD57	200	DVD-Audio replay, progressive scan pictures and a good performance at a silly-low price. Fantastic value for money.	0		•	0		243
	Cyrus DVD 7+	1,000	Typical Cyrus style – open, vivid and bouncy sound, with moderate picture quality to match						237
88	Denon DVD-2800 MkII	750	Excellent Silicon Graphics processing, a wide range of features and sharp pricing make this a winner			0	0		237
38	Denon DVD-3800	1,000	High and progressive DVD-Video player with good CD and DVD-Audio capabilities, priced below its station	•		•	•		234
	Pioneer DV-656A	400	Do-it-all 'universal' player is a decent performer with all disc types, and superb value for money considering its range	•	•	•	•		240
88	Pioneer DV-757Ai	800	State of the art universal player with iLink digital interface provides performance stretch currently unavailable to others	•	•	•	•		240
	Primare V25	1,000	Bold pictures on screen are matched to easy, likeable sound quality and a huge range of outputs	0		0	0		237
BB	Sony DVP-NS905V	400	DVD-Video and SACD is a distinctly superior package, with above average performance	•		0		0	234
IBOVI	£1,000								
	Cyrus DVD8	1,200	An impressive step up from the DVD7+, which includes component video outputs			0	0		238
EC	Denon DVD-A1	2,500	A convincing case for the DVD-A format, battleship construction combined with sonic and visual finesse			0	0		230
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	0		0	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			0			218
EC	Meridian 800	10,805	The ultimate in DVD replay, modular construction, buffered ROM drive, upsampling and high-res digital outputs	0		0		0	230
	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	0		237
EC	TAG McLaren DVD32R	3,995	An engineering tour de force. It's pricey and plays neither DVD-A nor SACD, but performance – especially video – is top notch			0	0		212
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	9	0	·	232

SPECS KEY DVD-A COMPATIBLE Plays high-resolution DVD-A discs in two and multichannel modes. SACD 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.











# 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.

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



#### 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.



Simple, unpretentious and relatively inexpensive, Audio Note's TT1 delivers a real taste of high-end performance at a realistically affordable price.



# 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.

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Rec	ord players				JBCHAS	SWITCHABLE SPEED CHANGE	WITH A	WITH C	SSUE NUMBER
BADGE?	PRODUCT	£	COMMENTS	SPEEDS	SIS	SEE.	RM	CART	男
88	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	0	0			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	9	0			194
	Bluenote Bellavista/Borghese	1,594	Charming in appearance and sound if not particularly practical. Start your love affair with vinyl here	33/45			0	opt	239
	Clearaudio Champion Level 2	1,955	Neutral balance, great looks, but only so-so detail. Benefits greatly from isolation	33/45			0	0	223
	Linn LP12 Basik	1,100	Trails the full LP12 significantly, but pace, rhythm, timing etc are still top rank	33	0		0		103
88	Michell Gyro SE	1,058	New DC motor-equipped Gyro offers great looks and even better sound. Price includes RB300 arm	33/45			•		239
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					235
BB	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					236
	Pro-Ject RPM 9	1,000	Capable deck with some unusual features. Highly engaging sound with an essentially neutral character	33/45			0	opt	239
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
	Rega P3	298	Updated Planar 3, building on the strengths of the P2 with added subtlety and detail	33/45			0		214
	Rega P25	619	The contemporary aesthetic wins admiration, the sonic assurance turns it into your own personal music shrine	33/45			0	opt	239
EC	Rega P9	2,248	Exceptionally elegant hi-tech player with complex outboard supply, ceramic platter and wonderful RB1000 tonearm	33/45		0	0		228
EC	SME Model 10A	3,411	Elegant and extremely capable design with Series V/309 hybrid arm, superbly built	33/45	0	0	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	0	0	0		186
EC	Well Tempered Reference	5,500	Superb mechanical stability and unflappability result in clean, clear reproduction	33/45	0	0	0		205

Ou	ır favourite	BEST	BUY ED EDITOR'S CHOICE				
				S	PECIF	ICATI	ONS
P	HONO	C	ARTRIDGES			REPLACEABLE	ISSI
MM	and MC cartridges					LE STYLUS	SSUE NUMBER
BADGE	PRODUCT	3	COMMENTS	M	MC	SU	Ħ
88	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		0	214
	Clearaudio Aurum Beta S	270	Clear improvement over cheaper Alpha, and good sound all round by any standards	0			223
	Clearaudio Sigma	580	A nimble and revealing cartridge that is more at home in lower mass arms		0		235
	Goldring Elite	250	A remarkably subtle and persuasive design that should tempt anyone		0		235
	Grado Prestige Black	40	Offers admirable detail and treble extension, with good bass and ambience too	0		0	214
88	Grado Prestige Gold	110	Produces rich, open and expansive music with the minimum of fuss	0		0	235
EC	Lyra Helikon	1,095	Highly capable and highly neutral, this is a cartridge for all seasons, albeit fussy about vinyl quality	0			215
	Reson Reca	250	If you're after a high-quality moving magnet cartridge, they don't get much better than this	0		0	192
	Reson Etile	485	Plenty of life and detail, and refined with it		0		223
88	Sumiko Blue Point Special	250	A no-nonsense performer with engaging musical properties – one of the best around for less than £300		0		192
681	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		0		235
EC	van den Hul Colibri XGP	2,699	Phenomenal resolution, custom building to suit hard and software, but needs 500 ohm loading and is vulnerable to damage		0		244

Ou	ır favourite	BEST	BUY EC EDITOR'S CHOICE					
					SPE	CIFIC/	ATION	S
r	HUNU	2	TAGES	MM PHON	MC PHON	,	ADJ. IM	ISSUE
Pho	no stages			PHONO INPUTS	PHONO INPUTS	ADJ. GAIN	IMPEDANCE	NUMBER
BADGE'	PRODUCT	3	COMMENTS	SI	SI	ź	æ	99
EB	Creek OBH-8SE	160	Neutral, relaxed and involving sound from this neat little unit	0				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	0	0	234
	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
BB	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		0			234
	Tom Evans Microgroove Plus	700	Stunning detail, gives new insights into familiar discs		0			223
EC	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		0			201

TURNYABLE SPECS KEY 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.  $\textbf{SUPPLIED WITH CARTRIDGE} \ Some \ decks \ are \ supplied \ with \ a \ starter \ cartridge \ and \ this \ is \ included \ in \ the \ price \ shown$ 

Relaxed yet resolute with very good image depth and natural balance, not to mention great flexibility

1,800 Plenty of detail, excellent imaging and almost flawlessly neutral: a good choice for maximum information retrieval off any LP

EMETALDGE 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. REPLACEABLE STYLUS Some cartridges have separate styli for ease of replacement, but it compromises sound quality.

Trichord Dino/Dino+

498





\* ALL OFFERS, PRICES AND STOCK ARE SUBJECT TO AVAILABILITY AND ARE SUBJECT TO CHANGE. ALL GOODS REMAIN THE PROPERTY OF SOUND & VISION UNTIL PAID IN FULL. INLINE WITH THE DISTANCE SELLING REGULATIONS 2000 YOU MAY CANCEL YOUR ORDER WITHIN 7 WORKING DAYS. THIS MUST BE DONE IN A FORM OF A LETTER, FAX OR EMAIL, A TELE-PHONE CALL DOESN'T CONSTITUTE CANCELLATION. ALL GOODS ACCEPTED FOR RETURN UNDER THIS REGULATION MIST BE IN THEIR DISGAINAL BOX & PACKAGING AND RETURNED VIA YOUR OWN CARRIESS. WE EXPECT SUCH GOODS TO BE BRAND NEW WITH ALL ACCESSORIES IN PRISTING CONDITION, GOODS THAT ARE NOT KEPT
IN THIS MANNER WILL BE SUBJECT TO A 25% ARBINGTON FOR EXPECT AND OF SALE ARE AVAILABLE AT WWW. SOURDAMPONSON MIX CONTRESS SHITM. LITES TERMS OF SALE ARE AVAILABLE AT WWW. SOURDAMPONSON MIX CONTRESS SHITM. LITES TERMS OF SALE ARE AVAILABLE AT WWW. SOURDAMPONSON MIX CONTRESS SHITM. LITES TERMS OF SALE ARE AVAILABLE AT WWW. SOURDAMPONSON MIX CONTRESS SHITM. LITES TERMS OF SALE ARE AVAILABLE AT WWW. SOURDAMPONSON MIX CONTRESS SHITM. LITES TERMS OF SALE ARE AVAILABLE AT WWW. SOURDAMPONSON MIX CONTRESS SHITM. LITES TERMS OF SALE ARE AVAILABLE AT WWW. SOURDAMPONSON MIX CONTRESS SHITM. LITES TERMS OF SALE ARE AVAILABLE AT WWW. SOURDAMPONSON MIX CONTRESS SHITM. LITES TERMS OF SALE ARE AVAILABLE AT WWW. SOURDAMPONSON MIX CONTRESS SHITM. LITES THES OF SALE ARE AVAILABLE AT WWW. SOURDAMPONSON MIX CONTRESS SHITM. LITES THES OF SALE ARE AVAILABLE AT WWW. SOURDAMPONSON MIX CONTRESS SHITM. LITES THES OF SALE ARE AVAILABLE AT WWW. SOURDAMPONSON MIX CONTRESS SHITM. LITES THES OF SALE ARE AVAILABLE AT WWW. SOURDAMPONSON MIX CONTRESS SHITM. LITES THES OF SALE ARE AVAILABLE AT WWW. SOURDAMPONSON MIX CONTRESS SHITM. LITES THES OF SALE ARE AVAILABLE AT WWW. SOURDAMPONSON MIX CONTRESS SHITM. LITES THES OF SALE ARE AVAILABLE AT WWW. SOURDAMPONSON MIX CONTRESS SHITM. LITES THES OF SALE ARE AVAILABLE AT WWW. SOURDAMPONSON MIX CONTRESS SHITM. LITES THES OF SALE ARE AVAILABLE AT WWW. SOURDAMPONSON MIX CONTRESS SHITM. LITES AND AVAILABLE AT WAS AVAILABLE AT

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FOR

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TDP-MT4

CS BRIGHT

VLP-VW12HT VLP-HS10 VLP-HS2

01204 861861

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PHILIPS

SONY

DOW CENTRE

200W

JBWOOFER VD-A,DVD-AM-R,CD-/RV P3,WMA

140W RMS

VIDEO D/A

CONVERTER DVD-R,CD-

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SYSTEMS

00

SUBWOOFER

ONE SYSTEM

SACD, DVD-R

CD-R/RW.

VCD, MP3

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**PHILIPS** 

YAMAHA

+ 25W X 2 RM

Pioneer

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170W X 7 7.1 AV RECEIVER LLINK CONNECTION DOLBY DIGITAL EX, NEO

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D.DIGITAL DTS, PRO

DIGITAL INPUT X 2, DIGITAL

OUTPUT X 4

50W X 2 Dolby Digital

PRO-LOGIC2 30 FM / 30 AM Presets

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AMPS





100W PER

CHANNEL +

WOOFER Uni-Q® Design and Award win

BLACK & SILVE



Herer Per en l'

TEAC

DVD, CD, VCD, CR-R/RW, MP3

CAL

110W X 6 RMS

DOLBY DIGITAL

(8 Ohm)

EX, DTS-ES

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DIGITAL

T:01204 861861

LT:01204 861861



T:01204 861861



ARCAM

POWER OUTPU

LINE & TAPE







DVDQ50 DVDQ40

VR200

VR870P VR830

VR730

01204 861861

DVD910SA























<sup>\*</sup> ALL OFFER, PRICES AND STOCK ARE SUBJECT TO AVAILABILITY AND ARE SUBJECT TO CHAMGE ALL GOODS REMAIN THE PROPERTY OF SOUND & VISION UNTIL PAID IN FULL INLINE WITH THE DISTANCE SELLING REGULATIONS 2000 YOU MAY CANCEL YOUR ORDER WITHIN 7 WORKING DAYS. THIS MUST BE DONE IN A FORM OF A LETTER, FAX OF EMAIL, A TELEPHONE CALL DOSSN'T CONSTITUTE CANCELLATION, ALL GOODS OF ACCEPTED FOR RETURN UNDER THIS REGULATION MUST BE IN THER ORIGINAL BOX & PACKAGING AND RETURNED VIA YOUR OWN CARRIERS. WE EXPECT SUCH GOODS TO BE BRAND NEW WITH ALL ACCESSORIES IN RISTING CONDITION, GOODS THAT ARE MOT KEPT
IN THIS MANNER WILL BE SUBJECT TO A 25% HANDLONG FEED FITH PRICEASE PRICE FULL SAND CONCINENTS AND CONCINENTS.

# **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.



Ou	ır favourite	<b>e</b> 🖃	BEST BUY EDITOR'S CHOICE							
T	UNER	S			SPE	CIFIC	ATIO REMOTE	SIG. STRENGTH	R0T. T	ISS
FM	& DAB HI-FI SEPAF	RATES		WAVEBANDS	PRESETS		TE CONTROL	NGTH M	ROT. TUNING KNOE	ISSUE NUMBER
BADGE?	PRODUCT	£	COMMENTS	NDS	SEIS	RDS	ROL	METER	MOB	BER
FM TU	INERS									
	Cambridge T500	180	Very capable tuner suited to good and less good reception conditions	FM,M,L	64			0	0	193
	Creek T43	399	Quality UK-made tuner offering classy sound in all areas at a very fair price	FM,M,L	64		0	0	0	193
98	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	0			0	193
EC	Magnum Dynalab MD102	2,200	Unique remote control analogue FM tuner delivers a superbly transparent sound that makes radio fun	FM	5		-	0	0	241
88	Marantz ST6000	180	Another budget killer from Marantz, with sound well above its class and useful features	FM, M, L	90	0		0		211
	Myryad T-30	400	Attractive product that produces attractive sounds too: capable of very musical performance with a good aerial	FM	29		٥	0		193
BB	NAD S400	600	One of the best around – bass and treble are both well extended and detail is excelient	FM	30	0	*	0		230
88	Primare T21	600	Identical to NAD S400 and likewise a very fine tuner	FM	30	80		0		230
88:	Rega Radio 3	374	Unpretentious unit which does what it claims, very well. Unusually fine FM sound in all areas	FM,M	20		٥			242
	Rotel RT-02	279	A highly competent tuner which always sounds appealing and fuss-free	FM,M	30	0	0	0		242
DAB T	UNERS									
	Arcam DT-81	650	A very smart and polished DAB performer	DAB	16		-	0	0	221
88	Cambridge Audio DAB300	150	Simple unit with limited features (no RDI) but decent sound – a very near match for more expensive models	DAB	10			0	0	242
	Pure DRX-701ES	250	An excellent introduction to DAB, fine value, simple to use and feature loaded	DAB	99		1	0	0	234
	Pure Digital DRX-702ES	330	Very flexible DAB (inc L-band) and FM tuner. DAB is good, FM a touch disappointing	DAB,FM,M	99	0	0	0	0	242
	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	0	0	0	•	230

EFECTION 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 vou 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 rerecord 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 disk 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.



Ou	ır favourit	e 🗉	BEST BUY 60 EDITOR'S CHOICE					
			DECORDEDO		SPE	CIFIC	ATION	IS
Ц	IGHA	L	RECORDERS		HD CAF	OPTICAL I	ELEC II	ISSI
CD-	R/RW, MD and HD	D rec	orders	DE	CAPACITY (GB)	NOUTPUTS	IN/OUTPUTS	ISSUE NUMBER
BADGE?	PRODUCT	£	COMMENTS	DECKS	(GB)	SIR	SIN	BER
CD-R/	RW RECORDERS		SERVICE CONTRACTOR SERVICE CHECKER SERVICE CONTRACTOR C	187				
	Denon CDR-1000	400	A respectable player and recorder, though some midband congestion was noted when recording	1		0	0	218
88	Marantz DR6000	400	No frills, but in its fundamentals this is one of the finest CD recorders on the market	1		۰		233
	NAD C660	500	Audiophile twin deck offering high-speed copying, HDCD replay and notably fine recording from analogue	2				243
BB	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		0		233
88	Philips CDR951	380	An improvement on previous models, it delivers the musical goods in some style	1		0	0	205
88	Pioneer PDR-609	270	Classic CD recorder with outstandingly good sound for the money on both record and replay	1		0	0	243
: 1	Pioneer PDR-W839	350	Good-quality twin CD burner makes recordings that can be hard to distinguish from the original. Good value too	1		0	•	218
MD RE	CORDERS				288		700	
	Pioneer MJ-D508	200	Well equipped, but musically sleep-inducing player that receives its Recommendation owing to the price	1		0	0	205
	Sony MDS-JE480	130	Straightforward and effective, but the three real killer features are price, price and price	1				233
HDD R	ECORDERS			C AT	188	3/2		327
	Imerge S2000	1,599	Intended as the centrepiece of a multi-room installation, this three-output server combines flexibility with good sound	2	80	0	0	243
BB	Yamaha CDR-HD1300	600	Superb combination of high-speed CD-RW drive and hard disk, adding editing flexibility to CD recording	2	80			243

SPECSICY DECKS Amount of drive mechanisms on board - twin-deck recorders use one to play while the other records, HD CAPACITY Amount of gloabytes 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 Hi-Fi separates, DVD players, amplifiers, speakers, plasma screens, LCD 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 £400. Subject to status.



# **Custom Installation**

Are you looking to neatly and seamlessly integrate a Home Cinema or Hi-Fi System into your home? Our Custom Installation experts are fully trained in all areas and provide a prompt, reliable and professional service. Whether you're looking for lighting control systems, a dedicated home cinema installation with a retractable screen and built-in speakers or an integrated control system, Sevenoaks Sound & Vision has the solution.

www.sevenoakssoundandvision.co.uk





This system package, aimed at the digital technology enthusiast, includes the Award-winning 11L Speakers (What Hi-Fi? Sound and Vision - Awards 2003) combined with the exceptional 99 CD-P CD Player and 99 Power Amplifier.

The 99 CD-P CD player is equipped with a volume control and no less than six digital inputs. This is not a conventional CD/preamp combination, as there are no analogue inputs. But the CD player allows free access to its high-quality internal 24-bit/192kHz DAC section, which benefits most digital sources. The rest of the system is more conventional, and equally talented. The 99 power amp is Quad's entry-level powerhouse and, as with the CD player, the build quality and finish are first rate. The 11L standmounting speakers complete the package.



Introducing Radius from Monitor Audio - an exquisitely made and flexible speaker range.

Although seriously compact, the Radius is capable of delivering full-range, hi-fi sound whilst blending into any environment, without taking up valuable floor space. It is equally at home in a multichannel or traditional two channel system, as music reproduction is the first priority with all Monitor Audio speakers. Built to the same exacting standards as Monitor Audio's Reference range, the Radius uses advanced driver technology and is available in a variety of high quality finishes.

**™** MONITOR AUDIO

BEDFORD BIRMINGHAM BRIGHTON BRISTOL **BROMLEY** CAMBRIDGE CARDIFF CHELSEA **CHELTENHAM CRAWLEY** CROYDON **EDINBURGH EPSOM EXETER GLASGOW GUILDFORD HOLBORN** HULL **IPSWICH** KINGSTON **LEICESTER LEEDS** LINCOLN **LIVERPOOL MAIDSTONE MANCHESTER NEWCASTLE** NORWICH **NOTTINGHAM OXFORD PETERBOROUGH PLYMOUTH** POOLE **PRESTON** READING **SEVENOAKS** SHEFFIELD SOLIHULL SOUTHAMPTON SOUTHGATE **SWANSEA** SWINDON SWISS COTTAGE TUNBRIDGE WELLS WATFORD WITHAM (ESSEX) WOLVERHAMPTON

Please see Page 7 for address and telephone number details



FREE ortofon CARTRIDGE With selected Turntables - Ask in-store for details

# **PRO-JECT**

RPM4 Turntable **£349.95** 

"If you want severe turntable styling on a budget, you need look no further than this.

## **Turntables & Tuners**

Arcam DiVA T61 Tuner	£249.95
Cyrus FM X Tuner	£499.95
Denon TU260L MKII Tuner	£119.95
Marantz ST4000 Tuner	£109.95
Michell Gyro SE/RB300 Turntable,	£1049.95
Michell TecnoDec Turntable	£599.95
Project Debut Phono SB Turntable	£169.95
Project Debut II Turntable (Black),	£119.95
Project Debut II Turntable (Colours)	£134.95
Pure Evoke 1 DAB Radio	
Pure DRX-702ES Analogue/DAB Tuner,	
Sony ST-D777ES FM/DAB Tuner	

The shape of the main plinth here follows the outline of the record platter and arm to give

a cut away look to the deck, and while it looks a bit like a cakestand with the dustcover in place, in use the RPM4 looks

The RPM4 soon impresses with the quality feel of its arm and the screw-down clamp to hold and flatten records, and as soon as the stylus settles into the groove it's clear this is a superior player. There's much less surface noise than with the Debut, and the music has much greater scale and power, allied to closer detailing. That lovely organic feel you only seem to get from great vinyl playback is apparant... This is a very grown-up record player for reasonable CD player money: it's well worth exploring." August 2002

Selected outlets are Project Turntable Centres. Colour Options are available at additional cost



Michell Gyro SE/RB300 £1049.95

Product

# **STARTER SYSTEM**

#### marantz.

CD4000 (Black) CD Player PM4200 (Black) Amplifier

m71i Speakers

List Price £420

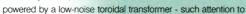
£299.95 • SAVE £120

Includes Speaker Cable Worth £20 FOC

# PURE DRX-701ES Digital Tuner £229.95

"This new tuner from the recently renamed Pure is based on the 2001 Award winning Videologic DRX-601ES, but under the lid is an all-new third-generation digital radio engine, in the form of Frontier Silicon's Chorus FS1010

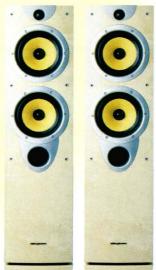
The tuner uses 24bit/192kHz conversion with 4x upsampling and data interpolation, and is



sonic detail pays off. Digital outputs are provided 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 highquality 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." [22]

# Wharfedale

# Pacific Evo 30 Speakers £649.95



"Evolution? This is more like a revolution: Wharfedale's new range is more than just an upgrade of its Pacific series. The changes are radical, but the most obvious transformation is the removal of the original's unattractive tweeter module, which was situated on top of the speaker. The tweeter housing is now sunk into the Evo 30 cabinet, the intention being to improve dispersion and benefit from the improved rigidity of the strongest point of the cabinet

Listen to the Evo 30s and the sonic changes leap out at you. Sitting on their chunky spikes and situated in free space, the speakers sound wonderful: low frequencies delve deep and delivery is punchy and fast.

You'll have gathered by now that we love the Evo 30s. They're beautifully made and are great all-rounders." ★★★★★ March 2003



Monitor Audio Silver S6 • £599.95

SPEAKER CABLE' Worth £65 WHEN YOU PURCHASE PACIFIC EVO 30 SPEAKERS

# **CD** Players

	Section 1
Arcam DiVA CD62T	£369.95
Arcam DiVA CD72T	£449.95
Arcam DiVA CD82T	£599.95
Arcam DiVA CD93T	£949.95
Arcam FMJ CD33T	£1299.95
Cyrus CD6	£599.95
Cyrus CD8	
Denon DCD485	
Linn Genki	
Linn Ikemi	£1949.95
Marantz CD4000	
Marantz CD5400	
Marantz CD17/II M	
Meridian 507	£1194.95
Musical Fidelity A308 <sup>CR</sup>	
Musical Fidelity Tri-Vista SACD	£3994.95
Quad 99 CD-P	
Roksan Kandy KD1 MKIII	
Roksan Caspian	
Rotel RCD1072	
Sony CDPXE570	£99.95
•	

e products may not be available at all outlets. Please call before travelling.\*Not in conjunction with any other offer. ent valid until at least 27th August 2003. E&OE















# **Amplifier** Selection

Arcam DiVA A65 Plus Amplifier	2369.95
Arcam DiVA A80 Amplifier	£599.95
Arcam DiVA A85 Amplifier	£799.95
Arcam FMJ A32 Amplifier	£1149.95
Cyrus 6 Amplifier	£599.95
Cyrus 8 Amplifier	£799.95
Cyrus Pre X Pre Amplifier	£999.95
Cyrus Mono X Power Amplifier (Each)	£1199.95
Denon PMA355 Amplifier	£199.95
Harman Kardon HK670	
Linn Kolector Pre Amplifier	£494.95
Linn LK85 Power Amplifier	£494.95
Marantz PM4200 Amplifier (Black)	£149.95
Marantz PM7200 Amplifier (Black)	£329.95
Musical Fidelity A3.2 Pre Amplifier	2999.95
Musical Fidelity A3.2 Power Amplifier	.2999.95
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
DiVA CD82T "Aroom's lostest sounds like a more my	atura varaian



ARCAM

INTERCONNECT CABLE\* WORTH £60

DiVA CD82T CD Player **DiVA A85** Integrated Amplifier

£599.95 £799.95

Best Buy

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. 



# **B&W** Bowers & Wilkins DM602S3 Speakers £299.95



"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



INTERCONNECT CABLE\* WORTH £60



# RCD-02 CD Player £379.95 £349.95

**RA-02** Amplifier 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

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

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." ★★★★★ Sept 2002

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









# CD8 CD Player 8 Integrated Amplifier £799.95

£999.95

Cyrus has been developing high performance hi-fi systems for nearly 20 years. Today their upgradeable, modular product range includes multi-room systems, home cinema and some of the world's finest hi-fi systems. Cyrus products are hand finished, half size die-cast enclosures and include a hidden digital command system that allows simple operation of any size system.

Joining the new Cyrus 8 amplifier is the stunning new high performance, upgradeable CD player, the CD8. Other new models in the 8 series include the AV8 digital AV processor and a new disc player, DVD8, featuring specially tuned video and audio circuitry.

Cyrus 8 Amplifier "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."

\*\*\*\* January 2003



DVD8 • £1199.95

# ROKSAN

# Kandy KA1 MKIII Amplifier £544.95

"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



claims 50 percent 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 quile to deliver subtle details

The upgraded Kandy MkIII is an excellent amp; the MkII 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 \*\*\* October 2002 the market. It's just that at £550 the Kandy really does set the pace.

# **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

111 s 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





Kef Q1 • £249.95

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 \*\*\*\* August 2002

# Speaker Selection

Acoustic Energy Aegis Evo One Acoustic Energy Aegis Evo Three	
Acoustic Energy AE1 MKIII (From)	
B&W CDM 1NT	
B&W CDM 7NT	£1249.95
B&W DM303	
<b>B&amp;W</b> DM601 S3	
B&W DM602 S3	
KEF Q1	
KEF XQ1	
Linn Katan (Cherry/Maple)	
Linn Ninka (Cherry/Maple)	£1044.95
Mission 780SE	
Mission 782SE	
Monitor Audio Silver S1	
Monitor Audio Silver S1 Monitor Audio Gold Reference 10	
Monitor Audio Gold Reference 20	
Quad 22L	£894.95
Ruark Epilogue II	£344.95
Wharfedale Pacific EVO 30	£649.95

me products may not be available at all outlets. Ple call before travelling.\*Not in conjunction with any other offer. rtisement valid until at least 27th August 2003, E&OE















# **MUSICAL FIDELITY A3.2 Series**

A3.2 CD Player A3.2 Amplifier

£999.95 £979.95

# INTERCONNECT CABLE\* WORTH £100 WHEN ANY MF CD & AMPLIFIER PURCHASED TOGETHER

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.





To celebrate twenty five years of high performance loudspeaker design and manufacture, Mission is proud to present special edition models of its highly acclaimed 780 and 782 loudspeakers. The 'SE' is more than just a 'go-faster' suffix. A selected version of Mission's unique microfibre treble unit is fitted and audiophile grade crossover components have been used. To reflect the special status of the 780se and 782se, these models in are finished in finely grained, Alder wood veneer.

# 782 SE Speakers (Pictured Left) £899.95

"Well, with the exception of the alderwood-veneer finish, these floorstanders look identical to the standard model, although there's a new tweeter and crossover design. One of the advantages of the three-way configuration is that each driver deals with only a narrow section of the frequency range, and the designers optimise each unit to perform its respective task. Mission's engineers have excelled in this area; these elegant floorstanders sound beautifully balanced and few rivals under £1000 can match their wonderful levels of clarity. The 'special edition' tag is overused but these talented floorstanders are bona fide sonic stars." \*\*\*\* April 2003

# 780 SE Speakers £349.95

"The revamped Mission 780s are hugely enjoyable: anyone with up to £400 to spend should consider these standmounters. Mission's clever





# Pioneer

# PDR609 CD-RW Recorder £179.95



"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." ★★★★ August 2001

## **Recorder** Selection

Harman Kardon CD-R30 CD-RW,	£499.95
Sony RCDW3 CD-RW	£219.95
Yamaha KX393 Cassette Deck	£119.95
Yamaha KX580SE Cassette Deck	£199.95
Yamaha CDR-HD1300 CD-RW	£529.95





**PTCING**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.



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.

Amplifier it makes an exceptional combination.

\*\*\*\* October 2002



# XQ One

Speakers **£999.95** 

By combining technologies from its Reference and Q Series, KEF has introduced the new XQ speaker range.



When tested in a group test, the **XQ Ones** received top honours - "KEF's new XQ Ones really are in a class of their own. With a depth of insight that is unmatched, plus a sense of cohesion that is rare - the XQ Ones are startling" concludes Hi-Fi World - April 2003.

\*\*Please Note Price Excludes Stands\*\*



## 19mm Titanium Dome Hypertweeter™

Developed directly from the Reference Series and time-aligned with the main array in its own low diffraction steel pod, KEF's new 19mm titanium dome Hypertweeter™ has the same wide dispersion characteristics at 'super audio' frequencies. With a flat response to 55kHz, it provides the high frequency extension needed to take full advantage of SACD and DVD Audio.



FREE INTERCONNECT CABLE\* WORTH £100
WHEN YOU PURCHASE ANY REL SUBWOOFER OVER £700

# Strata III Subwoofer (Wood) £699.95

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 neartangible, the midrange a spitting, spiteful companion for the tight, deep, airagitating 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

The adaptability makes the Strata III a highly recommended subwooter - it's a very versatile, musical piece of kit, and it doesn't cost the earth."

**SAVE £100** 

PLEASE NOTE: Some products may not be available at all outlets. Please call before travelling. 
\*Not in conjunction with any other offer. Advertisement valid until at least 27th August 2003, E&DE.





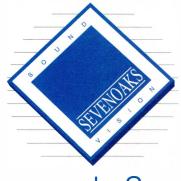












# outlets nationwide

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Bristol 92b White Ladies Road, Clifton 0117 974 3727

Cambridge 17 Burleigh Street 01223 304770
Cardiff 104-106 Albany Road 029 2047 2899

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**Kingston** 43 Fife Road **020 8547 0717** Open Sunday

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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 is 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 Hi-Fi Separates 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.

# opening soon

Subject to legal completion, we are opening new stores in the following locations: **Ealing** (North London), **Staines** (Middlesex), **Weybridge** (Surrey) & **Wilmslow** (Cheshire).

# custom installation

Sevenoaks Sound & Vision's Custom Installation Service enables the integration of a home cinema or hi-fi system into your home as neatly and seamlessly as possible. All electronics can be hidden away, speakers discreetly mounted either in the wall or ceiling and the complete system operated via remote control.





Our installation experts are fully trained to the highest standards in all areas and provide a prompt, reliable and professional service. Whether you're looking for a multi-room system, a dedicated home cinema installation with a retractable screen and built-in speakers or an integrated control or lighting system, Sevenoaks Sound & Vision has a diverse range of products available to cater for all your requirements.

# sevenoaks online

The Sevenoaks Sound & Vision website has news and information on the Sevenoaks group and its outlets nationwide. The website is designed to provide you with answers to the questions you may have when buying new equipment.

For impartial advice and information, just click on sevenoakssoundandvision.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>t</sup>

Spread the cost of buying, 0% finance option is available on the vast majority of products we stock, <sup>1</sup>Written details on request, Licensed credit brokers, Minimum balance £400. Subject to status.

# product range

An outstanding selection of products are on display and available for demonstration at all Sevenoaks Sound & Vision stores. However, some products may not be available in all outlets. Please call to check availability before travelling.

# 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.

# 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.



Dynamics is a general term for the ability to portray 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.

## A.30

#### 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.

## 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 amps tend to be better at reproducing music as they don't have the (electrical) noiseinducing digital processing of AV amps. AV amps cost three to four times as much as stereo models of a similar quality.



# DiVA A65 Plus £370

Arcam's entry-level integrated is a terrific budget option. Its sound is both bold and articulate, making it a fine all-rounder at a highly tempting price.



# RA-1062 £595

Rotel's latest is a true giant killer, packed with power and detail. It'll drive virtually any speaker and is capable of embarrassing a good many more costly designs.



# Type S21 MI £1,399

This AVI's full name is Lab Series Integrated Amplifier Type S21 MI – a lengthy moniker for such a neat little amp with a hugely accomplished sound.



transistor design with a touch of the

valve amp sound.

ur favourite				S	SPECIFICATIONS				
STERE tegrated amplifiers		AMPLIFIERS	LINE INPUTS	PHONO INPUT	REMOTE CONTROL	HEADPHONE SOCKET	POWER OUTPUT (M)	ISSUE NUMBER	
GE? PRODUCT	£	COMMENTS	SIN	PUI	ROL	E S	3	)BEH	
TO £1,000	S 15								
Arcam DiVA A65 Plus	370	Highly articulate and fluent, offers unusual insight for its price	5	0	0	0	40	2	
Arcam DiVA A75 Plus	470	Quick, lively and well-presented amplifier, bass is sharper and more tuneful than its predecessor	5	0	0	0	50	2	
Arcam DiVA A85	800	Powerful, sophisticated and flexible — no longer quite the king of the sub-£1,000 crop but still a strong contender	7		0	0	105	2	
Cyrus 8	800	Impressive at low to medium volumes, and a clear improvement on its predecessor, but deteriorates at high power levels	7		•	•	70	2	
Denon PMA-255UK	140	Great beer-budget buy, with everything necessary for basic but decent high-fidelity operation	5				30	2	
Exposure 2010	599	Neatly turned-out amplifier with mainstream appeal, but a bit on the bland side	6		0		50	2	
Exposure 3010	1,000	A mix of old and new, combining greater power with Exposure's traditionally sweet and enthralling sound	6	0	0	0	120	2	
Myryad Z140	450	Slimline beauty with genuine integrity and coherence, if relatively limited power	5	0	0	0	50	2	
NAD C320BEE	220	Spirited and enthusiastic amp with slight bass hump and a sound that will suit relaxed speakers	7		0		50	1	
NAD C370	450	Flexible, ultra high-power integrated amplifier delivers a real punch, but is not without finesse	6		0	0	120	1	
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		0		30	1	
Primare A10	500	Beautifully made, smooth and easy sounding, and though not overtly detailed it is well organised musically	6		0		50		
Primare I20	750	An amplifier with attitude: punchy fast and secure sounding, with excellent build quality for the money	4		0		70	2	
Roksan Caspian Mkll	895	An excellent all-rounder, with an articulate, assured delivery and excellent drive capability with a wide range of loudspeakers	6				70	1	
Rotel RA-01	250	Take a Best Buy amplifier and rip out the remote control to save £100. No wonder we love it!	4			0	40	1	
Rotel RA-02	349	Agile and capable slimline design with an engaging sound that draws you into the music	4	0	0	0	40	1	
Rotel RA-1062	595	The pick of this season's crop. Fabulous sound with the ability to drive almost any speaker in its path	5	opt	0)	0	95		
Sugden A21a	899	This single-ended, Class A transistor amp has exquisite resolving ability and presence – an authentic classic	5				25	1	
OVE £1,000			197				370		
Arcam FMJ A32	1,150	Remarkably flexible and well-featured, with excellent sound quality for the price	7	0	0	0	100	1	
ATC SIA2-150	2,375	Starkly revealing powerhouse that eats most integrateds for breakfast	5				150		
AVI Lab Series S21 MI	1,399	Terrific power, control and resolution but effortlessly musical and fine value	6	opt	0		200	1	
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		
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		
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		0	100	Ì	
Musical Fidelity Tri-Vista 300	3,999	If you audition one, you will want to be one of the handful of Tri-Vista owners	5		0		350		
Primare A30.1	1,500	Smooth, detailed singing quality, elegant appearance and healthy power yield	6		0		100	T.	

Oı	ır favourite 🗉	BEST BUY	EDITOR'S CHOICE			005	(OUT)			
S	TEREO	AI	MPLIFIERS	PF		2000		ATIOI REMOTE	POWER OUTPUT (W)	ISSUE
Pre	/power amplifiers			PREAMPLIFIER	POWER AMPLIFIER	LINE INPUTS	PHONO II	E CONTROL	ОПЪП	UE NU
BADGE	? PRODUCT	£	COMMENTS	哥	哥	PUTS	NPUT	TROL	(%)	NUMBER
UP T	D £2,000			4			7.3			
88	Arcam DiVA A85/P85	1,330	Integrated/power amp combo won't suit all systems, but delivers classic A85 virtues plus extra gravitas and range	0	0	7		0	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	0	0	7	•	0	100	227
EC	ATC CA2	750	Stripped-down version of ATC's range topper delivers considerable transparency and bandwidth. Excellent value	0		5		0		221
98	Creek P43R/A43	900	Great value, with a particularly impressive way with dynamics	0	0	6		0	140	212
98	Croft Vitali/Series 5C	2,000	Oddball retro style and ergonomics, but truly magical voice coherence and projection, great transparency	0	0	3	0		30	216
	Densen Beat 200/300	1,985	Classy jet black cast boxes pack plenty of punch with good total musical coherence (remote £300 extra)	0	0	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	0		4	0	0	250	231
	NAD Silver Series S100/S200	2, 000	Beautifully built kit that sounds as good as it looks, with heaps of power	0		7		0	200	200
EC	Naim NAC112/NAP150	1,425	Clean, clever simplicity, plus a very well-balanced sound that's much sweeter than earlier Naims	0	0	6		0	50	213
88	Rothwell Indus/Rubicon	1,488	Quirky valve combo with passive pre-amp has a lovely neutrality and consistency across a wide dynamic range	0	0	6			10	216
ABOV	E £2,000			3.89	7.57					200
	Audio Note M2Phono/P2SE	2,698	Wonderfully natural and inviting sound with great warmth and drama, but limited loudness capability		0	4	0		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 MkI/VT100 MkII)	0	0	6	0		100	216
EC	AVI S2000M	2,398	This preamp/monoblock pairing does most things very well and images better than most	0	0	5		0	150	221
EC	Border Patrol P20	6,750	Muscular 300B P-P design with fluidity and dynamics to match the best	0	0				20	231

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 coil), 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.

# BUYER'S BIBLE STEREO/AV AMPS

Ul	ır favourite 🖳	BEST BUY	EDITOR'S CHOICE			car	CIFIC	ATIO	ue.	
S	TEREO	Al	MPLIFIERS continued	PR	POWER AMPLIFIER			REMOTE CONTROL	POWER OUTPUT (W)	ISS
Pre	/power amplifiers			PREAMPLIFIER	AMPL	LINE INPUTS	PHONO NPUT	E CON	UNIDO	SSUE NUMBER
BADGE	? PRODUCT	£	COMMENTS	景	FER	SINe	PUT	콩	8	/BER
	Bryston BP25/4BSST	4,000	Extremely transparent, high-power combo, you'll listen louder and longer because you can	•		8	opt	•	300	241
EC	Classé CP-35/CA-101	2,797	Very classy Canadian pre/power combo with a natural, open and no-nonsense sound	0	0	4		0	100	237
88	Electrocompaniet EC4.7/120DMB	3,448	Bulky Norwegian combo has wonderful transparency, wide dynamic range and fine musical tension			6		0	120	216
-88	Exposure XXII!/XXVIII	2,790	Highly natural and dynamic amplifier that offers the fluidity and energy of valves via transistors	•	0	6	opt		70	241
EC	Halcro dm10/dm68	75,900	Extravagant, extreme and massive amp combo will probably polarise opinions, but delivers stunning midrange clarity	0	0	5	0		225	243
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		0				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	0		4		0		238
EC	Linn Klimax Twin	6,000	Super-slim stereo power amp uses advanced switch-mode power supplies to fast, engaging effect		0				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	•		6		0	125	195
	Naim NAC 202/NAP200	2,720	More sophisticated than its forebears with a fleet-footed sound that draws you into the music	0		8		0	70	241
EC	Naim NAP500	10,995	Wonderful neutrality, bandwidth and dynamic range, plus Naim's traditional leading-edge definition		0				140	208
EC	Naim NAC552	11,750	Extremely expensive preamp, but still solid value. Magnificent sound with fine flexibility and convenience	0		6		0		233
	Primare PRE30/A30.2	2,400	Beautifully built with great selection of features and serious power delivery	0	0	7		0	120	241
EC	Steinhart DVP 2XR/Fidelio 102 DD	7,440	Brilliantly musical, making even difficult material enjoyable, but gets hot and has ergonomic foibles	0	0	7	0	•	100	236
	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	•	0	6		•	250	230
EC	Unison Research Unico Pre/DM	2,590	Hybrid designs with a rich powerful performance that makes a fine balance between valve and solid state sound	0	0	3	0	•	150	242

# **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.

# **A**\$0

#### **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.

## HI-FI MEETS SURROUND SOUND

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

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.

# TOP BLYS



#### **Pioneer** VSX-D2011 £900

A feature-packed receiver, and a great sounding one to boot. Only Denon's

AVR-3803 currently competes at the price.



#### Marantz SR9200 £2,000

Few AV receivers manage to sound as musical as this one. A top all-rounder and an excellent multichannel solution.



# Denon

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 top-ranking AV processor and seven-channel power amp.

#### Our favourite Best Buy E EDITOR'S CHOICE **AV AMPLIFIERS** - CHANNEL INE INPUTS Multichannel amplifiers BADGE? PRODUCT COMMENTS INTEGRATED AV AMPS Arcam AVR200 800 Upgraded AVR100 with Dolby Pro-Logic II and some bass management. Great for stereo, a bit bass-light for multichannel 6 6 70 229 0 11 110 239 Denon AVR-3803 899 Feature packed 7.1 channel AV receiver which needs a lot of studying but does everything well 0 Denon AVC-A11SR 1,800 Feature-packed with superb spatial processing, combined with powerful, though slightly opaque overall audio quality 11 600 60 235 Denon AVC-A1SR 170 3 000 An AV amp with genuine high-res hi-fi credentials. Includes a ground-breaking 'wide bandwidth' digital audio link 8 400 232 Harman Kardon AVR 5550 9 0 85 240 850 The upgrade to the AVR 5500 comes with features that are actually of some use to the audiophile and a meaty sound to boot 0 603 Marantz SR9200 9 235 2.000 Powerful, cool-running UK-customised THX receiver with spacious, relaxed sound quality with music and movies alike 600 60 Pioneer VSX-D2011 900 (1) 10 69 140 Outstanding sonic performance for the price and a remarkable features list to boot 235 Pioneer VSA-AX10i 2,700 8 6 150 229 Seven channel tour de force with automatic speaker set up and eq. excellent with music, movies and DVD-A/SACD Sony VA-777ES 210 1.500 Smart circuitry gives this model unusual precision and transparency, and it is a fine all-rounder q 100 CESSORS AND POWER AMP Arcam AV8/P3 5.498 State-of-the-art processor (£2,999) and seven-channel power amp (£2,499). An excellent fusion of stereo and surround sound 180 235 Bryston SP1/9B THX 6 120 219 7.100 Stripped-back 5.1 channel processor/amp combo reaches genuine audiophile heights ont 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 AV8/3x Smartpower 2,900 Classic Cyrus sound translated to a multichannel arena, limited features and power, but civilised sound 3 105 238 FAD TheaterMaster 8000 Pro 5 200 9 Arguably the most 'musical' sounding AV processor to date - tested with the PowerMaster 8300 multichannel nower amo dib 242 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 40 60 238 6 9.833 Powerful surround processor with flexible modular construction, marvellous versatility to drive any speaker configuration 230 Mvrvad MDP500/MA240/360 3.799 Superb three-box, five-channel AV amplifier. Great with movies and beats most multichannel amps hands down with music 9 120 215 ont Naim AV2/NAPV175/NAP150 4,175 First truly credible multichannel system from Naim is idiosyncratic but offers excellent basic sound with modest spatial steering 5 439 50 238 Parasound Halo C1/A51 11 8.500 Powerful and flexible processor/power amp combo with impressive sound. Excellent value - processor includes onboard screen 243 Primare SP31.7/A30.5 5 4.200 Great all-round system which brings the qualities of good stereo high fidelity to a multichannel world 0 120 238 Roksan DSP/5ch amp/VSU 2.440 4 80 210 Clean, powerful stereo expanded seamlessly, if without distinction, to 5.1 channels TAG McLaren AV32R EX 6 0 215 2,994 Flexible AV processor, unusually good with music. Excellent for multichannel system in standard or seven-channel 'EX' form

SPECS KEY 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.



established 1979 (formerly the Music Room) • 4 demo rooms in dedicated premises

# 5 Crown Terrace, Hyndland, Glasgow, G12 9HA, Scotland

3	valve	solid state	gital	peaker	ımtable/arm	rtridge	hono amp	na
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stands unique							•	•
townshend							•	•

these new products below are all available at the audio salon for demonstration. please ring 0141 357 5700 for further details or to arrange a demo.

art loudspeakers: skibo (add £795 for bass module) - unbeatable!	£795
atc scm-35 floorstanding speakers - features the acclaimed ATC mid-range driver	£1999
ayre acoustics: k5 pre-amplifier	£2950
ayre acoustics: v-5x power amplifier	£4495
gryphon: cantata loudspeakers - inc room correction module	£12300
mark levinson 431 (200wpc) - grace, power, dynamics - it has it all!	£5995
mark levinson 432 (400wpc) - destined to become a classic!	£7995
michell technodec from	£575
shanling sp-80 valve monoblock amplifiers - built in volume control - very	£2000
sugden musicmaster power amplifier - class A, single-ended, solid-state	£1290

the audio salon offers a range of products and services specially tailored for you the individual - for we understand that each customer is different.

## free advice

when you speak to us all you pay for is the price of the phone call. no pressure, biased advice or hard sells - just a friendly ear and helpful advice - simple!

#### demonstrations

most are by appointment only so that you/and your family, can listen and choose the right component, upgrade or complete system.

#### time

we are open from 9am to 6pm, monday to saturday. evening appointments can be arranged as well as sunday demonstrations if this is more convenient.

#### commitment

minimum 2 year warranty (6 months on used) on products. long-term customer care is very important to us. when you buy something from the audio salon you can do so with the absolute confidence that our service to you doesn't cease to exist once you leave the salon. we take great pride in the way that we look after our customers, both existing and new.

#### value

the audio salon work extremely hard to offer you superb value and a level of service that is hard to find in other places.

ew product

ur service

open 9am-6pm (mon-sat) by appointment please

# tel 0141 357 5700 fax 0141 339 9762



# try an £800 interconnect for £125 with a 28-day money back guarantee!

Question: How does a £99 interconnect offer high performance without the multiplication factor of marketing and distribution costs? Answer: by mail order.

Stratos was conceived by a leading audio designer and evolved over six years by exhaustive subjective evaluation. It is manufactured from unique materials and techniques not available elsewhere.

Foremost techniques include:

- Our hermetic clean weld. Flux chemical vaporises to achieve stable and seamless zero impedance interface

(2) - XLR (chassis plus Line and Return). Balanced signal cable earth drain employed even on RCA single-ended and mixed interconnects e.g. RCA to 3-pin plugs

(3) - 3-T solder. Time, temperature and twinned tin and silver solder to assure long-term adhesion

Market research indicated that most competing cables merely redesign off-the-shelf materials, but we found most wires and phono plugs degraded sound audibly. Stratos series III interconnects feature our own design of 140 strand 8N purity copper with proprietary di-electric, geometry. Triple shielding gives an industry high of over 80% effectiveness using the standard measure. Beautifully finished in pearlescent clear sleeving, the interconnect is sealed at both ends to resist capillary moisture and oxygen.

Our phono plugs are unequalled. Made from direct gold-plated phosphor bronze, it is machined from bars, not folded metal; this retains the desired crystal structure and makes a very handsome finish; fully shielded with reflective outer surface; centre pin and outer (earth) are internally connected very close to signal transfer which is passed to the socket by levered and high grip "teeth" - centre pin is generous in size and sprung

In short nothing has been left to chance or term deterioration. By offering 1.2 metres for no extra charge over the standard 1.0 meter, you get the advantage of the standing wave phenomenon. Over six years, 87 prototypes resulted in series III - an interconnect which will make all the difference to the music. Try it and "hear". Save your music signal and save money by direct buying with 28-days trial offer. Visit www.audiosource.co.uk for further information.

# special offers

# New, Ex-dem and Previously Cherished Hi-Fi

These prices are based on cost price for rapid turnover All used equipment guaranteed for six months; new and ex-dem adds manufacturer guarantee. New (factory) sealed boxes indicated (New), Ex-dem (Ex-D) or Used (s/h) Goods shipped next day delivery by TNT or UPS. Premium service costs £10 per box UK.

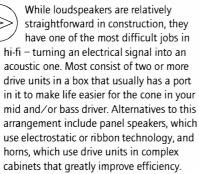
Digital	LIST	SALE
Gryphon Adagio (3 months old, s/h, mint) Neukomm Reference CD Player (ex-d, mint) Theta Miles CD Player (s/h, bal/s-e, mint)	£4,300 £2,250 £2,895	£3,250 £850 £1,100
Amplifiers		
Art Audio Diavolo monoblocks 300B chrome/gold (ex-d,mint)	£5,995	£3,995
Audio Note M7 Pre-amp (ex-d, mint)	£7,500	£3,500
Audio Note Kegon C Poweramp (s/h, mint)	£87,000	£22,000
Audio Research LS2b Pre-amp (s/h, mint)	£3,249	£1,150
<b>Audio Research VT100 Power amp</b> ( <i>s/h, mint</i> ) (100 wpc, bal/s-e)	£4,950	£2,250
ATC CA2 Preamp (s/h, mint)	£765	£495
Conrad-johnson PV10AL (s/h, mint) (brand new NOS Tungsram Valves)	£1,195	£495
Gryphon Callisto 2200 Int Amplifier (s/h, mint, with phono)	£5,790	£4,150
Neukomm Ref Amplifier 150 wpc (ex-d,mint)	£2,500	£850
Proceed Pre-amp (Fully Balanced, s/h, mint)	£1,995	£795

Amplifiers	LIST	SALE
Sugden Bijou System (ex-dem) CDMaster (ex-d,mint) HeadMaster pre (with R/C) (ex-d,mint) FMMaster tuner (ex-d,mint) AmpMaster power amp (ex-d,mint)	£1,299 £659 £949 £689	£1,095 £550 £850 £575
Loudspeakers		
Audiostatic Wing Electrostatics + Fins (ex-d, satin silver)	£5,500	£2,995
<b>Avalon Arcus</b> ( <i>cherry finish, mint, s/h</i> ) <b>Proac 1SC</b> ( <i>s/h, mint, burr oak</i> )	£7,800 £1,439	£4,650 £850
Proac Future 2 (ex-d,mint,birds eye maple) Revel Studio (ex-d,mint, black/silver)	£11,450 £9,995	£5,995 £POA
Zingali Overture 1 (ex-d, mint, walnut with stands) Zingali Overture 4	£1,990	£1,550
(ex-d, slight mark) (s/h, mint, walnut, genuine offer)	£4,750 £4,650	£2,950 £1,750
Analogue		
Clearaudio Insider MC Cartridge (s/h, very little use) - inspected and tested by us SME Model 10 + IV Arm + Audio	£5,750	£1,995
Note ANVx + VDH Frog Mark 2 (s/h, mint) Sumiko Pearwood MC Cartridge (new)	£5,658 £1,195	£3,845* £850
*reduced in price		

List no 92. For an updated and comprehensive list of equipment and audio cables, please visit www.audiosalon.co.uk

# STEREO SPEAKERS

Speaker pairs for stereo sound



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.

## POWER

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

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.



#### 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.

## 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.



better small speaker around for the price.



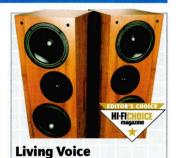
#### Focal-JMlab Cobalt 816 Sig S £999 One of the best all-round performers below £1,000, combining a lively and

dynamic character with an unusually

smooth and neutral balance.



Signature 805 £2,500 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.



Avatar OBX-R2 £4,000 Newly revised for 2003, the top model in Living Voice's Auditorium range is capable of delivering both the music's spirit and also its finest detail.

SPECIFICATIONS

# Our favourite BEST BLY EDITOR'S CHOICE

STEREO SPEAKERS Stereo speakers		SIZE W,H,D (CM)	FL00RSTANDER	EASE OF DRIVE	BASS FROM (HZ)	FREE SPACE	CLOSE TO WALL	ISSUE NUMBER		
	PRODUCT	3	COMMENTS	×	Ħ	M	짇	Ж	É	Ħ
UP IU	£1,000  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		Α	30	0		226
	ATC SCM12	999	Transparent, engaging and quick — a revealing, high-fidelity performer that's not afraid to bare all	22,39,25		Α	62	0		237
***************************************	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	-	-	0	215
	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	-	A	30		0	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		A	23		8	226
BB	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	_	A	25		-	234
	B&W DM309	330	All the grace and punch of the smaller DM303 – a suberb floorstander for the money	20,91,30		A	60	9		235
BB	B&W DM603 S3	600	Excellent all-rounder, smooth for its price with fine bass and mid, though too might be more refined	20,91,30	6	A-	25	6		231
	B&W CDM-1NT	750	An uncommonly stylish and sonically self-effacing standmount that should be very easy to live with	22,40,29	-	Α	30	6		208
	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			225
BB	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	0	A+	-	0	-	237
	Castle Durham 3	399	A very attractive near-miniature wallmount with a lively and communicative disposition – lots of fun	19,37,22	0	А	45	0		227
	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	0	Α	25	-	8	237
BB	Dynaudio Audience 42	400	An aristocrat of the vinyl-covered miniature breed. A terrific small speaker for the price	17,29,24		A	40		-	215
	Dynaudio Audience 62	729	Pricey but cute vinyl floorstander that is a class act sonically – lightweight, but clean and dextrous	20,86,26	0	Α	30	0		231
	Elac JET 205	650	Sweet, smooth, clean and delicate tweeter justifies hefty price tag, but a little lacking in warmth and body overall			Α	40	0		231
	Energy Connoisseur C-5	600	Has a marvellously even and neutral overall balance, if a little too laid-back with restrained dynamic expression	20,95,37	0	A+	23	6		240
68	Epos ELS3	200	Few affordable speakers sound as clean and convincing while taking up so little real estate	18,27,19	_	A-	60			241
88	Epos M12	499	Retains the bequiling midband coherence that made the ES12 such a favourite. A genuine class act	20,38,26		Α	40	0		215
BB	Focal-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	0	A-	22	_	0	227
	Focal-JMlab Cobalt 816	899	A little lean, cool and bright, but has righteous dynamic expression and lively communication skills	22,99,29	48	A	22	0	-	224
B8	Focal-JMlab Cobalt 816 S	999	Great all-rounder – lively and dynamic, smooth and neutral, marred only by a slight treble 'sting'	22,98,31	8	A-	25	8		242
	KEF Q1	250	Stylish if slightly small-sounding stand-mount with fine midband coherence; works well close to a wall	22,35,30		Α	30		0	234
	Mission m71	129	Neat-looking and very discreet-sounding at a very nice price; experiment for best placement	17,29,28		Α	40		0	226
88	Mission m73	199	Good-looking floorstander. Dynamics are a little limp, but it has a good overall balance. Excellent value for money		0	Α	25	6	_	215
	Mission 782SE	900	Definitely one of the prettiest speakers around, Very even balance but could sound more exciting	17,80,30	8	Α	35	8		242
	Monitor Audio Bronze B2	200	A lively and entertaining speaker with tight controlled bass and pronounced midband	18.5,35,25		Α	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		0	236
	Monitor Audio Silver S8	800	A thoroughly impressive all-rounder, notable for its wide dynamic range, excellent imaging and fine neutrality	19,90,27	0	Α	20	9		237
	Monitor Audio Silver S10	1,000	Timing might be less than the best, but the full balance and fine dynamic range deliver plenty of detail.	20,100,27		A+	20	6		242
	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		0	211
-	Opera SP-1	525	A strong case for serious hi-fi with curves. Sound is clear, crisp and detailed	16,29,23		Α	50			225

SPECS KEY 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 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).

# "The Best in New, Second Hand and X-Dem Equipment"







#### H I -F I

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# Choice

c h Choice hi-fi make it easy for you to fulfill your sonic dreams. Quality hi-fi is not just about expensive brandnames. It's about aspiring to the very best sound, about choosing your ideal system from the widest selection in the country, in a unique no-pressure environment.

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- Oracle Ortofon Plinius P.M.C.
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  Roksan
  Rotel
  Ruark
  Shahinian
  SIM2
  SME
  Straight Wire
  Sugden
  Tara Labs
  Teac

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  Teac
  Totem
  Transfiguration
  Trichord
  Trilogy
  Van den Hul
  VPI
  Wilson Audio
  Wilson Research
  YBA

# QUARTERLY saleitems

Exposure VII pre + XII psu	£450.00*	£1,200.00
Magnum Dynalab P 200 Pre	£695.00	£1,900.00
dpa Enlightenment DAC	£295.00*	£ -
Kenwood LI 000C Pre	£295.00	£895.00
Kenwood L1000M Power	£395.00	£1,295.00
Michaelson Audio Odyseus	£495.00*	£1,500.00
Sunfire 300 Power Amp (110 volts)	£695.00*	£2,400.00
Arcam Delta 110 pre amp	£295.00	£750.00
McCormak Line Drive	£395.00	£995.00
Thule Spirit CD	£495.00	£900.00
Audio Refinement Pre 5 "new"	£395.00*	£895.00
* Reduced this month		

# New this month

CITIO III O II	•	
POWER AMPLIFIERS		
Cello Performance 2 Monoblocks	£7,995.00	£20,000.00
Krell KSA 250	£2,750.00	£6,000.00
Bel Canto Evo 4	£On Dem	£3,895.00
Krell KSA 80B	£1,395.00	£3,600.00
Roksan Caspian Integrated	£On Dem	£895.00
Roksan Caspian Power	£On Dem	£645.00
Quad 33/ 303	£295.00	-
PRE AMPLIFIERS		
Audio Research LS25 mk II	£4,250.00	£5,995.00
YBA 2a Line	£1,295.00	£1,995.00
LOUDSPEAKERS		
Martin Logan SL3	£1,795.00	£3,400.00
JM Lab Mini Utopia + Stds Rosewood	£2,495.00	£4,899.00
Dynaudio Audience 50	£395.00	£577.00
JM Lab Nova Utopia	£On Dem	£19,999.00
Heybrook Sextet (new drivers)	£495.00	£1,200.00
Revel Studio	£7,495.00	£13,000.00
ATC SCM 10 Passive Black	£495.00	£1,100.00
CD PLAYERS & DACS/ DVD PLAYERS		
Krell KPS 25sc 24/96	£11,995.00	£23,498.00
Roksan Caspian CD	£On Dem	£995.00
TURNTABLES, ANALOGUE, VARIOUS		
Project RPM 6 "new"	£On Dem	£500.00
Musical Fidelity XLP Phono Stage	£75.00	£150.00
Project RPM9/ arm/ 25FL (Ex Dem)	£895.00	£1,350.00
VPI TNT mk IV/ Rockport 6000/ Flywheel/		
VDI C 1/ CI 1: A 1/D !! !!	40 F00 00	

#### £On Dem £On Dem Lexicon MC8 Processor Lexicon RT10 DVD Player Power amplifiers

VPI TNT mk IV/ Rockport 6000/ Flywheel/
VPI Stand/ Clearaudio Accurate/ Pump etc.
Roksan Radius (Acrylic) "new"
Roksan Caspian Phono se
Ortofon Rohman (2 hrs)
AV COMPONENTS/ PROCESSORS

Krell FPB 600c	£6,500.00	£14,000.00
Krell FPB 700cx	£11.995.00	£15,000.00
Krell FPB 400 cx	£9.600.00	£12,000.00
Naim Nair 3	£475.00	£12,000.00
Rowland Model 12 (4 chassis)	£8,995.00	£14,500.00
Michell Alecto Monoblocks	£995.00*	£2,000.00
Cary 805 C Monoblocks "new"	£4995.00*	£8,250.00
E.S. Lab DX-S8	£On Dem	£2,995.00
Plinius SA50	£1.795.00	£2,793.00 £2,700.00
Plinius 8200P		
Krell FPB 200	£On Dem	£1,550.00
	£3,995.00	£8,000.00
Krell FPB 600	£5,995.00	£12,998.00
Plinius SA 102 "new"	£On Dem	£3,750.00
Musical Fidelity P180	£395.00	£900.00
Musical Fidelity CRPS	£395.00	£900.00
Bryston 4 BSST	£On Dem	£2,350.00
Jadis Defy 7 mk III	£2,750.00	£6,000.00
Mark Levinson No 27	£1,750.00	£6,000.00
Linn Bass Active Card	£69.00	£120.00
Gamut D200 "new"	£2,250.00	£3,250.00
Musical Fidelity F15	£995.00*	£2,500.00
Audio Innovations \$1000 mk III monos	£995.00*	£3,000.00
Krell MDA 300	£4,995.00	£12,000.00
Cary SLA 70 mk II Silver	£1,295.00	£2,250.00
Boulder 500 AE	£3,495.00	£5,500.00
Linn Klassik CD/Amp silver	£895.00	£1,030.00
Boulder 1060 Power "new"	£On Dem	£16,500.00
Primare 30.1 mk II Integrated	£1,350.00	£1,500.00
YBA Passion Stereo "new"	£3,995.00	£5,995.00
Plinius 250 mk IV "new"	£On Dem	£6,350.00
11.61		

# Pre amplifiers

·		
DNM 3c Primus Pre (3c psu)	£1,195.00	£2,000.00
Tom Evans The Vibe Pre	£On Dem	£2,700.00
Krell KRC	£2,495.00	£6,949.00
Graff 13.5 Pre	£1,495.00	£3,000.00
Chord DSC 1500E (dac/pre)	£3750.00*	£6,500.00
Audio Research LS7	£895.00*	£1,800.00
Audio Research LS1	£795.00*	£2,000.00
Audio Research LS3	£895.00*	£1,997.00
Musical Fidelity F22	£695.00	£1,500.00
AVI S2000 MP remote pre	£395.00	£800.00
Cary SLP98L Remote Pre x-dem	£1495.00*	£2,794.00
Boulder 1012 (pre amp/ 24.96 dac/ Phono)	£On Dem	£13,000.00
YBA Passion Pre (inc Phono)	£3,995.00	£5,595.00
Boulder 2010 Pre	POA	£30,000.00
Plinius 16L "new"	£On Dem	£3,200.00
C.A.T. ultimate reference Pre Amp Inc/Phono new"	£On Dem	£5,750.00

# Qualityspeakers

JM Lab Alto Utopia BE	£On Dem	£9,999.00
Wilson Witt mk I	£3,750.00	£9.000.00
Avante Garde Duo (White)	£4450.00*	£8,000.00
JM Lab Utopia	£8995.00*	£18,000.00
JM Lab Mini Utopia + Stand	£2,495.00	£4,700.00
B&W Matrix 805 (Walnut)	£295.00	£650.00
ClaraVox Magnifica	£5,495.00	£14,500.00
JM Lab Micro Utopia + Stand	£2,195.00	£4,349.00
Wilson 5.1	£7,995.00	£19,600.00
Reference 3A	£1,750.00	£2,250.00
Audio Physic Spark	£1,150.00	£1,795.00
Talon Kite Centre & Bracket	£795.00	£1,750.00
Ensemble PA I	£895.00	£2,000.00
Audio Physic Caldera	£4,995.00	£10,000.00
Aerial Acoustic SW12 Sub Woofer, Maple/remote	£2,995.00	£5,200.00
Mirage M3 si	£1295.00*	£4,100.00
Linn Kabers (Active)	£995.00	£2,500.00
Rel Q 200 E	£On Dem	£650.00
Rel Q 150 E	£On Dem	£500.00
Audio Physic Luna Sub (wood)	£On Dem	£1,799.00
Audio Physic Yara	£On Dem	£999.00
Vienna Acoustics Mahler	£On Dem	£6,000.00
Vienna Acoustics Mozart	£On Dem	£1,700.00
Vienna Acoustics 5.1	£On Dem	£3,500.00
Cabasse io 5.1	£On Dem	£2,170.00
JM Lab Sib & Cub (5.1 spk sys)	£On Dem	£859.00
Blue Room Minipod (White)	£225.00	£298.99
Blue Room Minipod + Sub (Blue)	£625.00	£749.00
Blue Room Minipod Sub	£415.00	£468.99
SD Acoustics SD I	£595.00	£1,650.00
Genelec 205 Active Monitors	£On Dem	£750.00
Audio Physic Virgo III "new"	£On Dem	£4,000.00
Audio Plan Contrast 3	£995.00	£3,200.00
Audio Physic Tempo III "new"	£On Dem	£2,000.00
Naim SBL's	£995.00	£2,225.00
Rogers LS55 "new"	£260.00*	£430.00
CDplayers	M CS	

Musical Fidelity NuVista cd	£2,495.00	£3,000.00
Sony SCD I SACD	£2,495.00	£4,000.00
Theta Data Pro Basic IIIa	£1,795.00	£3,495.00
Bow Wizzard 24/96	£2,795.00	£4,000.00
Theta DS Pro Prime II a	£995.00	£1,800.00
Mark Levinson ML 31	£3,750.00	£9,000.00
Trichord PD-S 503	£295.00	£500.00
Pink Triangle Ordinal	£295.00	£600.00
YBA CD I Delta (Twin psu)	£3,995.00	£5,500.00
Audio Synthesis DAX	£1,995.00	£4,000.00
Krell KPS 20i	£4,795.00	£9,900.00
Linn Karik Numerik	£1,595.00	£3,300.00
Mark Levinson 39	£2,995.00	£5,000.00
Marantz 17 Ki Sig (Black & Gold)	£695.00	£1,200.00
Myryad MDV 200 DVD	£750.00	£995.00
YBA CD 3 Delta	£On Dem	£2,200.00
Audiomeca Damnation CD Transport	£750.00	£1,600.00
Primare V20 DVD/CD	£750.00	£1,000.00
Audio Aero 32/192 Capitole CD (Ver. 4)	£On Dem	£4,500.00
Primare V25 CD/DVD	£On Dem	£1,000.00
Theta Pro Geny	£595.00	£1,295.00
Boulder 2020 dac	POA.	£24,000.00
Theta Data II Transport AT + link	£1,995.00	£4,000.00
YBA CD Integre "new"	£On Dem	£1,195.00
Turnstables		

# urntables & analoque

# components

Electrograph Delphi/Seleco/Sony/Sanyo Panasonic TH-42 PWD5 "new"

exicon DC2	£1,995.00	£3,500.00
IM 2 HT 300	£7,500.00	£9,000.00
rimare P30 Processor	£1,295.00	£2,000.00
inn Klassik DVD	£On Dem	£2,000.00
exicon MCI "new"	£3,000.00	£5,500.00
exicon MCI2 / MCI2B	£On Dem £8100	0.00/ £8900.00
oewe Xemix DVD "new"	£On Dem	£495.00
PLASMAS		
rom NEC/ Panasonic/Pioneer/Sharp	from £4000.00	POA
lectrograph Delphi/Seleco/Sony/Sanyo	-	POA

£4,995.00

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# STEREO SPEAKERS

# HI-FICHOICE BUYER'S BIBLE

7	TENE		CDEAVEDC		SPECIFICATIO						
tei	reo speakers	<u> </u>	SPEAKERS continued	SIZE W.H.D (CM)	FLOORSTANDER	EASE OF DRIVE	BASS FROM (HZ)	FREE SPACE	CLOSE TO WALL	ISSUE NUMBER	
	PMC DB1	555	Lacks a little weight and authority, but beautifully balanced, free from boxiness, and loads of fun for a tiny	16,29,24		Α	50		60	24	
	PMC TB2	700	A worthy successor to the TB1, which sets a high standard in its size/type for n <sup>e</sup> utrality and transparency	20,41,31		Α	30	0	100	2	
	Sonus Faber Concerto Home	-	Looks good and sounds better. Great midband communication skills, well aligned for close-to-wall siting	24,36,34		Α	40		60	23	
	Spendor S3	600	Beautifully voiced, unboxy, lacks some dynamic and loudness capabilities. Best suited to small rooms	17,31,21		Α-	30			22	
	Spendor SR5	1,000	This wall-mount very cleverly avoids the usual colorations, delivering a very dynamic if rather dry sound	31,31,18	-210	A+	50			2	
	Tannoy Eyris 1	600	Pricey but very cute wallmount miniature; oddball, but has marvellous midband subtlety and delicacy	17, 35, 26	-	A+	00		8	2:	
	Tannoy Eyris 2	999	This super-slim and cutely different-looking floorstander is very communicative, despite weak treble	17,91,26	0	А	20	45		23	
	Tannoy Mercury mX3-M	229	Beautifully balanced and voiced, with low coloration and good transparency, but could be more dynamic	19,87,25	0	A+	45	6		2	
	ļ		· · · · · · · · · · · · · · · · · · ·		0)	A		0		2	
	Tannoy Sensys DC2	649	A great-value speaker combining a super-tweeter and Dual Concentric drive unit at a real-world price	21,97,29		-	35				
	Triangle Antal XS	875	Ugly duckling has a rather tasty sound, with plenty of vigour and excitement	22,108,30	0	A-	40	0		2	
307	ATO Astive 00	0.500		50,00,00			AF	-		2	
]	ATC Active 20	2,538	30k + 300W equals resolution and bass that most amp/speaker combinations dream about – a bargain	56,28,36		act	45	0		-	
2	ATC SCM10A	1,269	Stylish, active powerhouses with plenty of subtlety when required (balanced connection only)	23,39,31		Α	45	0		2	
	ATC SCM20 SL	2,051	Not too transparent, but has great dynamic grip and bass to die for. Needs a powerful amp	24,44,33		Α-	65		0	2	
	ATC SCM50A SL	7,255	350W of power combine with superb drive units and a 48kg cabinet to provide alarming resolution	35,72,48		Α	38	9		2	
	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	0		2	
	Audio Note AN-J/SPe	1,675	Retro styling, but a vigorous and dynamic performer that creates fine musical tension	33,59,25		Α	38	0		2	
	B&O Beolab 5	10,000	Radical, environmentally independent active speaker has exceptional bass, neutrality, and imaging	49, 97, 49	9	n/a	<20		0	2	
	B&W Nautilus 805	1,400	A small-sounding loudspeaker dynamically, but very stylish, clean and 'unboxy', delivering loads of detail	24,42,31		Α	28	0		1	
	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	0		1	
	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	0	A-	34	0		1	
	B&W Nautilus 800	11,000	Unequivocal challenge for world domination. One of the most revealing speakers around	45,120,65	0	A-	<20	0		2	
	B&W Signature 805	2,500	Staggering transparency and resolution for the money, one of the best standmounts money can buy	24,42,34		A-	42	0		2	
	BC Acoustique Araxe	1,300	Neat compact floorstander is a very lively communicator, if a little short on deep bass grunt	21,92,30	*	A-	40	0		2	
	Beauhorn B2.2 Revelation	3,984	Magnificent midband and fine overall balance but limited bass is best with small-scale material	34,130,75	6	A+	80		0	2	
	Castle Harlech S2	1,000	Improved Harlech is slightly aggressive, but lots of fun, and very good-looking too	20,96,33	0	Α	50	0		2	
	Castle Howard S3	1,350	A solid all-rounder with uniquely spacious imaging, bit pricey compared to some though	21, 99, 32	0	A+	38	0		2	
	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	Α	41		0	2	
	Dynaudio Audience 82	1,460	Bulky, with vinyl finish, but offers exceptional neutrality, bass extension, power handling and loudness potential	22,106,36	0	Α	30	0		2	
	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		2	
	Ferguson Hill FH001	6,853	Looks and sounds wonderful, with realistic dynamic expression, but needs careful amp matching and sub(s)	90,166,80	0	A+	180		0	2	
	Focal-JMlab 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	0		2	
	Harbeth Super HL5	1,699	Looks old-fashioned, but classic monitor combines authority and transparency with good neutrality	33,64,31		Α	30	0		2	
	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	0		2	
	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	0		2	
	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		60	2	
1	Living Voice Auditorium	1,700	New improved version even better than before. Beautifully natural and expressive – a real universal soldier	22,97,28	*	A+	35	0		2	
	Ziring Foloo Additoridiri	1,700		22,01,20	-107	(11	00	-			



Living Voice Avatar OBX-R2 4,000 Has Dynamics, tonal colour, detail, space and time resolution in spades. External crossovers require extra cabling 22,100,27 @ A+ 35

# BUYER'S BIBLE STEREO/AV SPEAKERS

OTENE		favourite Best Buy Beltor's CHOICE		SPECIFICATIONS							
5	IEKE	J	SPEAKERS continued	SIZEV	FL00	EASE	BASS	#	CLOS	ISSI	
Ster	eo speakers			SIZE W,H,D (CM)	FLOORSTANDER	EASE OF DRIVE	BASS FROM (HZ)	FREE SPACE	CLOSE TO WALL	ISSUE NUMBER	
ADGE?	PRODUCT	£	COMMENTS	CM.	DER	RIVE	(F)	ACE	1	贸	
88	Meridian M33	1,560	Compact active wallmount packs remarkable dynamic vigour into a very discreet package	15,38,22		act	45		0	2	
	Naim Allae	1,990	Chunky little floorstander has a 'cold' overall balance, but remarkable powers of musical analysis	24,94,28	0	Α	40	0		2	
EC	Naim NBL	6,925	Elegant, large floorstander is exceptionally informative, with an awesome dynamic range and dry, forward balance	29,116,47	0	A-	20	0		2	
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	2	
EC	Neat Ultimatum MFS	2,995	Wonderful five-driver standmount sounds bigger than it looks. Very spacious and informative, if a little bright	22, 38, 37		A+	25	0		2	
EC	Neat Ultimatum MF9	8,500	Superb musical communicator with splendidly deep and agile bass and fine open neutrality	22,150,40	0	A-	20	0		2	
	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	*		1	
88	PMC FB1	1,410	Has the lively coherence of a simple two-way, alongside impressive bass weight and extension	20,105,31	0	Α	20	0		2	
	PMC AML1	3,700	Sparkling active Pro monitor with serious attitude, 'in yer face' balance and great dynamics	20,40,32		Α	25	0		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	33,74,47		Α-	25	0		2	
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		2	
	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	Α+	40		0	2	
	Ruark CL20	1,650	This punchy rock'n'roller has plenty of drive and enthusiasm, but can sound aggressive	23,93,34	0	Α	38	0		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	0	Α	20	0		2	
	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	
	Spendor S8	1,700	Classic midband neutrality and transparency, the S8 has great subtlety and fine bass grunt too	23,92,32	0	Α+	40		0	2	
EC	Spendor S9	2,500	Meaty three-way with superb bass and explicit mid — one for detail fans	24,99.8,38	0	A+	37	0		2	
EC	TAG McLaren F1	17,995	Oddball aesthetics with accurate, unflappable, controlled and consistent sonic neutrality	40,127,48	0	A-	25	0		2	
С	Tannoy Dimension TD8	4,000	This stylish speaker is a splendid all-rounder, with fine dynamics, precise imaging and minimal coloration	30.5,85.5,30	0	A-	25	0		2	
EC	Tannoy Dimension TD10	5,000	Extremely competent and rhythmic speaker, a futureproof supertweeter and detail to die for	35,101,37	0	A-	38	0		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	0	A-	23	0		2	
	T+A Talis TLS3	1,799	Super-slim and beautifully engineered metal towers deliver marvellous musical results with superb imaging	15,130,17	0	Α	30	0		2	
	Triangle Zays 222	1,295	Wonderful freedom from time-smear gives invigorating and realistic dynamics, but colorations are also obvious	26,116,32	0	Α	22	0		2	
	Vandersteen 2Ce Sig	1,990	Very superior midband neutrality, impressive freedom from boxiness and splendid stereophony. A classic	41, 109, 26		A-	30		0	2	
	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	0		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	0	A-	20	0		2	
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 centre speaker has to sit above or below a

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**

High-resolution SACD and DVD-A music recordings tend to be mastered with

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.

#### SET-UP

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

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.

## **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.



B&W 600 S3 package £900 Incorporates 602s, 601s and an LCR 600 centre speaker. Great in both stereo and multichannel surround modes.

Rega Jura/Ara/Senta

Spendor S-Series

Tannoy mXAV4

88

938

1 650

500



**KEF** O AV7 £1.300 With the latest Uni-Q refinements, this system is astonishingly accomplished and amazing value.



Mission m5 package £1,450 A five-speakers-plus-sub package giving a strong performance with both music and film soundtracks. Excellent value.



Omni 2 £2,650 Dark tonality but superb imagery makes this an excellent all-round choice for music and movies alike.

Α 5

Α 5 30

Α 5 20

25

0

0 224

0 210

210

Our favourite BEST BUY 60 EDITOR'S CHOICE **AV SPEAKER PACKAGES** BASS FROM (HZ) CLOSE IUSSI EASE OF DRIVE FREE SPACE E TO WALL Multichannel speakers 27 R&W 300 A-6 ann An excellent compromise between the requirements of music and those of home cinema (inc. subwoofer) 0 241 B&W 600 S3 package 900 Unquestionably delivers the sonic goods. High-quality drivers in standmount enclosures (uses 602 S3s at the front) 5 22 60 224 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 B-5 Dynaudio Audience 42 1 142 53 60 241 AV package for hi-fi purists with real authority and imaging, but needs subwoofer for full-bore movie sound Focal-JMLab Cobalt 1,797 A little lean and bright, but with righteous dynamic expression and lively communication skills Α 5 22 0 224 5 Focal-JMlab Electra 3 017 Α 50 68 232 Bold, solid system, tremendous consistency and easy to expand with an added subwoofer KEF Q AV7 5 35 1 300 232 Δ+ 60 With latest Uni-Q refinements, this system is astonishingly accomplished and amazing value Mirage Omni 2 5 30 2.650 Dark tonality, but superb imagery makes this an excellent all-round choice Α 0 232 Mission m5 28 1.450 Main m52 is a clean, attractive full-range stereo speaker, while the m5as does big bass for movie fans В 6 0 241 Mordaunt-Short Declaration 500 1,600 Α 5 210 Good value vinyl THX Select package with Power Towers. Good authority, but must be 5.1-connected 25 68 PMC FR1/TR2 2.485 Classy, if bulky and pricey, package has good transparency, coherence and weight Α 5 20 0 210

Classy real wood package does a good all-round job, but sounds bright and might have more surround weight

Illtra-tinies lack some dynamic and loudness capabilities, but beautiful voicing and freedom from boxiness

Lacks some grunt, but smooth and refined with seamless surround coherence. Excellent value

SPECS KEY 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 BEST BUY 60 EDITOR'S CHOICE SUBWOOFERS SIZE W,H,D (CM **IUSSI** Bass speakers 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 Monitor Audio ASW100 300 For the price, this compact subwoofer performed well 32.32.34 120 27 REL Q150E 500 Great value compact 'cube' sub adds genuine weight and drive thanks to superior filtering 29.32.33 150 20 239 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 REL Storm III 900 Excellent sub with powerful, detailed and deep bass. Comprehensive facilities, including flexible filter adjustment 42,62,33 150 18 225 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 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 Titan Saturn 800 Very bulky sub has curious styling, but decent filtering gives good weight and headroom 72x48x72 200 20

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

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# **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.

	r favourite <b>EADP</b>			Е			PECIF	ICATI	ONS	3.5MM J	
Ster	eo headphones			ELECTROSTATIC	SUPRA-AURAL	CIRCUMAURAL	OPEN BACK	CLOSED BACK	WEIGHT (g)	3.5MM JACK ADAPTOR	ISSUE NUMBER
BADGE?	PRODUCT AKG K44	£ 20	COMMENTS Lively, enjoyable and remarkably detailed: a bargain			0			190	0	219
	AKG K100	36	Leather-clad groover with bags of power and clarity, for a respectable asking price		0		0		190		205
88	AKG K270 Studio	129	Pro oriented design which is very transparent and great with acoustic material			0		0	270		230
EC	AKG K1000	550	Neutral, analytical and completely out of the head sound, suitable for connection to speaker outputs only						270		244
	Audio Technica ATH-D40fs	105	Detailed and involving sound with a professional 'studio' quality appeal			0		0	250		194
BB	Beyerdynamic DT931	150	Nimble, well resolved and extremely comfortable, this is a cracking pair of cans						295	0	240
BB	Grado SR60	90	For sheer musical enjoyment these are hard to beat. Retro styling may not be to everyone's taste		0				200	•	194
BB	Grado SR80	110	Not perhaps as neutral as some but they communicate well and that's the point of the exercise		0				200	0	230
	Philips HP890	70	A remarkably sophisticated and very comfortable headphone			0			330		219
BB	Sennheiser HD590	160	Assured and confident headphone with very low coloration and great comfort			0	0		270	0	205
	Sony MDR-CD480	40	Generally neutral and nicely detailed – comfortable too			0			250	•	219
EC	Stax System li	400	Luxury option at its price, but the sound delivery is five-star quality all the way	- 69		0	9		295	0	205

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. PEN BACK Vented capsules let sound in and out. CLOSED BACK Sealed capsules. WEIGHT in grams. 3.5MM JACK ADAPTOR Allows connection to personal stereos, computers etc



Tel: 020 8348 5676 (2-7pm) Fax: 020 8341 9368 Email: ConnectionCable@aol.com

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Contact us by phone, fax, or email and we'll do our best to help you achieve your goal. (Auditions may be subject to a handling charge)

**CONNECTIONS** (A division of Connection 90' Travel Ltd.)

## 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

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.

	ADIF			SPECIFICATIO			UNS		
	ABLES reconnects and spea		cables	STRANDED	SOLID CORE	COPPER	SILVER	DIGITAL CABLE TYPE	ISSUE NUMBER
	PRODUCT	£	COMMENTS	0	常	Ä	3	Æ	Ħ
ANAL	OGUE INTERCONNECTS	00			33				0.4
	Chord Calypso	30	Informative, clear sound at a decent price	0	-	0			21
	DNM TBB75	75	Bass not always completely consistent, but sound has great clarity and insight		0	0			24
88	Ecosse The Composer	30	A high degree of realism and delicacy, and a fantastic price (0.8m)	0		0			21
	Ecosse Reference Diva	100	Very good performance in all areas, with particularly fine, tuneful, bass (0.8m)	0					22
88	Ixos Gamma Audition II	30	Detailed and neutral, with just a hint of pleasant mellowness	0	_	0			21
_	Kimber Silver Streak	242	Not the cheapest around, but more than justifies itself with terrific poise and balance of virtues	0		0			24
86	Monster Interlink 400 Mk2	70	Really lively and enjoyable sound	0		0			22
	QED Qunex 1	20	Well balanced and easily rivals more expensive cables	0		0			21
	Townshend Audio DCT100	99	Unusual construction with copper strip conductors, giving very detailed sound, but just an occasional hint of hardness		0	0			24
EC	Townshend Isolda DCT	300	Unusual construction and cryogenically treated too: whatever the reason, a remarkably capable wire		0	0			23
B8	van den Hul The Bay C5	45	Terrific detail, nice balance – a great cable	0		0			22
38	van den Hul The Well	49	Hybrid cable with carbon-fibre conductors added. Very slight bass coloration does little to detract from fine performance			0			24
88	van den Hul D102 Mk III	79	Hybrid conductors (carbon and copper) and intelligent construction give strong bass and excellent detail			•			23
IGIT/	AL INTERCONNECTS			F 150	93	187			
	Audioquest Digital One	35	A neutral and capable cable that adds little or no character to the sound			0		Е	20
38	QED Qunex P75	25	A superbly capable interconnect that's highly detailed and well balanced			0		Е	20
8	QED Qunex SR75	50	Lots of bass and good clear midrange and treble at a sensible price			0		Е	23
	Ross OP004	20	Sounds much like most other Toslink leads: slightly lacking detail, but good value					0	20
38	Supra Trico	40	Very well made digital/video cable which noticeably improves the sound of a cheap DAC			0		Е	24
38	van den Hul Optocoupler II	49	Noticeably has the edge over other optical leads, but still second best to electrical types					0	23
PEAN	ER CABLES PRICE PER METRE	8690					Alico)		259
	Black Rhodium S130	20	Bi-wire cable with great kick in the bass, though the treble can sound dry and recessed			0			22
	Black Rhodium S300	18	Tight, precise and extended bass makes this a great cable for rock 'n' roll			•			24
	Ecosse Reference MS2.3	23	Favours excitement over refinement: can be slightly bass-shy, but plenty of life			0		-	22
C	Electrofluidics 2020	45	Excellent bass extension and very fine performance elsewhere – one of the best all-round cables available			0		-	24
8	Ixos Gamma 6003	3	A little midrange dryness, but bass is among the best at this price; strong and consistent			0	$\overline{}$	+	20
rò]	Kimber 4PR	5	Considering the price, this cable's very slight dryness is forgivable when everything else is so right				$\dashv$	+	19
В	Kimber 8VS	18	Beautifully full, open and transparent sound right across the board. Price for 1m terminated pair	0		0	$\rightarrow$	$\dashv$	22
18	Kimber 8TC	39		8		8		-	20:
	Kimber 8PR	21	Very capable in all areas, particularly good at imaging and with firm bass. Price for 5m terminated pair	0		0	-	-	
			Bass very full, just occasionally a touch flabby, but detailed and sweet upper frequencies make this a good value cable	-				-	24
18	QED Silver Anniversary	5	A few minor flaws, but overall performance is very assured for this price	•		0	-		19
	QED XT300	10	A natural and well controlled sounding cable that's cost effective for mid-priced systems		0	0	_		23
	QED Profile Silver 12	15	Very slightly laid back, but good tone and detail – wears its achievements lightly	0		0	_	_	21
	Supra Ply 3.4/S	8	Good in all areas, with rich bass and just a touch of treble roughness	0					203

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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Nobody else in these areas carries all the following major hifi brands:

Apollo, Arcam(Diva/FM), Ash Design, Atacama, Atlas (spkr cables & interconnects) B&W, Chord Company, Creek, Cyrus, Denon, Epos, Exposure, Genelec, Anthony Gallo Acoustics, Harman Kardon, Infinity, Iso Tek, KEF (including Reference), Linn Products(including Knekt), MJ Acoustics, Meridian, Michell, Mirage, Mission, Musical Fidelity, NAD, Naim, Ortofon, Pioneer, PMC, Primare, Proac, Project, Pure, QED(including Systemline), Quad, Quadraspire, REL, Rotel, Sennheiser, Soundstyle, Spendor, Stands Unique, Tag McLaren, Wharfedale, Yamaha.

Nobody else in these areas carries all the following major Home Cinema products:

DVD players: Arcam & FMJ, Cyrus, Denon, Harman Kardon, Meridian, Rotel, Tag McLaren, Yamaha,

Processors: Arcam FMJ AV8, Cyrus, Lexicon, Linn, Meridian, Rotel, Tag McLaren.

Amplifiers: Arcam/FMJ, Bryston, Cyrus, Denon, Harman Kardon, Lexicon, Naim, Rotel, Tag McLaren,

Yamaha.

Display devices: Plasma screens from Loewe, Panasonic, Pioneer and Yamaha. Televisions/LCD: Loewe. Projectors: Barco(CRT/DLP), Sim (DLP), Yamaha(DLP/LCD) Screens: Stewart/Draper/Vutec, Video Processing: Faroudja, I-Scan, Key Digital, Lumagen, Tag. Control systems: Crestron, Lutron lighting. Specialist set up services: ISF Display Callibration.

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# BUYER'S BIBLE STANDS AND SUPPORTS

# **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.

Our favourite BEST BUY E EDITOR'S CHOICE

				EVEN S	SPECIFICATIONS					
E	QUIPN		ENT SUPPORTS		TOP PLATE		NUMBER OF	S	ISSUE	
Equi	quipment supports				SIZE	WELDED	SHELVES	SHELF TYPE	NUMBER	
BADGE?	PRODUCT	3	COMMENTS	HEIGHT	(CM)	Ð	ES	æ	Ħ	
	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	0	4	Glass	217	
BB	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	
BB	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 Aspect 650	270	Smart looks and practical thanks to adjustable shelves. Sound is fair with some loss of detail	66	46	0	4	Glass	206	
EC	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	
	Russ Andrews Torlyte Rack	988	Attractive modular system made of very light Torlyte: a touch of added warmth is its only vice	68	54, 49		4	Torlyte	240	
BB	Sound Organisation Z560	195	Excellent value rack, five shelves too! Well balanced and under 200 quid!	92	50,40		5	Glass	217	
88	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	
EC	Townshend Seismic Stand II	1,140	multi-shelf air-suspension support which isolates like few others. Recommended	92	58, 45		5	MDF	240	

Ou	r favourite	BB E	BEST BUY 160 EDITOR'S CHOICE						
				SPECIFICATIONS					
5	PEAKI		R STANDS		TOP PLATE			NUMBER	ISSI
Spe	aker stands			HEIGHT	SIZE (CM)	FILLABLE	WELDED	R OF LEGS	ISSUE NUMBER
BADGE?			£ COMMENTS				0		
	Atacama Nexus 6	60	An excellent all-round performer and a genuine hi-fi bargain	60,50	14.5,18	0		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	9		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	0		1	220
BB	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	0		4	232
88	Partington Dreadnought	100	Fully welded high-class engineering gives a very clean, open sound at a sharp price	61	17,15	0		5	220
EC	Partington Dreadnought Ult	99	Super heavyweight stand that is an open window to the speaker placed on it	63	21,24	0		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.

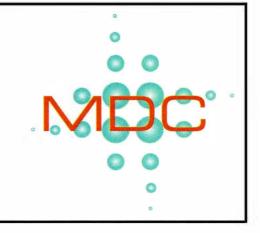
WELDED As opposed to bolt-logether construction. NUMBER OF SHELVES To put your kit on (different configurations are often available). SHELF TYPE Material that shelves are made of.

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.

The Finest Music Playback and Home Theatre Solutions

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# **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, DPI Forerunner to DD that 'steers' information to the 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.

FLECTRICAL DIGITAL Any digital connection that uses an electrical cable rather than optical. Includes the balanced ('AES/EBU') interface.

FILTERS Filters are intrinsic 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.

IMPEDANCE With speakers, the 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

MP3 (MPEG laver 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

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

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 (dR/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.

TWO/THREE-WAY Loudspeaker crossovers split the signal into two or three frequency bands, a two-way speaker can have more than two

TWEETER Treble driver.

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 amplifier 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

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 stereo channels.

**BODY** Fullness of sound, with particular emphasis on upper bass. Opposite of thin.

**BOXY** The sound of a loudspeaker with audible cabinet resonances. BRIGHT A sound that emphasises the upper midrange/lower treble

DARK A tonal balance that tilts 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 fine grained 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

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

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.

NATURAL NESS Realism **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

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

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.

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#### Welcome to the Hi-Fi Choice accessories shop

Choice Bits is the easy way to buy the best audio accessories available today. Simply pick up the phone, order online, drop us an email or fill out the order form opposite and pop it in the post. Ordering couldn't be simpler!

This issue we've rounded up a selection of some of the best analogue accessories for vinyl playback. Ensuring your turntable is correctly set up is essential for ultimate performance. Doug Sax, co-founder of Sheffield Lab and a pioneer of directto-disc recording once said, "probably the easiest thing in the world is to play an LP record incorrectly." In fact a poorly set-up or dirty front end costing thousands of pounds will sound far worse than a well-maintained budget system! Our selection offers the promise of improving the sound of your LPs without spending huge sums.

#### SHOWCASE

#### Last Stylast

High quality cartridge treatment

#### **Key Features**

- Extends stylus life by up to 10 times Reduces distortion
- and improves performance Increases stylus
- tracking ability Reduces record
- Easy to use



#### Last Stylast stylus treatment

A good quality cartridge is essential for enjoying analogue records. However, it is subject to more mechanical stress than any other part of your audio system.

A stylus with an elliptical profile tracking at 1.5 grams will have an equivalent weight of 340lbs per square inch on the record surface. As it tracks the record surface the contact area also heats up to 150 degrees centigrade. These factors can rapidly accelerate the wear and tear on not only cartridge but also records. Stylast extends stylus life by up to ten times, reducing distortion and improving sound delivery. It also improves tracking ability and reduces record wear. Easy to use and essential for all makes of cartridge.

Only £29.95

#### Clearaudio Clever record clamp



The 'Clever Clamp' is a 65mm diameter plastic disc that slides over and grips the spindle, locking and clamping records into place. Its upturned edges allow for easy removal after use.

Only £12.95

#### **Rothwell In-Line Attenuators** And Balanced In-Line Attenuators



Rothwell In-Line Attenuators plug into any input sockets and reduce signal levels by 10dB. They can be used with integrated amps or pre/power amps, and are compatible with equipment over the entire price spectrum, from budget to extreme high end.

By reducing system gain by 10dB, the signal to noise ratio is improved by 10dB. This pushes the noise floor down enough to create an inky black silent background from which the music can emerge with better resolved fine detail and transparency. This applies to even very high-end and very expensive pre/power amps. Rothwell balanced attenuators are also available.

Pair £39.95 (Balanced Pair £69.95)

#### **Milty Zerostat**



Unwanted static electricity can rob your playback systems of resolution and detail. Most analogue buffs are familiar with the Zerostat. If you are not, then you are missing out on the easiest and most cost-effective way of removing static from your LPs and CDs.

Only £37.50

#### Clearaudio high quality bubble level



Ensuring your record deck is level is essential for high quality analogue playback.

Owners of Clearaudio turntables will recognise this high quality bubble level, as it is supplied as standard with the brand's decks. If you don't own a Master Reference, fear not, Clearaudio have now made this bubble level available to the rest of us! Available in a steel finish.

Only £21.95

#### Ringmat's 'How To Set Up And Fine Tune A Turntable'



This booklet draws on the author's 20 years of experience in sound reproduction and covers all areas of turntable set-up, from the correct tools for the job to fine tuning of azimuth and bias settings. It really is an essential guide for analogue music lovers.

Only £7.95

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Goldring Strobe Disc	£1.85		£14.95	Ringmat Feet MkII	£74.95
Graham Bearing Cap	£259.95 L		£11.95 📙	Spikes M6/M8 (4x M6/M8)	£7.95
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ARCAM DV88P (black) excellent condition, boxed £550. Denon AVC-A10SE 9 (black) 7 channel surround amp, exc cond, boxed £450. Steve 07753 452311 or 01253 826931 (Blackpool).

**ARCAM FMJ CD23T** CD player. Silver, 1 year old, little used, boxed with manual and remote, as new. £875 ono. Dave 01924 840503 (West Yorks).

**ARMSTRONG 127M** tuner amp. Collectors item? Offers. Pair 3m 4TC Kimber speaker cables, not terminated. (£146) £60. George 020 8352 1066 (N London).

**ATACAMA EQUINOX** hi-fi rack (silver). Double base unit plus 3 additional shelves. 1 year old, immaculate £175. (01702) 205754 (Southend).

**ATC SIA-150** £1,750, Valhalla 1m RCA £1,500 (both £3,000). QED Sqart 5m RGB £50, Primare T20 Fm tuner £350. 020 8771 1818 (S London).

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SE latest model, £500 ono, REL original Q bass, mint condition £75. 01732 461561 (Kent).

**AUDIOLAB 8000** CDm transport, new laser £500, Rotel RQ970BX phono preamp £50, all boxed as new. 0117 9830456 (Bristol).

**AUDIONOTE DAC3**, valve DAC, fantastic detail, warm sound, mint condition, rarely used (£1,750) £350 ono. 07879 650913 eves (\$ London).

#### **BALANCED INTERCONNECTS**,

one 1.6m pair Pandora space and time (£275) £75. One 1m pair standard type £25, both for £90. Andy 01482 563833 (Hull).

**B&O BEOMASTER 1000** Stereo Receiver c1960s. Good working

Receiver c1960s. Good working order. Offers. Richard on 07711 258056 (Cheshire).

#### **CASTLE RICHMOND 11**

speakers, solid teak, 25 watts, reconditioned by manufacturer, as new £225. Sony cassette deck, TC186SD, includes manual £100. Goodmans Module 90 tuner amplifier, teak £80. 0151 342 5872 (Merseyside).

**CYRUS CLS50** standmount loudspeakers in cherry veneer, mint condition, complete with boxes. (£550) £200. 01732 886860 after 8pm (Surrey).

#### **DYNAUDIO CONTOUR 1.3 II,**

cherry, 2 years old, perfect cond, £800. Jason 07831 271714 or 01883 345 305 eves (Surrey).

#### **HEART AUDIO BEAT**

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**ISOTEK SUBSTATION** 4 months old, 150VA & 300VA circuits, single socket for each. (£730) £550. Daryl 01452 308302 (Gloucester).

**KRELL KAV3001** integrated amp, 150wpc, remote, manual, boxed. As new, £2,550, sell £1,300. 07976 833168 (Bath).

**KRELL KAV-300I** integrated amp. Mint, boxed with remote control and instructions. £1,400. 0191 281 2170 or 07909 544395 or emailsteven@ mendelsohn100.freeserye.co.uk.

**LINN KABERS £500**, Denon TU2601 £40, Nakamichi DR3 £90. All as new and boxed. 01883 715954 (Surrey).

LINN KAIRN preamp, two LK100s power amps, Roksan Attessa CD player and a Nakamichi DR1 tape deck £1,200. Laurence 01702 559911 (Southend).



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**LINN PRETEK** preamp £190, Rotel RB981 poweramp x2 £180 each, all immaculate with boxes and manuals. Bob 07976 734359 (Bath).

MARANTZ SR73 Dolby Pro-Logic receiver, 2x70W front and 3x40W surround, very good condition, with learning remote. £75. Yamaha KX500 cassette deck, Dolby B/C/HX Pro, vgc, programmable with full remote, £50. 01235 528217 (Oxfordshire).

**MERIDIAN 206** CD player, good condition with optional digital output and remote. £250 ono. Simon Andrew 01536 514105 or 07803 508859 (Kettering).

**MORDAUNT SHORT** m5905c centre speaker, boxed, mint, cherry finish, £80. KEF Q80c centre speaker, silver finish £20, buyer pays postage. Mick 07932 330269 (Lancs).

**MUSICAL FIDELITY A3.2** CD player. Call for details 01992 572098 (Essex).

NAIM INTROS as new £300, Naim NAC92R preamp, Naim NAP90 poweramp as new £525. Jim 07818 023554 (Milton Keynes).

**NAKAMICHI BX2** cassette deck. Fully serviced. Includes Chord Chrysalis interconnect (for Naim) £200. Ian 020 8642 7961 (Sutton).

**NEAT ACOUSTICS** Centrum dedicated centre speaker for Neat Owners. Black Grittex finish. (£425) £275 ono. 0208 689 8750 (Croydon).

#### **PIONEER A300R**

PRECISION amp with full aftermarket upgrade by Tom Evans. Original box and manual £500. 01903 505609 or email pcsg@lineone.net (Sussex).

**PURE DRX-701ES** digital radio, silver, brand new, boxed with warranty. Unwanted gift (£250) £210 ono. Jon 07734 775445 (Cheshire).

**QUAD 77** poweramplifier, ideal for bi-amping with another 77, £295. Vdh CS-122 speaker cable 2x7 m with airlock plugs, £95. 023 8073 8935 (Southampton).

#### **QUAD QC-TWENTY FOUR**

preamplifier and 2 X (pair) II Forty mono amplifiers, new and unused with boxes (£4,000) accept £2,995 ono. 01274 731817 or 07743 019781 (Bradford).

**ROKSAN KANDY** (20-bit) CD Player, silver fascia, boxed with instructions, must be sold £250 ono. 01483 823193 (Surrey).

ROTEL RC870BX pre amp £70, Technics SL230 T/T £40, Harmon Kardon PM650 amp £60. 01708 457691 (Essex).

**RUARK SOLSTICE** as new, £3,000 Marianne. 07753 746382 (Oxford).

#### **RUARK TALISMAN 2**

floorstanding loudspeakers, good cond, rosewood finish, £250. Sharp LCD projector XV3300S, 1M pixels, zoom and shift, range of inputs, exc cond but has one prominent dead pixel, (boxed), £350 ono. 01722 710692 (Wilts).



**RUSS ANDREWS** 2m yellow 4-way power block, as new, boxed £35 01278 782622 (Somerset).

**SONY 9000ES** processor, DD/DTS champagne, battleship build quality. Too many functions to list. Excellent sound quality. Mint condition £650ono. Steve 07880 837425 (Manchester).

**SONY APM 22 ES** speakers, two pairs £50 per pair. 07764 834693 (Midlands).

player (£2,300), £1,200 and matching TAFA777ES amplifier (£1,800) £900. Both in champagne gold, boxed and in excellent condition. Sell together for £2.000. Tel. 0151 425 4142 (Liverpool).

**SUGDEN PRE/ POWER AMP**, signature 41 remote line preamp with 100 watt AU41 power

£500. 01733 810516 (Peterborough).

**TANNOY EATON** speakers, 50 watts teak finish. Dimensions 20x13x9" with stands, offers. 01843 862312 (Kent).

TANNOY R3 speakers 6 months old (£550) £250 (plinths also available) NAD C320 integrated amp (£200) £80. Sony twin deck audio tape recorder, flagship model has everything (£250) £45. All mint cond with manuals. Peter 01685 878196 (\$ Wales).

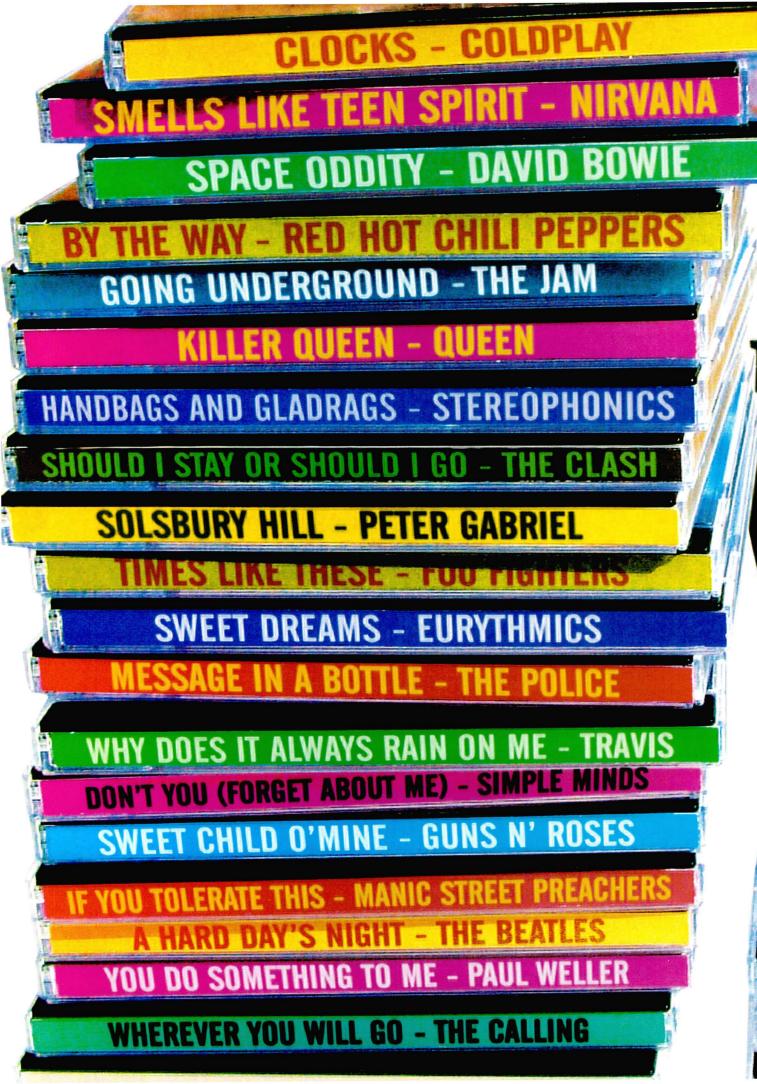
TRICHORD PULSAR Series One DAC with Oscon/HDCD/Opamp upgrades, AES/EBU and coaxial inputs and additional PSU. Mint (£2,200) £1,000 ono. Moving abroad 0118 9312307 or 07740 866218 email srocha37@hotmail.com (Berks).

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Buying second-hand can be a great way to pick up a bargain. A formerly expensive second-hand component might well prove a betterlong-term bet than a brand-new product if the price is right.

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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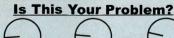
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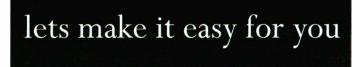
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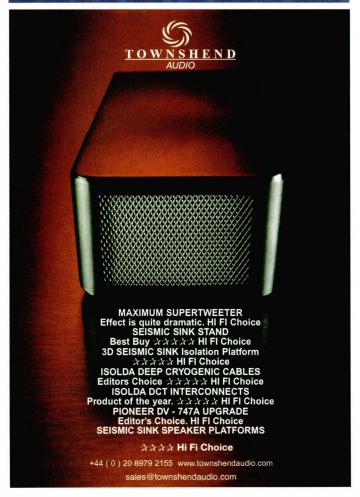
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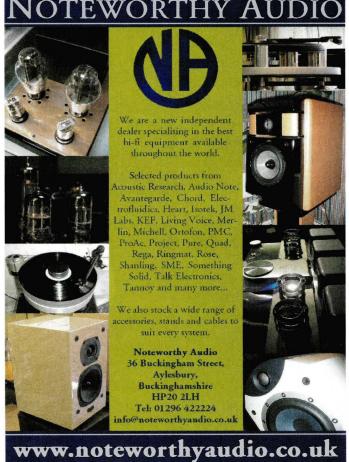
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#### ULTIMATE GROUP TEST: CD PLAYERS

What's the best way to spend a grand on a CD player? Well next month we'll show you. New models from Arcam, Thule, Rotel, Talk and Creek among others do more spinning than Alistair Campbell as they attempt to 'sex-up' the humble silver disc. This is the definitive review of the very latest CD players in the shops, the only review that combines blind listening panels by industry experts with unique Hi-Fi Choice Lab Reports. Don't miss it.

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# EXTREME



# **Stand and deliver**

David Vivian on the audiophile's heavy duty garden friends

had a scary dream the other night. I was walking through a Roger Dean album cover – Yes or Asia, couldn't be sure – but instead of floating islands and giant dragonflies there were massive granite hi-fi component isolation platforms supported from an indeterminate point above the misty lemonhued cloudbase by Peruvian rain forest vines with baby Tarantulas scurrying up and down them. The heavy slabs oscillated at a gentle half a hertz as they moved silently across the oddly coloured dreamscape.

When I woke up, perspiring and twitching, I knew it had been a sign. It was time to fire up my Mac's search engine, rumble onto the information superhighway and, once more, aim straight at the heart of the peculiarly distorted horizon beyond which lies the strangest place in hi-fidom: Tweakland.

Now let's get this straight. Thinking of ways to extract the 'nth' degree of performance from your music system is good fun and frequently useful. For one thing, it helps develop your powers of lateral thinking. For another, it sustains a wonderfully diverse audio accessory business. Honestly, where would manufacturers of metal spikes be without hi-fi performance enthusiasts? And what would the Blu-tack people rather be remembered for – sticking take-away menus on kitchen walls or improving the human condition via the enhanced appreciation of music reproduced on hi-fi?

Tweaking is nerdy but nothing to be ashamed of. The trick is knowing where to draw the line, recognising the moment you start to visualise everything you see as a hi-fi tweak – rather like Homer Simpson fantasising everyday objects into doughnuts and beer – and getting someone to slap you vigorously until you snap out of it. Fortunately for this column, the internet is a playground for people who laugh in absurdity's face.

They fall into categories, naturally. There are those who like to fiddle with circuits and

"I rested a 30lb grey paving stone on 14 new yellow tennis balls to create my own vibration isolation platform."

capacitors; there are cable guys, speaker surgeons and CD crayon artists. And there are the devotees of Peter Belt who do their listening on the cusp of a collapsing quantum probability wave. But possibly outnumbering all of these are new heavy-dutyists for whom size and mass mean everything and garden centres are the new hi-fi shops.

This is the advice given by one US website on the question of supporting your speakers: "The stands, easy to find at any store that sells garden furniture, are pillars made of a mix of marble powder and concrete. They're available in many different shapes, designs and sizes so that they can suit every audiophile's need. If you don't like the traditional Hellenic style, you can always search for something simpler and cleaner, less baroque.

"Why are these stands the solution? First of all they're very heavy (30 kgs/70lbs each for an 80cm height) and absolutely non-resonant. Plus these stands are stiff as they can be: flex is reduced to nothing. Once installed it will be difficult to move them!"

Indeed. And, from another corner of Tweakland US, it's back to the garden centre for that state-of-the-art insulation platform you've always lusted after: "I rested a thirty-pound grey paving stone on 14 new yellow tennis balls to create my own vibration isolation platform and I did indeed notice a pleasurable change. I set the slab, 18" by 18" Yorkstone tile, (\$3.50 at Home Depot ) on top of the tennis balls (\$10 at Wal-Mart). The home-made vibration isolation platform does indeed affect every aspect of your sonic life."

And so it goes on. What next – speaker cables draped across the extremities of miniatures of Michelangelo's David to get them off the floor? Subwoofers made from old wishing wells? Plaster gnome record clamps? Not looking forward to bed tonight. HFC

