

# hi-fi WORLD

**LOUDSPEAKER SPECIAL**  
THE GERMAN QUAD ESL57  
DOMINIC BAKER ON DESIGN  
STANDMOUNTER SUPERTEST  
BUDGET vs. HIGH END CABLES  
FULL RANGE SPEAKER SYSTEM

**MARCH 2005**

**UK £3.40**

## CARBON RATING

WILSON BENESCH'S CURVE

**SHANLING SP-80C MONOBLOCKS**  
**SUPER POWER**

**MARCH 2005**



WIN  
REL  
TRATA III  
SUBWOOFER  
and TOWNSHEND  
MAXIMUM  
SUPER TWEETERS!

**COMPETITION**



**MUSICAL FIDELITY A5CD \* NAIM NAC112x-NAP150X**  
**CLASSIFIEDS \* 12-PAGE BUYING GUIDE**

World Radio History

# Winners Breed Winners



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Attention to detail wins hands down. Purpose-built by hand, the new Classics from Exposure have been garnering rave reviews from hi-fi magazines far and wide; with our new Pre- and Power Amplifiers receiving the coveted Product of the Year 2003-2004 accolade by Hi-Fi Choice magazine. Adding yet again to the growing list of award-winning equipment already in Exposure's stable. And reaffirming our reputation as engineers of some of the world's finest hi-fi.

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# welcome

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From CD and DAT to fancy interconnects and crackpot tweaks, the 1980s changed so much of the hi-fi landscape. More important however, was the way it shifted the gaze of audiophiles from loudspeakers to source components.

Quite right too. As that old computer adage has it ('garbage in, garbage out'), what's the point of having the best amplifier in the world if it's got a stinker of a turntable or CD spinner driving it? Trouble was that amidst all the hyperbole, we took our eyes off the ball, relegating speakers from the 'be all and end all' of system sonics – to mere pieces of furniture.

In this month's *Hi-Fi World* we get serious about speakers once again. We round up budget standmounters from Acoustic Energy, Mission, Mordaunt Short, KEF, Quad and Wharfedale, try out Dali's Royal Tower floorstander, recommend the ultimate 'full range' loudspeaker system (from Quad, REL and Townshend), witness the magic of Mordaunt Short's Genie and drool over the statuesque carbon-fibre clad Wilson Benesch Curves.

Dominic Baker, MD of Focal UK, explains what designing loudspeakers entails, and Noel Keywood extols the joys of Quad's original electrostatics.

And no matter how good your particular boxes are, you'll need some serious affordable audiophile amplification to drive them, so we hear Naim's super new NAC112x/NAP150x transistor combo, and Shanling's SP-80C tubular belles. Factor in great new digital sources from Musical Fidelity's A5 CD and Benchmark's DAC1 plus much, *much* more - and there's much to speak of inside!

**David Price, editor**



## testing

*Hi-Fi World* has its own advanced test laboratory and acoustically treated listening room, and a dedicated team of experienced listeners. We review thoroughly by extensive auditioning, rather than by quick-fire group listening tests. Our engineering team designs a wide range of products in-house. No other hi-fi magazine is so expert and dedicated.

## verdicts



**OUTSTANDING**  
**EXCELLENT**  
**GOOD**  
**MEDIOCRE**  
**POOR**  
**VALUE**

simply the best  
extremely capable  
worth auditioning  
unremarkable  
seriously flawed  
keenly priced

## hi-fi world

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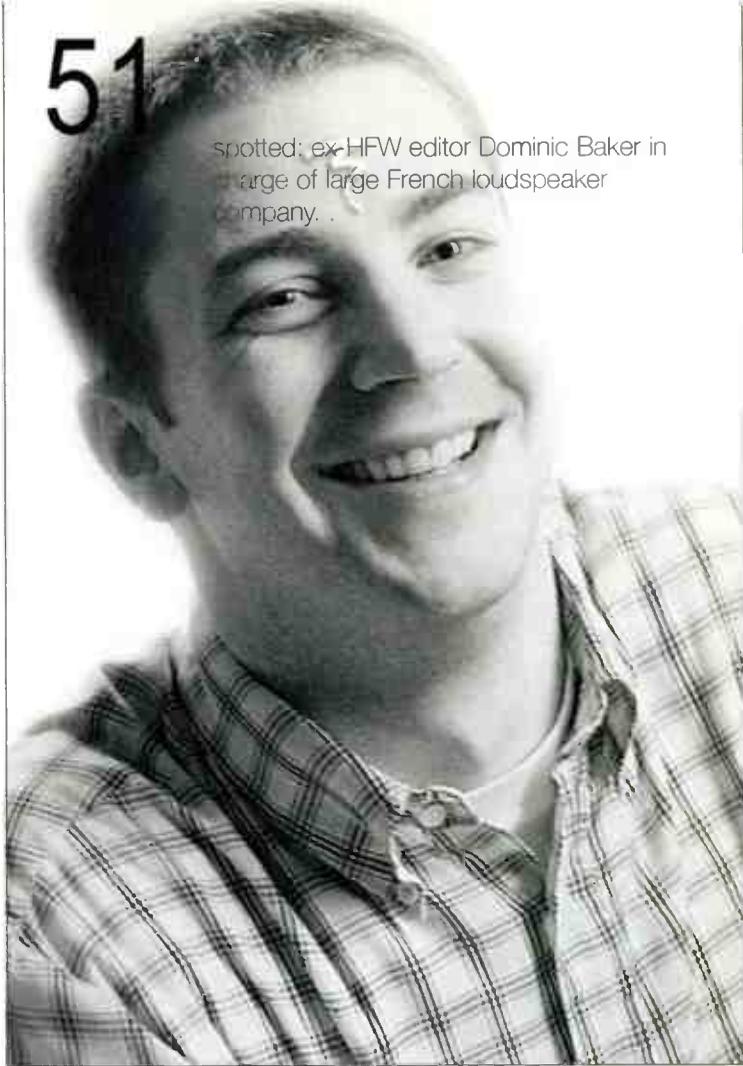


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# Chord Signature

- Heavy gauge high purity multi-strand copper conductors
- Low density foam polyethylene dielectric
- Unique dual layer high frequency shielding structure
- Non-compression aluminium clamping system
- Factory terminated

No matter what your system, the innovative design of Chord cable will transform the sound and really bring your music or soundtracks to life. If you are passionate about music, listen to the Chord range of interconnects and speaker cable and find out just how much you have been missing.

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**CHORD**<sup>™</sup>  
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MOVING SOUND & VISION<sup>™</sup>

# news

news@hi-fiworld.co.uk

## TWENTY ONE, TODAY

Sugden has a new A21 integrated amplifier out. The latest A21SE is evolved from the much-lauded A21a, combining increased power with improved user facilities with a completely new line stage and remote volume control. The line stage is dual mono with separate current shunt power supplies. It boasts 30W of pure Class A into 8 ohms, and dramatic new styling. For more information call Audio Synergy on 01924 406016 or click on [www.audiosynergy.co.uk](http://www.audiosynergy.co.uk).



## PHON HOME

Phonosophie, the well-established German audio specialists, has a new range of high end separates available in the UK. Headed by Ingo Hansen, the company's new range includes four CD players ranging from the Impuls 1 (£2,675) to the two-box Impuls 3 (£12,725), and amplifiers from the 2x70 watt entry-level Classic 1 integrated (£1,875) to pre-power active systems utilising the 250 watt Mono Spike power-amps (£8,500 each). Phonosophie products are hand-built in Hamburg, and the range includes turntables, speakers, power supplies, cables, racks and accessories. More details can be seen at [www.phonosophie.co.uk](http://www.phonosophie.co.uk) or you can call 01730 261924.



## DAB HANDS

Arcam, the first specialist hi-fi company to make a bespoke DAB tuner, has a new model out. The DiVA DT91 (£449.90) is claimed to be "the highest quality DAB/ FM Tuner available", boasting "class-leading audio performance, state of the art connectivity and control features, an FM tuner implemented in the digital domain and full implementation of DAB features". It makes its debut at the Bristol Sound & Vision 2005 show (Friday 25th to Sunday 27th February). For more information, click on [www.arcam.co.uk](http://www.arcam.co.uk) and/ or [www.bristolshow.co.uk](http://www.bristolshow.co.uk)



## SHOW AND TELL

High End Praha 2005 is the only hi-fi show in the Czech Republic that allows audiophiles and videophiles alike to experience the best kit around. It will be held on 26th and 27th of February 2005 between 10am and 6pm. Entrance fee is 100,-CZK [£2 GBP] and the much of the proceeds will be donated to the Czech UNICEF. The show is sponsored by Czech magazine STEREO&Video, AudioQuest and Castle Acoustics. For more information, email [pz@reference-cinemas.cz](mailto:pz@reference-cinemas.cz).

## BIG THING

The new IsoTek Titan mains power filter dispenses with isolation transformers in favour of a direct-coupled design with a nine-stage series and parallel filter configuration. A radical new circuit is optimised for a high degree of common mode noise rejection with the highest possible differential mode rejection compatible with massively low insertion losses. Great care has been taken to minimise insertion loss at mains frequency. The new circuit also offers the desirable characteristics of a true balanced supply, especially at high frequencies where it possesses superior performance to its isolation transformer based predecessor. To further ensure the greatest possible transient capability, enough to realise an unlimited peak current draw (23,000 watts potential), two things out of the ordinary have been achieved. Firstly, the minimum constant running ability of the device is rated at over 4600 watts. Secondly, the unit is fitted with an RCBO, a high tech electronic protection that allows huge transients whilst remaining safe. The IsoTek Titan is specifically designed for large power amplifiers, to provide hitherto unknown levels of conditioning without dynamic restriction. It has two high quality I3A outlets and a Neutrik connector for the Multi-Link accessory for connection of a further six components. Only trouble is, it's a big mother: 275x183x275mm and 12.75kg to be exact... Contact Activ Distribution on 01635 291357 or click on [www.isoteksystems.com](http://www.isoteksystems.com).



## BBC RADIO ACTIVE

Sales of DAB digital radio sets are set to soar past one million units by January, buoyed by Christmas trade, the BBC predicts. The announcement comes as the BBC's vision for the future of DAB digital radio - as submitted to the Secretary of State for Culture, Media and Sport - is published as part of the Government's review of digital radio. It was predicted earlier this year that sales of DAB sets could reach a million by 2005 but figures up to October, showing more than 800,000 units sold (DRDB / Gfk) before Christmas trade had begun, suggest the end-of-year total will exceed that figure. Simon Nelson, Controller of BBC Radio & Music Interactive said: "The BBC is fully committed to DAB and, thanks to the collaborative efforts of the BBC, commercial radio, manufacturers and retailers, digital radio looks like being one of the success stories of the year".

It also states that, although there are encouraging signs from the digital radio market, the industry and the country are not yet ready for the switchover to digital radio. The report recommends the Government review the progress of DAB digital radio in three years with a view to setting the date for switchover. It asks that a joint industry plan for the digital migration of the entire U.K. radio sector should be agreed before this review. The plan should ensure that, before switchover, analogue provision is matched and no participant in the radio sector is left behind. In the report the BBC reveals that it has devised an outline plan for allocating and managing spectrum that will deliver enhancements to all tiers of digital radio provision. The submission calls for the release of five blocks of Band III spectrum for DAB digital radio, for use by the entire radio industry enabling the migration of BBC and commercial services that are currently not available on DAB.

The details will be shared with Ofcom and the Government as part of the BBC's request that a joint industry approach be taken regarding spectrum. The BBC also recommends that the Government explore ways to support the U.K. DAB digital radio manufacturing industry. The full report is available at [www.bbc.co.uk/info/policies/dab\\_review.shtml](http://www.bbc.co.uk/info/policies/dab_review.shtml).



## KRYSTALINE

Founded in October of 2003, Krystal Kables has been producing a range of mains cables that claim to "break the mould of traditional aftermarket cable designs" with new fully screened types, rather than the outer shielded or plaited weave styles commonly found. Unlike most aftermarket cable makers, it argues that RFI rejection isn't the true cause of hiss, muddling and distortion in a hi-fi system, but the design and construction of 2 or 3 core flex cable itself that's

constantly 'polluting' the power running through it that is the real issue which needs to be addressed. Any electrical appliance that utilises flex cable suffers from this distortion, Krystal says. At the budget end of the range is the SATURN cord (£18.50 for 1m), extending all the way up to the solid silver cored MERCURY power lead (£585/m). The company also makes 4, 6 and 8 way trailing sockets with the option of any one of its leads as the entry cord, plus a full range of interconnects, speaker cables and accessories suited to the budget conscious audiophile. All cables are built by hand, PAT tested for electrical safety and finally connected up to a real hi-fi system before despatch. The full range can be found at [www.krystal-kables.com](http://www.krystal-kables.com).

## MANA FROM HEAVEN?

Mana has a new range of non-magnetic stainless steel racks on sale. Since moving the company from Iver in Buckinghamshire to larger factory premises in Anglesey North Wales over three years ago, the company developed its range of supports and brought the fabrication in house, as well as changing its company logo from the Gothic typeface so familiar to a generation of eighties hi-fi buyers. The non-magnetic stainless steel range came about from experiments with different types of steel - the company found non-magnetic stainless steel spikes 'made a worthwhile improvement over high tensile steel spikes' (and now offers them as an upgrade). Both Mana's standard range and the new stainless range are available in either black or silver, although the stainless is also available in a polished finish as well. For more information, click on [www.mana.co.uk](http://www.mana.co.uk).



## CORRECTION:

Apologies to Amity Electronics. *Hi-Fi World's* ghost in the machine changed the printed prices from Euros to UK Pounds in our January 2005 issue. The correct prices for the HPA1C and HPA4S headphone amps are 288 Euros and 316 Euros respectively. As such, they both represent superb value for money and are even more heartily recommended than before!



## NAD ABOUT MOVIES

NAD's brand new L53 DVD/CD receiver is swankily styled home theatre in a box, offering 50W per channel, DVD-V, VCD, SVCD, CD, CD-R, CD-RW, MP3 CD, WMA and JPEG compatibility, Progressive Scan with Component Video output, dual standard PAL/NTSC input, FM/AM tuner and welter of other facilities for just £399.95. For more details, click on [www.nadelectronics.com](http://www.nadelectronics.com).

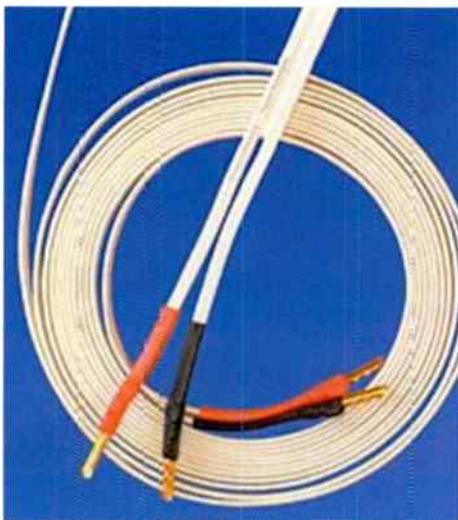
## TOYS FOR THE BOYS

Denon's new (£379.99) DN-S1000 CD/MP3 player is designed to offer many of the same high-end features and benefits of the DN-S3000 in a far smaller, portable package. Measuring 226x92x215 mm and weighing just 3kg, the DN-S1000 includes advanced MP3 Playback functionality (Seamless Looping, Scratching, Hot Starts and Effects), built-in effects (Filter, Flanger and Filter plus the world's first Echo Loop), platter effects, 3-way BPM counter and two Hot Starts. The DN-S1000 also features another world first, Next Track Reserve with Cross Fader - with the ability to store hundreds of MP3 files on one CD, Next track Reserve allows DJs to cross fade to another song within the same disc for a smooth non-stop mix. "Wicked!", etc...



## FLOOR SPACE

TCI's Diamondback is a high quality flat loudspeaker cable, retailing for £7.99/m, that's suitable for use under carpets. The company says the neutral balance and unobtrusive appearance of Diamondback means it easily fits into a vast range of systems and homes. It claims an open and dynamic sound with controlled and extended bass response. For details, call 07710 196 949 or click on [www.true-colours.com](http://www.true-colours.com).



## DVD: DID YOU KNOW?

- If you placed the total number of DVD players (sold to date) side by side, they would stretch 2.5 times around the world?
- The total number of DVD players in use in 2003 was 164 million units, equivalent to the weight of 98,000 male elephants! Or: over 1.6 million reindeer!
- If you were to link together all the Dolby Digital logos on every DVD player in use in 2003, the chain would stretch from London to Moscow.
- Last year, music video sales grew to represent over 8% of total DVD sales and 7% of total recorded music volume.
- The only bands/artists to have had 3 UK Christmas number ones in a row are The Beatles (1963 to 1965 inclusive) and The Spice Girls (1996-1998 inclusive).

## SHOP TALK

Apple has today announced that music fans have purchased and downloaded more than 200 million songs from its iTunes Music Store. The 200 millionth song was part of The Complete U2, making iTMS the world's number one online music store by far", according to Apple CEO Steve Jobs. In the UK, it features more than 800,000 songs from the major music companies and gift certificates and exclusive music not found anywhere else online.

## NEXT ISSUE

Yes, it's that time again - April 2005's *Hi-Fi World* is one of our famed vinyl specials! There's a supertest of top turntables from Michell, Roksan, Origin Live and Nottingham Analogue with a Garrard 401 as referee! We have phonostages from Rega, Naim, Clearaudio, plus Musical Fidelity's new kW Phono! Ortofon's new MC20W gets a scoop review, as does Origin Live's new Excalibur tonearm. It's not only vinylistas that get a treat though - Sugden's new A21SE integrated amp, Inca Design's Katana CD player and Mordaunt Short's stunning Performance 6 loudspeakers get the treatment too - plus much, much more!

# Walrus

11 New Quebec St, London W1



This ad features a few new products we're excited about, as well as a couple of old favourites (which we're still excited by even after all this time!) From top right, going anticlockwise, first off are the Anthony Gallo Reference 3 loudspeakers (£2400/pr). You can't tell from the picture, but these are actually very compact (about 3 feet tall) but have the most amazing bass extension and a very open sound. Next, the brand new Musical Fidelity A5 series amplifier (250W/ch) and CD player, at £1499 each, are superb value. They are designed to be better, and cost less, than the popular 308 series, and don't even feel embarrassed in the company of the famous Nuvista and Trivista series. The CD even features a valve output stage, just like the late lamented Trivista DAC! The Duevel Bella Lunas (£3160 to £4160/pr dependent on finish) need no introduction. This superb Omni design, featured at the recent Heathrow Show, should be on everyone's shortlist. Origin Live's new Sovereign turntable (£3850 plus arm) sets new, even higher standards for this already envied manufacturer whose decks already receive huge acclaim from the press. Next up is something we thought we'd never see - a valve / transistor hybrid power amp from Tom Evans, famous for their Groove phono stage and Vibe preamp. The Linear A (£3999) is a truly innovative design which draws on the strengths of both technologies to give transistor speed and control with valve naturalness and texture, another milestone for Tom! Many people will still remember the success we had with the Magneplanar MG 1.6 speakers at the show. These flat non-electrostatic panels with ribbon tweeters produce the most amazingly believable soundstage, all for the direct import no-middleman price of £1500/pr. The new Duevel Shuttle-Disk rechargeable battery CD player (also £1500) is on permanent demo - bring your own CDs and be pleasantly surprised! Lastly, we had to squeeze it in, what we regard as probably the finest all round (pardon the pun) turntable in the world, the Brinkmann LaGrange with the Brinkmann 10.5 tonearm (£8395 in total), a truly staggering combination.



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World Radio History

# micro or mega?

You can spend an awful lot of money on loudspeaker cables, but what benefits does it bring? David Price investigates...

**R**egular readers may know that I'm not into cables. Whilst this might be an extremely healthy state of affairs to 'audio agnostics', those initiated into the weird and wonderful world of hi-fi might think it strange. After all, what better way of spending £700 is there than an oversized set of wires in a fancy box?

Well, I decided to test my prejudices by comparing a most unprepossessing run of QED Micro at £1.75 per metre with something costing nearly fifty times as much – Chord Company's latest Reference, commanding the princely sum of £699 for two runs for three metres (terminated)...

The QED Micro is a dim and distant ancestor of the company's ubiquitous '79 Strand' – a wire that set the hi-fi world alight some twenty five years ago. This was the first audiophile cable I ever bought, and yes – it made a massive difference over my previous 'bellwire'. The Micro is an altogether more refined product, sporting 99.999% Oxygen Free High Purity Copper (OFHPC), Low Density Polyethylene insulation, with two 1.25mm conductors. In terminated form, it's supplied with excellent banana plugs – better are available,

but you have to pay loads to really hear (or see) the difference.

Hooked up to my reference Marantz CD63 KI DP, MF Audio Passive Pre, World Audio K5881 (modded) and Quad ESL-989 loudspeakers, the Micro sounded good. In fact, considering its sensible, real world price, it performed superbly. Frankly, you're not normally going to run something as inexpensive as this in a system as expensive as this, but the Micro didn't shame itself. It's a fast, rhythmic and propulsive listen, with decent detailing and reasonable stereo imaging.

By the standards of other modestly priced fare, I couldn't fault it – it's an immediate, accessible and musical listen and only lets the side down in any objective sense with its light bass. Still, it's not intrusively light, and what there is is very taut and tuneful – so this could actually be used to good effect when trying to get your over-large budget floorstanders (read: boom-boxes) to work in small rooms. Overall, I was impressed by the all round quality of these – they show their excellent pedigree in everything from the sound to the packaging to the termination.

What then of Chord Company's Signature? This is another brand with a gold-plated reputation for top quality, no-nonsense products. Top quality cable is used as you'd expect, and the company has taken great care to shield it – something which is a vital component of any cable's final sonic performance. Similar to the tri-shielding system used on the Signature RCA phono interconnect, this cable is extremely thick and chunky and as such extremely room unfriendly – oh for the slight, malleable feel of the QED Micro which hides away behind carpets so effortlessly! And the fact that it's plug-ugly black and red to boot will

probably mean that many people's other halves will veto any purchase decision instantly...

Inside this affront to aesthetics is lots and lots of multi-strand heavy-gauge copper. Two individually shielded lengths of cable are twisted together to produce each run. The ends are held together with specially developed, non-compressive aluminium clamps – great for those who don't want their front room to look like a recording studio. Termination is high quality gold-plated 4mm banana plugs.

The question then is – is the Signature fifty times better than the Micro? The answer is – don't be silly, of course not. No way. But considerations of absolute value aside, this is one of the very best loudspeaker cables I've ever heard. They opened up the system like a crowbar on a crate – suddenly it was all scale, power, depth, dimensionality and an incredible sense of musicality. Hitherto, the system seemed to have been sipping distilled water, but now it was gulping good old 5-star gasoline...

Interestingly, the Signature is so open and transparent and dimensional, yet it isn't one of the many high end cables I've heard which simply deliver a super-silky sound. The big Chords are very, very neutral with a delicious, finely etched treble and superbly powerful and impactful bass, yet it doesn't sound over-finessed and sleep-inducing. Rather, it's a brilliantly voiced everyday cable for all systems and musics. Is it worth it? Of course not – the QED Micro is a brilliant value start point, but buying a cable like Chord's Signature is pure indulgence for those who've got a system good enough to profit from it. If you have, then you can probably afford the Signature, and so won't be put off by its out-of-this-world price...



# carbon rating

Wilson Benesch has produced a pared-down version of its mighty Carbon Fibre Composite A.C.T. loudspeaker. At £5,000 the Curve floorstander is still not cheap but, reckons Dominic Todd, it's the company's sharpest yet...

It's now fifteen years since Wilson Benesch quietly introduced the world of vinyl to the, literal, strengths of carbon fibre. It had only to be a matter of time before it branched out into loudspeaker design, with the A.C.T. (Advanced Composite Technology) becoming a showpiece for the technology. This used a triple-curved CFC (Carbon Fibre Composite) cabinet and special, bespoke, drive units to produce one of the most open and neutral sounds around. Following on from the success of the A.C.T., the new Curve uses essentially the same formula, but with a simplified construction and slightly reduced size. The best news, though, is that at around £5,000, it costs a good £3,500 less than the A.C.T.

Take a look at the Curve, and the first thing you'll probably notice is that lustrous carbon fibre cabinet. This is really the centrepiece of the 'speaker and, unlike many products these days, it is the real deal and not just patterned plastic. The composite itself is made from no fewer than twenty four materials, and is moulded to a shape designed to disperse standing waves. There's nothing original about this tapered cabinet design – KEF have been doing it for years – but the additional curvatures at the back shows wonderful attention to detail. Internally, the whole cabinet is reinforced by substantial metal supports.

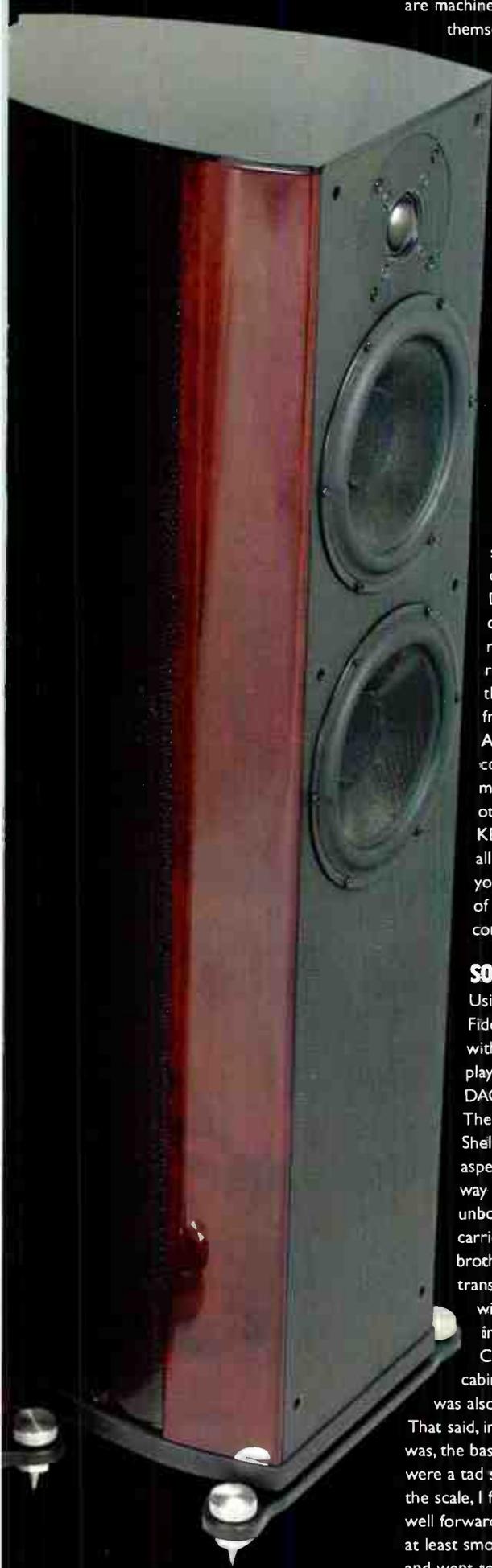
Composites may be lightweight, but by the time the Curve has had its frame installed, it's actually heavier than many of its rivals – not necessarily a bad thing for a hi-fi 'speaker, of course, and a factor that certainly worked in the A.C.T.'s favour. Where the Curve is less glamorous than its big brother is in the areas that finish off the cabinet. The top is capped with acrylic, whilst nothing more exciting than MDF is used for the base and front baffle.

That said, there's little wrong with this material, as countless high-end 'speaker designs bear testimony to. Our 'speakers were finished with stained cherry trim although, it should be pointed out, that this costs an extra £350. Black or silver side cheeks are standard. Finishing off the cabinet is an attached steel plate that holds the four substantially sized spikes. This not only supports the 'speaker, but increases its stability through an expanded footprint.

Showing every bit as much attention to detail are the drive units. The 25mm (1 inch) tweeter is a pretty standard, soft dome design, but the twin woofers are quite unique. The "Tactic" cones, as VWB like to call them, are made from a three-layer, self-bonding, woven polymer. Look closely and you'll see that the finish of the two drivers is different. This is because, with this "two-and-a-half-way" design VWB have chosen to match the characteristics of the drivers to their required task. The mid/bass unit then, uses a lighter, finer weave with a heavier, copper voice coil.

Meanwhile, the bass cone uses a denser, heavier weave – to produce a stiffer cone – with a lighter, aluminium, voice coil. The chassis of both cones are of the "open" type, and constructed of aluminium. To finish off the design, the terminals





are machined by Wilson Benesch themselves, and constructed from the ideal mix of solid copper, plated with gold. Alongside the A.C.T., the areas of cost cutting are all too apparent yet, against the opposition, these are still exceptionally attractive 'speakers that make the most of their exotic materials. Even at £5,000, though, competition is far from thin on the ground. Wilson Benesch reckon these speakers to be exceptionally transparent, but then so too is the Quad ESL-989 (£4,600-£5,000). With a super tweeter, the level of detail that Tannoy's Dimension TD10 (£5,000) can extract from a recording is also quite remarkable. Then there's the vice-like grip shown from the Acoustic Energy AE3 mkII (£4,500) to contend with and, not to mention, a whole host of other rivals. Naim, B&W, KEF, PMC and Focal would all dearly love you to pass your £5K their way, and all of them can make pretty convincing cases, too....

**SOUND QUALITY**

Using a pair of Musical Fidelity X-P200 power amps' with XPREV3 pre', A5 CD player and Benchmark DAC1, I began by listening to The Brand New Heavies', Shelter. The most impressive aspect of the sound was the way that the A.C.T.'s open and unboxy qualities have been carried across to their baby brother. The level of transparency and soundstage width was almost panel like in its lack of colouration. Considering the size of the cabinet, the scale of sound was also pretty impressive, too. That said, impressive as the scale was, the bass notes - whilst deep - were a tad soft. At the other end of the scale, I found the treble to be set well forward of the norm. Still, it was at least smooth and well integrated, and went towards creating a cohesive and musical balance.

Where the treble response did become a little more trying, though,

was with a brighter recording such as Sheryl Crow's, Sweet Child O' Mine. Here I found Crow's vocals too close for comfort, even though their focus within the stage couldn't be faulted. If your system is ever-so-slightly soft around the edges - or indeed based around vinyl - then this balance would suit perfectly but be warned, if it's already bright, then you could find yourself with a pin-sharp but ultimately overly forward balance. Otherwise, the resolution of the guitar was good, and there was plenty of space around the band's instruments, allowing them to breathe. Although far from being the smoothest rendition of the song I've heard, I have to say I had a sneaking admiration of the Curve's portrayal of the piece. Refinement, after all, probably wasn't something that Rose had on his mind when he wrote the song! It should also be added, that although forward and, it could be said, bright, the Curve wasn't in any way harsh or grainy sounding.

With Daft Punk's 'Discovery', it was the midrange that, once again, provided the star turn. Bass proved weighty enough, but also under-damped. Still, that didn't affect the excellent layering of effects and broad, focused sound stage. Even though the bass did lack some pace, it somehow didn't seem to matter as the integrity of the rest of the balance was such that you were too engaged in the rest of the music to really care much.

Enjoyable or not, I still had some concerns regarding the Curve's bass response, so I put on Raghav & Naila Boss's 'It Can't Be Right', which contains a suitably energetic bass line. In my listening room I did detect some boom and definite bass overhang. Moved to another room, though, and the problem disappeared. Clearly, the Curve is more sensitive to room acoustics than most, making home audition a must.

Move away from bass heavy R'n'B to Classical music, and you'll find the Curves far more at home. Considering the forward treble, the brass wasn't anything like as fierce as I'd been expecting with Chabrier's 'España'. Instead, it combined vibrancy with refinement to great effect. Strings were equally well portrayed, and the whole orchestra benefited from excellent staging. Whilst most of the drama and tension of the piece was intact, transient attack was not quite all it could be. Subtle nuances were, however, brilliantly captured, and the benefits of the exotic construction clearly audible when it came to

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**ULTIMATE SPEAKERS**

When editor DP asked me to detail my favourite high-end loudspeaker I began to panic. Trouble is, there are simply so many wonderful designs, that to single out any particular one seems unjust. This is compounded by the fact that many of the designs I've heard haven't been in the least bit helped by their temporary location of hi-fi show hotel room. So, excuses over, it's time to narrow down the pack. In terms of transparency and seamless response, a decent Quad electrostatic is still hard to beat. The ESL-989 is sublime, but even a well-serviced ESL-63 can deliver highly impressive results. I've always been a fan of small monitor 'speakers, as there's not much that can beat them in terms of timing and articulation. For me, best of the best of these is still the B&W Signature 805, although there are many other highly impressive designs out there. In terms of the 'awe factor', the 'speaker that struck me most was the Cabasse Atlantis MC. Shown at the 1993 Heathrow hi-fi show, this French design was over 8' feet tall had, what can only be described as, football sized eyeballs set into a vast, white triangular body. The sound was the most dynamic I've ever heard but then again with a price of, if I remember correctly, £12,000, then so it should have been!

Yet as good as all these 'speakers are, none can even considered to be the perfect design. The reason is that, like many other high-end 'speakers, they all have terrific strengths, but some notable weaknesses, too. What's needed, then, for the perfect high-end 'speaker is a combination of the transparency of the Quads, the articulation of the B&W's with the dynamics of the Atlantis MC. For me, the 'speaker that best encapsulates all this is KEF's Reference 207. Some may be surprised by my choice, especially as it comes from a brand not usually associated with esoteric hi-fi, yet take a look at the evidence. KEF are one of the most respected 'speaker manufacturers of all time. Look back at previous greats and, the changes are, that they will have used KEF drive units, or at least technology pioneered by KEF. At £9,000 the pair the Reference 207s aren't cheap, but they do incorporate everything KEF knows about loudspeaker design. They are also just 'cheap' enough to be considered as a realistic choice, and not an extravagant fantasy costing tens of thousands of pounds.

What makes the Reference 207s special for me, as I've alluded to earlier, is their blend of qualities. At 66kg each and standing 130cm by 70cm these are, by anyone's standards, big boxes. Given a reasonably sized room and 'big' is exactly how they sound. The soundstage is simply huge, with the twin 25cm woofers providing plenty of weight and scale to the music. Given their size, this much you'd expect, but the KEF's go much further than this. Using a 'Hypertweeter' and KEF's renowned Uni-Q system for the treble and upper-midrange gives these 'speakers uncanny detail and focus, especially for one so large. The cabinet may not be fashioned from anything more exotic than laminated birch ply and MDF, but it's as solid as you could wish for (not to mention immaculately presented). Its rigidity and separate enclosures no doubt goes some way to explaining the 207's surprising agility and pacey timing. Usually, physics dictate that 'speakers of this size suffer in terms of timing and cohesion, but this is certainly not the case here. Whilst, it's not quite as seamless and transparent as the finest electrostatic, then, it's an awful lot closer than you might think. For a six-driver array, box cabinet design 'speaker, this is a remarkable result.

Although this is one of the finest all round 'speakers I know, like anything else, it's not without fault. Although the dynamics are taut and powerful, the actually quantity of bass may come as a slight disappointment to some. Personally, I'm happy with the balance, but those expecting floorboard-rippling grunt may be advised to add a (huge!) subwoofer or look elsewhere. Ultimately, good hi-fi should make you forget about the hi-fi altogether and simply draw you into the music. This is exactly what KEF's Reference 207s do and, for that reason alone, are my favourite high-end design. DT

instrument decay. As before, my overriding impression was that whilst there were some obvious flaws with the performance, it remained an immensely capable 'speaker in so many ways, not least in its ability to entertain the listener.

Like many other high-end 'speakers the Wilson Benesch Curves show some remarkable characteristics tarnished, ever so slightly, by a few flaws. Considering the complexity of the construction, the finish is superb. It might not have all the gloss of the A.C.T. but it still stands out as a very classy design. Unlike other WB designs, I also found it an easy load to drive, opening up the options for matching amplifiers. Sonically, the Curves produce a stage that is as broad as it is deep, and a spaciousness that seems to forget it originates from a

couple of smallish boxes. Within the staging, the midrange is the real star, showing excellent timbre, definition and focus. Slightly less impressive are the frequency extremes. The bass is very room dependent and can lack sharpness. The treble, on the other hand, was occasionally too forward for my liking. Both issues can be addressed, but they are both worth paying attention too, and make a home demonstration mandatory.

These issues aside, the Curves remain an immensely enjoyable 'speaker to listen to. As a device with which to get 'lost' within the music, few come close, even at higher prices still. Wilson Benesch has successfully achieved their aim of producing a cut-price A.C.T., and the Curve can be confidently recommended to any lover of music. Lovely.

**VERDICT** ●●●●●

Arresting looks, esoteric construction and immensely capable sound, but the bright, spry voicing won't suit all.

**WILSON BENESCH CURVE**  
**WILSON BENESCH**  
 ☎ +44 (0) 1142 852656  
 www.wilson-benesch.com

**FOR**  
 - transparent mid-range  
 - material construction  
 - musical and involving

**AGAINST**  
 - forward treble  
 - softened dynamics  
 - room-sensitive

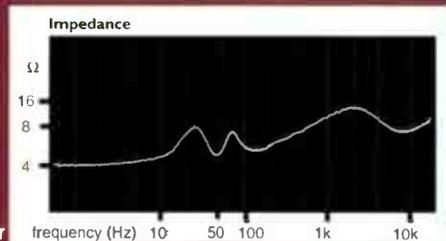
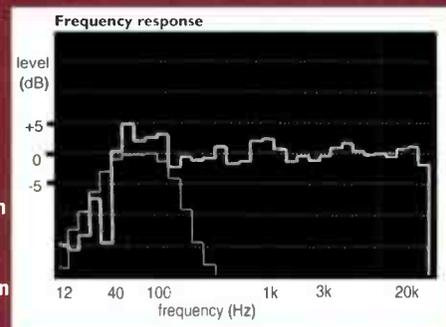
**MEASURED PERFORMANCE**

Wilson Benesch use carbon fibre drive units in carbon fibre cabinets, so there's tremendous consistency in the materials used within the Curve. The midrange unit is a little uneven in its output, our response analysis shows, suggesting it will have some character. A small peak around 800Hz will push vocals forward and improve enunciation by a subtle degree. Above this frequency output extends smoothly up to 20kHz with no drop at all. This usually imparts a bright sheen to the sound, appropriate with vinyl but occasionally challenging with CD.

At the other end of the spectrum the Curve reaches down to 40Hz, helped by raised output from 50Hz-100Hz, from the lower bass unit loaded by a reflex port in the bottom plate. This will give it fairly generous bass; the Curve will definitely sound weighty. Both (top) port output and the impedance curve suggest it will sound well damped too. In fact, the impedance curve has far less variation than normal and the Curve is substantially less reactive than most 'speakers, meaning it is a far easier amplifier

load and will consistently get the best results from amplifiers. It uses a 4ohm bass unit to keep sensitivity up, which measured a good 85dB.

The Curve will sound forward, detailed, a trifle bright at times, but have solid sounding deep bass. It measures well in all areas and will undoubtedly work well. NK



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WHAT HI-FI?  
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# stand and fight!

**Channa Vithana adjudicates in this month's standmounting speaker shootout, with models from Acoustic Energy, Mission, Mordaunt Short, KEF, Quad and Wharfedale. Seconds out...**

**A**ll six standmounting loudspeakers here cost under £400, and thus represent a great test of their respective manufacturers' ability to make a serious value for money product. They're all sharply styled, as you'd expect in such a hotly contested market sector, and three feature fashionable and modern looking curved cabinets - although none of these are beautifully elliptical in plan like the lute shaped (£2,500) Sonus Faber Cremona Auditors for example, instead being squared off at the rear.

Intriguingly, in this age of manufacturing convergence and OEM component sharing, these mainstream brands feature for the most part completely different approaches to engineering and technology - if not cabinet construction (usually MDF) or basic box shape. There are aluminium, polypropylene and Kevlar drivers along with the more traditional plastic variant drive units.

Programme included Sting's 1986 'Bring On The Night', a live document following the release of his first solo album 'The Dream Of The Blue Turtles'. It's quite a challenge because it is live and captures Sting at a transitional period in his career where he is swapping over from the screechy high pitched vocals of the Police to the more technically proficient and smoother singing of his latter years. It also contains some beautiful bass playing by Daryl Jones, which tests the bass delineation (or lack thereof) abilities of these speakers.

Another reference disc was 'Mysterium Sacred Arias' 2001 featuring Angela Gheorghiu, which has some stunning renditions of early choral works and has many near silent notes, deft instrumentation and orchestration mixed with challenging vocals that suddenly come out of nowhere. 'Mysterium' should be a stern test for a speaker to see how it copes with multi-layered and powerful female vocals and therefore speaker/in-room resonance. And so to battle...

#### REFERENCE SYSTEM & SET-UP

Denon DV-3910 multichannel player  
Eclipse A502 amplifier  
Chord Company Odyssey 4 speaker cable  
Chord Company Chameleon Silver Plus interconnect  
Russ Andrews Reference 350i PowerKord.

#### SPEAKER PLACEMENT

For set-up I varied the positions accordingly for each speaker between 2-2.8m wide, while they sat atop birch ply stands in a 4.5x6.5m room containing floating laminate wood floor over concrete with concrete walls. With the exception of the Aelite Ones (straight firing) all the models preferred plenty of toe-in.



**MORDAUNT-SHORT MS912 £180**

**D**istributed in the UK by Marantz, these Mordaunt-Shorts are the largest and joint cheapest speakers in the group. The MS912s feature a 165mm proprietary CPC ('Continuous Profile Cone') aluminium driver and 25mm aluminium dome tweeter beneath a mesh cover. MS claims the CPC driver has an, "uninterrupted cone surface (that) ensures excellent rigidity and therefore minimal distortion, something conventional drivers have trouble matching". The aluminium front baffle is an attractive affair, bluff and clean without visible fixings. The drivers sit within beautifully profiled openings giving the MS912s a modernist and futuristic look. The cabinet is conventionally shaped but has curves at the corners to minimise diffraction as well as look more attractive.

The MS912s are said to be, "braced by a wood composite, whose mechanical properties counteract those of MDF, further reducing resonance and cabinet coloration" and are magnetically shielded. At the rear there are several hex head fixings for the back panel and a set of gold plated binding posts with port above. The company claims a frequency response of 55Hz-22kHz and a sensitivity 89dB with a nominal impedance of 4-8ohms and power rating of between 15-150W [see MEASURED PERFORMANCE] The MS912s come finished in cherry or black ash, both in a neat vinyl wrap that the Chinese are so good at doing, and measure 355x205x295mm and weigh 8kg. Mordaunt-Short recommends a ten hour running in period.

**SOUND QUALITY**

Due to their size, the MS912s produced the most expansive sound of the group, they had an exuberant nature especially preferring the jazz/ pop of Sting to Angela Gheorghiu where they struggled a little with the choral vocals. However if it is energetic modern music you are after then the MS912s are very good especially considering their low price. They were the

easiest speaker to drive, going louder than the others at exactly the same volume level. Their strengths are a smooth and even response with great timing. They did have a tendency for some midband-glare characteristics however, this being similar to the Wharfedales and was especially so with Gheorghiu where they couldn't handle her vocal crescendos as well as, say, the much smaller KEFs did. Still I like this speaker and within its rock/pop

limits it produced a most enjoyable sound. For instance the bass lines from 'Tea In The Sahara' from 'Bring On The Night' was one of the best of the group having good extension with meaty expression and a rare slice of tunefulness. Overall, a lot of bang for your buck and pretty refined with it too. It's interesting to contemplate that this offers dramatically better sound than any nineties box of the same price – brilliant value...

**MEASURED PERFORMANCE**

The MS912 has a smooth, even frequency response characterised by a small amount of plateau treble reduction. This amounts to just -1dB or so and, since the tweeter itself measures flat and smooth, helps ensure the 912 gives slightly less of the forwardness and glassy sheen that is so common today. Like Kef, Mordaunt Short soften out the sound just a tad, to ensure it doesn't lacerate when handling bright CDs. Mordaunt Short's tweeter also handles strings well, due to its lack of peakiness.

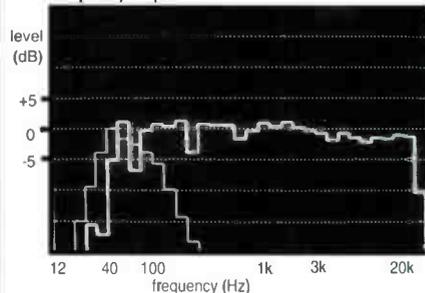
The 912's large-ish cabinet reaches down to 50Hz, the port taking this down to 40Hz. An almost ruler flat response down to these low bass frequencies suggests good damping and tuning, which will provide an even natured type of bass free from boom. It should play bass lines well, without undue emphasis - room permitting.

The 912 uses a 4ohm bass unit to get a sensitivity of 88dB - relatively loud for the cabinet size.

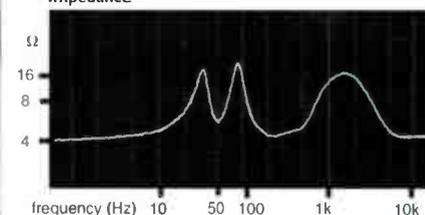
The load is reactive, which may unsettle some amps. Impedance measures 5ohms overall.

This is a slickly engineered design carefully tailored for smoothness, from top to bottom. It measures well. NK

Frequency response



Impedance

**VERDICT** ●●●●●£**MORDAUNT-SHORT MS912 £180****MORDAUNT-SHORT**

☎ +44 (0)1753 680 868

www.mordaunt-short.co.uk

**FOR**

- low cost, build
- exuberant, expansive sound
- aluminium baffle, drivers

**AGAINST**

- not for classical

## WHARFEDALE DIAMOND 9.1 £180

**T**he Diamond series of loudspeakers from Wharfedale have in their various iterations been going since 1983 and earned a great reputation as the low cost but high quality option for the enthusiast and newcomer alike. These new 9.1 Diamonds measure 296x194x278mm and follow the modern trend of curved cabinet shape, though are only curved to the sides, with the rear squared off. The 9.1 has a 130mm Kevlar mid/bass driver with 25mm dome tweeter both of which use the visually preferable hex head fixings. Just below the mid/bass driver are two small ports.

At the back there is a set of nicely designed and high-quality clear plastic sheathed binding posts suitable for bi-wiring which are vertically mounted and asymmetrically positioned enabling much easier hook up with banana plugs. These binding posts are located on a small plastic moulding which uses the same hex head fixings as the driver units to attach to the cabinet which is a nice detail. Although they are vinyl wrapped, in this writer's humble opinion this is the best looking design of the whole group (even though the visual aspect wasn't the manufacturers original priority!). The Diamonds have the right proportions and are very well made and attractive to look at sans grill. They come in beech, cherry, black and silver finishes. Power handling is quoted at 20-100W with 6ohms impedance, 86dB sensitivity and frequency range between 50-24kHz [see MEASURED PERFORMANCE]

### SOUND QUALITY

I found the Diamonds worked better with the Angela Gheorghiu disc, preferring her vocals and the classical musical arrangements. Her vocals were not overtly exaggerated and indeed were handled with a great maturity for a speaker at this price. On to Sting though and the story is a little different because the Diamonds were not happy



with the jazz/ pop arrangements of the band. This is interesting because the actual drive units had excellent integration considering the musical structure and bass was nicely controlled and tuneful - for instance but there was a veiling of the overall sound when it came to the more modern style of music. There was also a small but noticeable

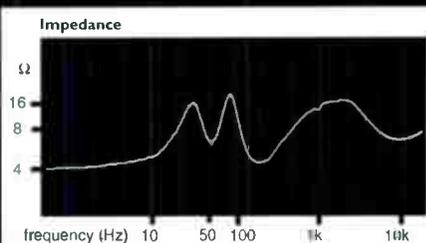
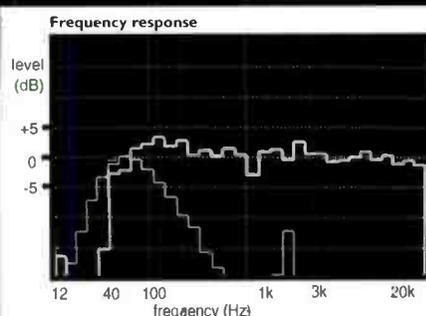
midband-glare expressed through the lower-mid registers with both vocals and instruments. Both these factors detracted from its strengths when compared to the others in the group. This is a visually arresting and classy sounding little speaker which in isolation proved very impressive - the trouble is, so did the rest...

### MEASURED PERFORMANCE

From the very first, Diamonds have measured very well, in spite of their budget status. Early Diamonds in particular were small, but deadly accurate in measurement and dynamic to listen to. The 9.1 is quite a lot larger than the original and extra box volume equates to lower bass. The new 9.1 reaches down to 40Hz (-3dB) our measurements show, before output falls steeply. The port is tuned to 50Hz, suggesting the 9.1 will have fast bass, rather than any sign of deep rumble. Wharfedale have lifted output around 100Hz by 3dB or so to give a little extra bass weight, so the Diamond is likely to have plenty of subjective impact and a good sense of speed too. With output flat to 20kHz there'll be no lack of treble, so detailing will be good but there may also be some sheen to CD.

Sensitivity was fair at 86dB, Wharfedale choosing to use a 4ohm bass unit. Overall impedance measured out at 6ohms as a result.

The new Diamond measures well, just like the original. It now goes lower, but should sound fast, clean and impactful. NK



### VERDICT ●●●£

WHARFEDALE DIAMOND 9.1 £180

Wharfedale International Ltd.

☎ +44 (0)1480 447 700

www.wharfedale.co.uk

### FOR

- superb design
- well built, finished
- price, driver integration

### AGAINST

- slightly veiled sound
- slight midband glare

## KEF Q COMPACT £200

**T**he Q Compacts are the smallest in the KEF Q loudspeaker series. Indeed they are the smallest speakers in this test measuring just 280x180x250mm and weighing 3.9kg. KEF is one of the famous British speaker brands with many innovative concepts and technologies to their name such as the POD units that housed and isolated the midrange and tweeters first seen in their late seventies and early eighties models. The POD concept is still in use today in their complicated high-end reference series while the Q Compact doesn't have its own POD, it echoes this by having a raised curved section (inscribed fetchingly with a 'Q series' legend) above the main driver unit to "aid driver dispersion".

One of KEF's other innovations is its UNI-Q driver technology which in the Q Compact features a 130mm polypropylene mid/bass driver and 19mm aluminium tweeter housed within its central core where a dust cap/pole piece might normally reside. The main cabinet is made from MDF and is curved at its sides and gently curved on the front baffle while the rear is squared off.

The UNI-Q driver is attached with just three stainless steel hex head fixings, which is most attractive. There is a semi-circle shaped port just below the driver integrated into the chassis mounting. At the rear are a set of titanium coloured biwirrable binding posts fitted onto a matching flush faced plate that is in itself screwed down with stainless steel hex head fixings. KEF recommends a period of 30-40 hours running in and claims a frequency response of 50Hz-27kHz, a power handling of 10-100w, 89dB sensitivity and 8ohm impedance [see MEASURED PERFORMANCE]

### SOUND QUALITY

The KEFs, rather surprisingly for their size and price, excelled in this group. They produced the most natural and integrated sound and were stunningly good because of this. Timing was spot-on



and the driver integration was near perfect. With both Sting and Angela Gheorghiu they excelled in the treble and midrange presenting very low coloration while also being unfussy about placement. It was with Angela's vocal crescendos that the KEFs proved their mettle – showing no noticeable glare or distortion during those difficult vocal passages. They had a most sophisticated treble while their bass response was very good, though being hyper-

critical the low frequency performance was a tad soft dynamically in comparison to some of the others – doubtless a function of the diminutive dimensions. Because of its smaller size the Compact couldn't obviously be as expansive as say the Mordaunt-Short, or have powerfully extended bass equivalent to the Mission V60s, yet it did everything important right and at a very reasonable price, therefore that is why it is so good.

### MEASURED PERFORMANCE

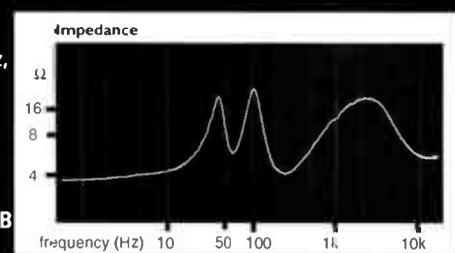
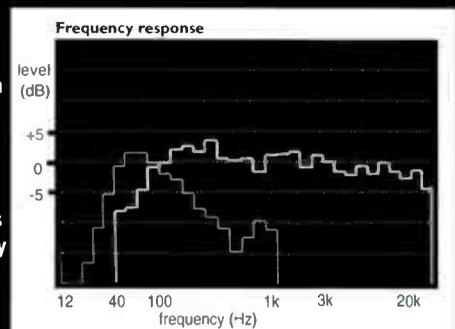
The Compact measures out much like the early Q1 in its fundamental response balance. A steady downward trend toward high frequencies is sufficient to give a fulsome balance and ensure the metal dome tweeter sounds well integrated by not attracting attention. There's no sign of peaking at high frequencies, which also aids smoothness and integration. There might even be a little warmth in the sound, but with output maintained to 16kHz the Compact will not sound dull, or lack detail. A generally smooth trace from peaks or dips indicates low colouration and fundamentally accurate presentation.

Output from the Compact is strongest around 160Hz, but it reaches down to 80Hz before output starts to drop away. The port supports output from 50-60Hz, but not lower. As a result, like all small speakers the Compact will sound fast and have good impact, but not weighty.

KEF use a 4ohm bass unit to keep sensitivity up, managing 86dB from one nominal watt of input,

good for a small speaker. The load is fairly normal too, but measures out as a low 5.4ohms overall.

The Compact measures right down the line as a Q Series loudspeaker. It should lively, detailed and engaging. NK



### VERDICT

KEF Q COMPACT £200  
KEF Audio (UK)  
☎ +44 (0)1622 672 261  
www.kef.com

### FOR

- easy sound
- neutral
- nicely detailed construction

### AGAINST

- size limits scale
- slightly soft bass

## MISSION VOLARE V60 £250

**T**hese continue the Mission tradition with the company's proprietary 'IDG' system, which stands for Inverted Driver Geometry and are instantly recognisable with the bass driver positioned above the treble unit. They measure 305x180x240mm, weigh 5.2kg and come finished in a cherry real-wood veneer. The cabinets are magnetically shielded suitable for AV use and made from 19mm MDF with a 38mm MDF contoured front baffle for "excellent dispersion for a wide listening angle". The mid/bass driver is a 130mm aramid type while the tweeter is a 25mm microfibre dome unit with neodymium magnet and ferrofluid cooling. Inside it uses an acoustic second order crossover and Acufil long fibre damping. The design as a whole is a success and I really like the distinctive polished hex head fixings for the mid/bass driver and flush mounted hex fixings for the tweeter. The dark grey moulding and chassis for the driver is attractive too, being nicely designed with the famous Mission logo inscribed below the tweeter.

I am not too keen on the grill though, there's nothing wrong with the look of it but for practicality I found it tricky to attach/detach onto the cabinet as it kept on falling off. And I would also prefer a better standard veneer such as the beech option, as this cherry (in the flesh) is a little too orange for me! At the back there are horizontally spaced biwirable binding posts and above them an anti turbulence port. Mission recommends letting the V60s "run in for at least 24 hours before serious listening" and quotes a frequency response from 60Hz to 20kHz, with 8ohm impedance, 86dB sensitivity and power handling between 25-100w [see MEASURED PERFORMANCE]

### SOUND QUALITY

The Missions had a distinctly velvety quality about them with the Angela Gheorghiu disc. The sound was smooth and refined, and immediately enchanting. However on longer appraisal while I really



enjoyed that velvety smoothness and the deepest in-room bass extension of the group, listening to 'Tea In The Sahara' I still felt there was something missing. It is not the treble, which was generally good (though with a minute hint of sibilance) – rather it was the overall

timing of the Missions that I found to be lacking. Bass, though deep wasn't especially tuneful either and it seemed a tad dislocated to the rest of the band. Overall, the Missions had a lush and smooth sound with a warmer balance, which would work well with fast and bright equipment.

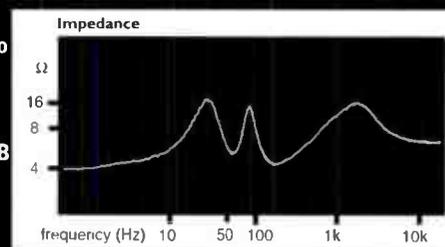
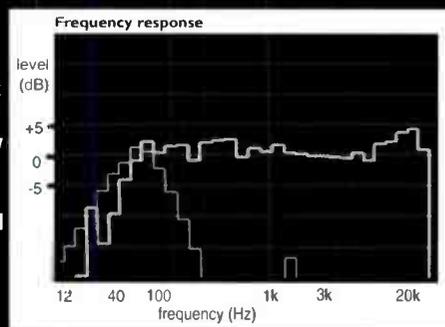
### MEASURED PERFORMANCE

The V60 has been tuned to offer more bass than a small bookshelf loudspeaker and is a little more suited to stand mounting. However, whilst it has goodly amounts of low frequency output our analysis shows, it will not sound boomy. Although both lower limit and port have much the same behaviour as the smaller m50, the roll off in low frequency output lower down is less abrupt, the V60 reaching down to 25Hz (-8dB) even. I would not expect floorstander type bass, but the V60 should sound quite weighty for its size.

Mission allow treble to peak by +5dB at 16kHz and this may well add some spit or sharpness to the sound. Otherwise, with a smooth upper midband the V60 will sound detailed.

Sensitivity was normal at 85dB and measured impedance as expected at 6ohms, a 4ohm bass unit being matched to an 8ohm tweeter.

The V60 works well, likely exhibiting good heft in the bass for its size, but also sharp treble at times. NK



### VERDICT

MISSION VOLARE V60 £250  
Mission  
☎ +44 (0)1480 423 700  
www.mission.co.uk

### FOR

- lush, velvety quality
- deep bass

### AGAINST

- dislocated timing
- tricky grill
- cherry veneer colour

## ACOUSTIC ENERGY AELITE ONE £330

First heard of Acoustic Energy in the late eighties when they released their legendary and infamous AE1 speaker which became a modern classic and one to be feared by the competition and low-powered amplifiers alike. These Aelite Ones have curved sides, which are squared off front and back, similar to the Wharfedales and are substantially built for their size. They are real wood veneered and come in black ash, cherry and birch finishes. They are magnetically shielded for AV use, measure 186x291x231mm and weigh 6kg apiece.

True to AE tradition, the mid/bass driver is a lightweight alloy cone with 32mm coil and features a high power, long throw magnet system fitted inside a 110mm die-cast chassis with six attractive colour-matched hex head fixings. The neodymium tweeter with silk fabric dome has a high dispersion 25mm diaphragm and is ferro fluid cooled and damped. It has a superbly designed oval surround, which is spoilt by the abundance of cross head screws, though they are at least colour matched to the surround. The internal wiring is said to be quality OFC. The cabinet is made from 15mm MDF while the front baffle is 22mm MDF. At the rear it has gold plated biwirable binding posts and a single port above. AE quotes a frequency response of 45Hz-23kHz, 8ohm impedance, 89dB sensitivity and 100 watts maximum power handling [see MEASURED PERFORMANCE]

### SOUND QUALITY

The Aelites eschew the modern tradition for politeness and fulsome bass, instead having a powerful and distinctive delivery. They have the best driver integration of the group providing a fast and brighter than normal response, which is intriguing as they are controlled too without any stifling of dynamics. Though they are a little retiring with the low frequency extension (as a result of their superb control), but boast very good bass delineation. The treble



forms their most distinctive character being incisive and discerning, with Sting's vocals providing a continuously entertaining listening session though with a little forwardness. With Angela Gheorghiu, the AEs were less expansive than some of the warmer

tinted speakers in the test but were tight, fast and powerfully dynamic. Their inherent control prevented listener fatigue but their distinctive and occasionally up-front delivery may not be suitable for all and thus would be ideal for warmer balanced systems in need of some pep.

### MEASURED PERFORMANCE

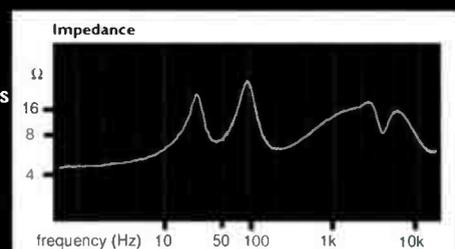
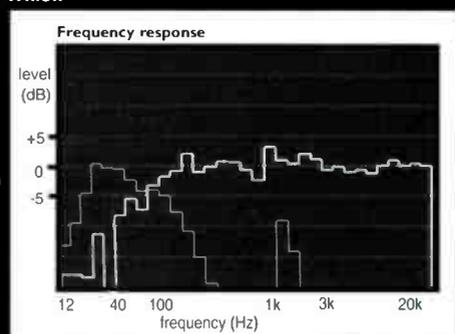
Under test strong output from the tweeter of this loudspeaker was obvious and measurement shows it runs flat right up to 20kHz, at the same level as lower frequencies. As a result, the small AE1 is almost ruler flat, which in use usually translates to a bright and forward sound, albeit one that is technically accurate. A small dip and peak at 630Hz corresponds with a peak in port output and is likely due to an internal reflection. This is likely to be heard as colouration, perhaps a little boxiness on speech or vocals.

Below 125Hz to small AE1 rolls away slowly, displaying a well damped response that will suit wall placement. Bass will be light but clean. The small port is tuned low for a speaker of the size, to around 40Hz. Whether this contributes much to low bass is best assessed by listening.

Sensitivity was good considering impedance measures 7ohms, a high figure. The AE1 produces no less than 86dB at

one metre from a nominal watt.

The small AE1 will sound, light, bright and detailed. Meant for wall mounting it will give a tightly controlled sound, measurement suggests. NK



### VERDICT

AE AELITE ONE £330

Acoustic Energy Limited

+44 (0)1285 654 432

www.acoustic-energy.co.uk

### FOR

- superb driver integration
- positive, lively sound

### AGAINST

- careful matching essential

## QUAD 11L £380

**M**easuring 325x190x243mm, this baby box is something of a departure for a company more associated with its famous high-end ESL electrostatic flat panel speaker! Although it looks conventional at first glance, it is well specified for the price - the most obvious visual characteristic being the lustrous 'piano gloss' six-layer lacquer finish. The 11L is quite special, with attention to detail such as flawless cut-outs for the drive units and attractive hex head fixings for both drivers. Once you have positioned it correctly then I would advise to remove unsightly fingerprints and leave well alone! Another practical issue is to treat it with utmost care, as any scratches would be ruthlessly revealed on its glossy surface. Quad recommends a minimum 50 hour running-in period.

Drive units are special too, featuring a 130mm Kevlar mid/bass unit and 25mm dome tweeter. Round the back it features two small ports above biwirriable binding posts without the usual plastic moulding for such adjuncts, which is aesthetically preferable as it doesn't spoil the form of the cabinet. Another interesting detail is that the Quad has a black plinth, which is located to the underside of the main cabinet. It is smaller in area and has four small rubber disc pads at its base. It provides an attractive physical separation from the main cabinet enabling clean lines to be expressed. Quad claims a power handling of 30-150W, 6ohm impedance, 86dB sensitivity and a frequency response of 45Hz-24kHz [see MEASURED PERFORMANCE].

### SOUND QUALITY

The Quad's strength was in musical timbre and superb tonal shading when it came to both instruments and vocals. Guitars had real tangible qualities and Daryl Jones' bass on 'Tea In The Sahara' had excellent delineation providing bite, depth, expression and extension! The overall sound of the Quads is one of elegance and good instrument separation. With Angela Gheorghiu's vocals there was a



full-bodied quality, rich and deep with flush midband prevalent. The Quads weren't as adept on the timing though being slightly laid back compared to the others in the group which is a shame as otherwise they were almost perfect. They preferred however to concentrate on the individual characteristics of a piece

and did so very well, but the trade off here was a slight internalising of the musical structure and therefore an introspective outlook, deep, lush and smooth but not exuberant or naturally expansive. An excellent, superbly engineered loudspeaker, then, one which is intelligently voiced for Quad's typical clientele.

### MEASURED PERFORMANCE

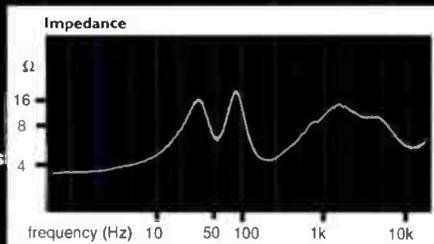
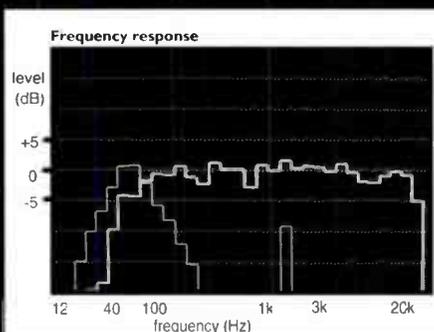
The Quad 11L is notably flat in its response characteristic, with very little variation from 80Hz up to 16kHz. This makes it fundamentally accurate, but without a little bass lift to add body, it's likely to sound dry unless near-wall positioning is used. Tweeter output declines a little above 7kHz, but very little. It may soften the sound just a little, but since an earlier sample was flatter this could just be down to sample variation.

With a port tuned to approximately 54Hz the 11L reaches low, but not as low as some slightly larger models. It will likely have well damped and fast sounding bass, but no bass surfeit.

Sensitivity was good at 87dB and impedance measures 6ohms overall, dropping to 4ohms at low frequencies, as a 4ohm bass unit is used.

The 11L is accurate, but expect a dry, concise sound rather

than a fulsome or soft one. It's a well engineered speaker. NK



### VERDICT

QUAD 11L £380  
 Quad Electroacoustics Ltd.  
 ☎ +44 (0)1480 447 700  
 www.quad-hifi.co.uk

### FOR

- finish and build
- fine separation
- price and technology

### AGAINST

- just a little slow

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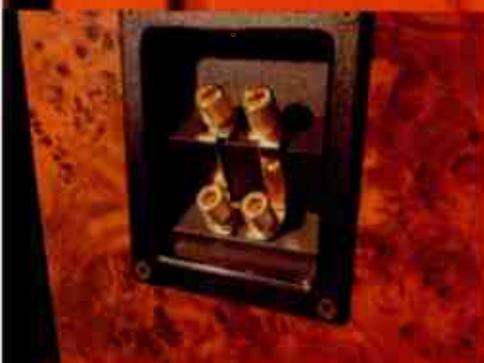
1. Make sure the sound only comes from one place (one drive unit)
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# conclusion

I was pleasantly surprised that I had such an individual bunch of loudspeakers considering their budget prices! You may be also surprised to see that one of the cheapest models has come out top and that it did so on its own merit and punching above its price category. I was also pleased that some of my subjective assessment actually correlated with NK's measured performance!

## [1] KEF Q COMPACT (£200)

I was most impressed with the KEF; I liked its even-handed delivery and superbly low coloration sound especially with Angela Gheorghiu's challenging but melodic choral vocals. The Q Compact had a wonderful 'at ease' sense of proceeding with music and was unflappable yet never dull. It was simply the most natural-sounding speaker of the group and this was down to its excellent timing and driver integration combined with high resolution. As a bonus it is easy on the eye and well made with obviously good engineering practice – being the UNI-Q drive unit arrangement – that works. A further delight was that it was one of the cheapest tested and in the group context I am pleased to say it is my top recommendation regardless of price.

## [2] QUAD IIL (£380)

A visually attractive speaker with its 6-layer piano lacquer coat and excellent, bespoke (almost entirely non-OEM) build. It was easily the best sounding speaker of the group when considering individual aspects such as timbre and instrumental separation along with bass, mid and treble quality. It had a deep sound, being immersive and very tangible with guitars and drums for instance while equally adept with very different vocal styles. It didn't get the top spot for the fact that however wonderful all those individual aspects were, it wasn't brought together as a whole and in comparison with the KEFs sounded a little forced as a result.

## [3] ACOUSTIC ENERGY AELITE ONE (£330)

I really liked this speaker a lot. In nearly every way it had the sound that I personally favour the most – resolution, slam and great timing with an almost super-clear presentation. It had powerful dynamics and was intriguingly controlled too in spite of its energetic nature. However, just because I like it doesn't mean it would be universally suitable and thus some will find it bit too characterful...

## [4] MORDAUNT-SHORT MS912 (£180)

This is a lot of speaker for the money and in many ways so is the sound. It is bold and exuberant with a great expansive quality, no doubt enabled by the larger cabinet size. It was also the easiest to drive in the test going much louder than the others were. It was limited to liking the more modern style of Sting though and had a slight midband glare, so this is why it comes in at fourth.

## [5] MISSION VOLARE M60 (£250)

This little Mission had the best bass extension of the group and was fulsome, lush and velvety. It was characterised by a warmer balance with a generally polite sound. I believe this design would be best suited to fast and bright systems where it would enable a more balanced sonic vista. It is well made and a good design too, but I wasn't convinced by the orange cherry veneer or the haphazard way the grill is placed onto the cabinet.

## [6] WHARFEDALE DIAMOND 9.1 (£180)

The Diamond comes last not because it is a bad speaker – not at all. In fact it's a thoroughly attractive one and my favourite styling design of the lot! I really like its proportions and the sound has real promise with superb timing and driver integration, but I found it lacking in the finesse department while it also had a tendency for midband glare that the

others did not. This has little to do with its price because there were other lower cost models here. So in the context of the group, I found it to be lacking in expressive and dynamic ability with the modern jazz/pop of Sting. It preferred the Choral work of Angela Gheorghiu, which will limit its appeal. Still, if this suits, then I would recommend a serious audition before purchase.





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## QUESTIONS

**[1] What transducer does the maximum supertweeter use?**

- [a] ribbon
- [b] button
- [c] bow
- [d] sash

**[2] What finishes are offered?**

- [a] chrome and satin black
- [b] red and yellow
- [c] pink and orange
- [d] purple and blue

**[3] How powerful is the Mosfet amplifier inside the Rel Strata III subwoofers?**

- [a] 100W
- [b] 1W
- [c] 1,000W
- [d] 0.1W

**[4] What type of transformer is used in the Strata III?**

- [a] toroidal
- [b] frame type
- [c] three dimensional
- [d] chocolate

March Competition  
Hi-Fi World Magazine  
Unit G4 Argo House  
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allow the air pressure on the ribbon to equalise in the event of sudden pressure changes. The Super Tweeter may be connected directly across the output of amplifiers up to 350W. There's a choice of chrome or satin black finishes, and both look exquisite.

The second part of the prize is REL's superb Strata III subwoofer, a high-fidelity sub-bass system designed for use with high quality stereo and multi-channel audio systems. It boasts a true 100W (continuous) discrete direct-coupled MOSFET amplifier driving a downward-firing 250mm long-throw driver with cast chassis. There's a chunky audiophile-grade toroidal transformer, gas-tight Neutrik high level connection for long-term consistency of sound quality, high quality, panel-mounted twin phono inputs at 0dB and +12dB

(low level), a balanced high level Neutrik input, totally discrete input circuitry for high and low level inputs, separate volume controls for high and low-level adjustment, simultaneous connection of high and low level sources and Set-Safe® audibly transparent driver protection. Dimensions are a reasonably compact 416x522x325mm and weight a solid 23kg. There's a choice of Brittex Black, Black Ash, Cherry, Light Oak, Rosenut and Walnut finishes.

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- NO CORRESPONDENCE WILL BE ENTERED INTO
- THE EDITOR'S DECISION IS FINAL
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Cyrus has been developing high performance hi-fi systems for over 20 years. Today their upgradeable, modular product range includes multi-room systems, home cinema and some of the world's finest hi-fi systems. The new 'VS' preamp circuitry, incorporated in the 6vs and 8vs amplifiers, has dramatically improved their performance while the CD8 X is a heavily revised version of the CD8.

"Here's a machine that advances the ability of its excellent predecessor by an almost absurd degree. The Cyrus 8vs is an absolute superstar."

"The added 'x' factor brings a level of CD playback previously unheard at this price." *CD8 X*

**WHAT HI-FI?** Oct 04  
★★★★★

**Cyrus 6vs Amplifier £599.95**

"A significant upgrade to what was already an impressive amp - Cyrus' new entry-level integrated is a peach"

**WHAT HI-FI?** Oct 04  
★★★★★

**Mission m31i Speakers £119.95**

"Overall, the little m31i speakers are great, and the team at Mission should consider this upgrade job well done. The 'i' in the model name stands for 'improved' and these speakers fully deserve the suffix."



**WHAT HI-FI?** AWARDS 2004  
★★★★★



**REL Quake Subwoofer £349.95 (Brittex Black)**

Bass reinforcement for both your hi-fi and home cinema system.

"It's such a capable subwoofer - it handles both music and movies exceptionally well. The Quake delivers bass with both power and finesse."



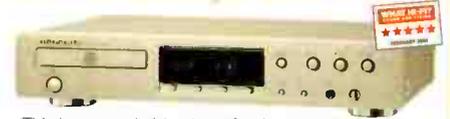
**Roksan Kandy CD Player £649.95**  
**Amplifier £649.95**

"The Roksan CD player offers a great array of talents - team it with its amp stabiamate and you have something close to the ideal visual and sonic combination."

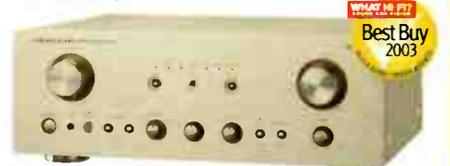
"The result is a breathtaking Best Buy amplifier that betters its competition with ease." **KANDY AMPLIFIER - AWARDS 2003**

**WHAT HI-FI?** AWARDS 2004  
BEST STEREO AMPLIFIER £500-£900  
Roksan Kandy (A&I)

**Marantz CD5400 CD Player £119.95**



"This is a remarkable player for the money, with superb sound, looks and feel, which give you no clue as to the budget price... A very solid buy - and a lot of fun."



**PM7200 Amplifier £239.95**

"This is one of the most powerful amps in its class, at 95w per channel, and it sounds it with anything from dance to a big orchestral work, offering a delicious combination of poise and impact. Stick with fast, dynamic speakers such as B&W DM601 S3s or KEF's equally capable Q1s and the results will amaze."

**WHAT HI-FI?** Best Buy 2003

**Pure Digital DRX702ES Digital/Analogue Tuner £269.95**



"This tuner sounds superb... The overall balance is powerful, clean and crisp, making this a fine tuner by any standards, and a superb buy given its excellent flexibility."

**WHAT HI-FI?** Product of the Year 2003



**Harman Kardon TU970 Digital/Analogue Tuner £249.95**

With Digital Audio Broadcasting (DAB) capability, this high-quality tuner delivers more stations and offers pure, distortion-free, CD-like sound, while providing useful radio and data services. Combining ease of use with interference-free reception, Harman Kardon's TU970 features the newest digital technologies from one of the oldest hi-fi names.

**CLAIM** UP TO  
**25%**  
ACCESSORIES **FREE**

When you purchase any product from the following brands:-  
**ARCAM • B&W • CYRUS • ROKSAN • REL • ROTEL**

Choose Accessories From **QED • GRADO • SOUNDSTYLE** etc

**CLAIM 10%\*** WHEN YOU SPEND OVER **£250**  
**CLAIM 15%\*** WHEN YOU SPEND OVER **£500**  
**CLAIM 20%\*** WHEN YOU SPEND OVER **£1000**  
**CLAIM 25%\*** WHEN YOU SPEND OVER **£2000**

\*PERCENTAGE APPLIES TO ACTUAL SPEND ON BRANDS SHOWN ABOVE. NOT IN CONJUNCTION WITH ANY OTHER OFFER OR PROMOTION.  
PLEASE NOTE - SOME PRODUCTS MAY NOT BE AVAILABLE AT ALL STORES. PLEASE CALL TO CHECK AVAILABILITY BEFORE TRAVELLING.



**KEF**  
**Q4 Speakers £ SALE**  
**Q Compact Speakers £ SALE**

The Q4 floorstander, is one of the latest additions to KEF's acclaimed Q Series.

Featuring KEF's Uni-Q driver array - an arrangement that makes the speaker much easier to place in the room. This has been combined with a dedicated 130mm LF unit for extended bass output which belies the size of its diminutive cabinet.



KEF Q COMPACT

**Wharfedale Diamond 9.1 Speakers £ SALE**

"The overall balance of the speakers is their finest characteristic. Thanks to near-perfect driver integration, music sounds wonderfully natural and transparent... This is a bar-raising effort from Wharfedale: these are ridiculously good speakers at the budget price level."



WHAT HI-FI? SOUND AND VISION AWARDS 2004  
BEST STEREO SPEAKERS £250-500  
Wharfedale Diamond 9.1

**Roksan Caspian M Series**  
**CD Player £1099.95 Amplifier £999.95**

"A real class-contender, the new M Series-1 is a canny piece of kit and well worth the money." M SERIES-1 CD PLAYER

"A fine piece of equipment." M SERIES-1 AMPLIFIER



WHAT HI-FI? SOUND AND VISION AWARDS 2004  
BEST STEREO AMPLIFIER OVER £200  
Roksan Caspian M Series 1 Amplifier

**Preamplifier/2 x Monoblocs £3449.95**

"This Roksan is an excellent buy that puts most of the opposition to shame when it comes to sonic ability... If you want the most honest-sounding amp you can get for your money, this combo can't be ignored."

**NEW**

**Musical Fidelity A5 SERIES**  
**A5 Amplifier ..... £ SALE**  
**A5 CD Player ..... £ SALE**

Musical Fidelity has introduced the new A5 series CD player and integrated amplifier. The amplifier delivers 250 wpc and is capable of reproducing proper dynamic range into all but the most inefficient loudspeakers. The CD player is, according to Musical Fidelity, "the best player ever made." Visit your nearest store for more information and a demonstration.

**X-SERIES**

**X-80 Amplifier ..... £ SALE**  
**X-150 Amplifier ..... £ SALE**  
**X-Ray<sup>3</sup> CD Player ..... £ SALE**

The 40 wpc, **X-80** and the 80wpc **X-150** amplifiers are part of Musical Fidelity's revamped X-Series. Both models feature a dual-gang analogue volume control and high-output transistors for each channel. The X-150 also includes a high quality phono stage.

The **X-Ray<sup>3</sup>** CD player, replacement for the legendary X-Ray, uses the same DAC and upsampling principles as the acclaimed Tri-Vista SACD player.



**Quad**  
**99 CD-P CD Pre Amp £ SALE**  
**99 Power Amp £ SALE**  
**11L Speakers £ SALE**

This system package includes the multi Award-winning 11L speakers combined with the exceptional 99 CD-P CD player and 99 power amplifier.

"So, we have three talented pieces of kit and the result is...excellent."



WHAT HI-FI? SOUND AND VISION AWARDS 2004  
BEST STEREO SPEAKERS £250-500  
Quad 11L

WHAT HI-FI? SOUND AND VISION AWARDS 2004  
BEST STEREO AMPLIFIER OVER £200  
Quad 99

**PRICING POLICY**

We always try to ensure our prices are highly competitive. In the event you can find the same products and excellent service at a lower price, please bring it to our store managers' attention.

**FINANCE OPTION\***

Spread the cost of buying. 0% finance option is available on the majority of products we stock.

\*Written details on request. Licensed credit brokers. Minimum balance £400. Subject to status.

**PLEASE NOTE: SOME PRODUCTS MAY NOT BE AVAILABLE AT ALL STORES. PLEASE CALL BEFORE TRAVELLING.**

\*ADDED VALUE OFFERS - FROM RANGE AVAILABLE IN-STORE. NOT IN CONJUNCTION WITH ANY OTHER OFFER. ADVERTISEMENT VALID UNTIL AT LEAST 26/02/05, E&OE.

FINISH-ES 26<sup>TH</sup> FEBRUARY 2005



## Rotel 10 Series RA-1062 Amplifier £594.95 RCD-1072 CD Player £594.95

"At the heart of the 60-watt **RA-1062** is a toroidal transformer and a power supply, which Rotel claims helps the amp maintain performance even at high volumes... Crank up the volume and, as promised, the Rotel keeps its composure and balance... If you want a £600 integrated, be sure to audition the RA-1062. First impressions of the **RCD-1072** are excellent. This is the slickest machine in this group: the casework feels solid and the finish exceptional at the price... On its own terms it remains an enjoyable and informative CD player."

WHAT HI-FI? SOUND AND VISION • SEPTEMBER 2003



## Acoustic Energy Aelite Three Speakers £ SALE

"Acoustic Energy's new Aelite Threes weigh in at a hefty 18kg a piece, and their curved, real wood finished cabinets both look handsome and make good acoustic sense... So how do they perform... Give them a big room and position them in free space and they'll deliver great things... If you want a big sound for sensible money, don't hesitate to audition the Aelite Threes."

WHAT HI-FI? SOUND AND VISION  
★★★★★

## CD RECORDERS



### Yamaha CDR-HD1300/II £479.95

New replacement for the Award-winning CDR-HD1300. Now includes a larger hard-disk for extra storage.

### Pioneer PDR-609 £199.95 LIMITED STOCK AVAILABLE



"Features include 24-bit/96kHz digital-analogue-conversion plus manual recording level controls, ideal when making compilations to standardise levels. All this means you get great copies from the Pioneer... and remarkable value."



WHAT HI-FI? SOUND AND VISION  
AWARDS 2004  
BEST CD SPEAKERS OVER £1000  
Acoustic Energy Aelite Three

### Denon DM31 UD-M31 CD Receiver £189.95

"The D-M30 was exemplary, as its three What Hi-Fi? Sound and Vision Awards clearly show. The D-M31 is even better, making it phenomenal value for money."

NB DENON DM31 PRICE EXCLUDES SPEAKERS

## Monitor Audio

### SILVER S6 Speakers £499.95

"These are rather magical speakers, with a poise and grace that belies their ability to turn on the power when required. Pair them with a good CD player and suitably accomplished amp, and you won't go far wrong."

WHAT HI-FI? SOUND AND VISION  
★★★★★



### GOLD Reference 20 Speakers £ SALE

"Monitor Audio has made an immensely accomplished pair of speakers in the GR 20s. In sonic and physical terms there is little to criticise; even the price is highly competitive. We have no choice but to recommend them highly."

WHAT HI-FI? SOUND AND VISION  
★★★★★



### BRONZE B2 Speakers £179.95

"Monitor Audio's Bronze B2s sound much more expensive than their £200 price tag would suggest. In fact, they sound superb... In the competitive world of budget hi-fi, speakers don't get much better than the B2s."

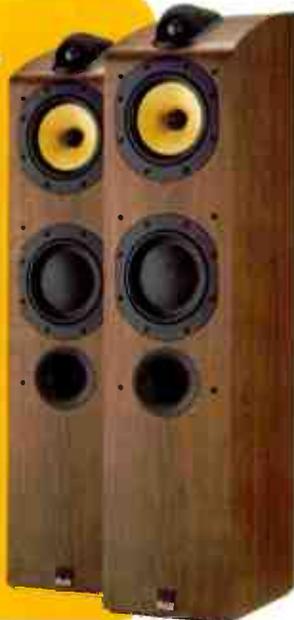


WHAT HI-FI? SOUND AND VISION  
Best Buy 2003

## B&W 704 Speakers £1399.95

The 704 speakers are part of B&W's new 700 series. These floorstanding, two-and-a-half-way, vented box speakers are available in a variety of attractive finishes. In a recent What Hi-Fi? Sound and Vision group test the 704 offered "Remarkable openness and clarity that is unrivalled at this price."

WHAT HI-FI? SOUND AND VISION  
★★★★★



## Acoustic Energy AE1 MKIII Speakers £ SALE

"The legendary AE1 lives on in this groundbreaking third version... The Mk IIIs are worthy of the AE1 name, taking small-speaker performance to another level.."

WHAT HI-FI? SOUND AND VISION  
AWARDS 2004  
BEST HI-FI MICRO SYSTEM OVER £150  
Denon DM31



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**CLAIM** UP TO  
**25%**  
ACCESSORIES **FREE**

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**CLAIM 15%\*** WHEN YOU SPEND OVER **£500**  
**CLAIM 20%\*** WHEN YOU SPEND OVER **£1000**  
**CLAIM 25%\*** WHEN YOU SPEND OVER **£2000**



## SUGGESTED HI-FI SEPARATE SYSTEMS

Sevensoaks has carefully chosen four hi-fi separate systems. Selected for their performance, reliability and compatibility, these systems offer superb value for money with massive savings on the individual component prices. Simply add speaker and interconnect cables and other accessories from our extensive range available in-store.



**Rotel**  
RCD-02 CD Player  
RA-01 Amplifier  
**Monitor Audio**  
Bronze B2 Speakers

£**649.95** SAVE **£££**

PRICE EXCLUDES CABLES & STANDS

HI-FI SYSTEM 1 - NOT IN CONJUNCTION WITH ANY OTHER OFFER OR PROMOTION

1  
Hi-Fi  
SYSTEM

## ESSENTIAL ACCESSORIES

The right accessories can make or break your hi-fi or home cinema system. Our carefully selected range will ensure you get the very best performance from your system.



### QED CABLES

Audio & Video Interconnects • Speaker Cables • HDMI Cables • Component Video Interconnects • Comprehensive Custom Cable Service

### GRADO HEADPHONES

Range includes the Award-winning SR60 and highly-acclaimed RS1 plus the world-famous Grado Cartridges



### SOUNDSTYLE RACKS & STANDS

The all-new Soundstyle range of Equipment Supports and Speaker Stands offer the discerning enthusiast an unsurpassed combination of leading-edge styling, outstanding finishes, modular flexibility and class-leading sonic performance



**Arcam**  
CD73T CD Player  
A80 Amplifier  
**KEF**  
Q4 Speakers

£**1149.95** SAVE **£££**

PRICE EXCLUDES CABLES

HI-FI SYSTEM 2 - NOT IN CONJUNCTION WITH ANY OTHER OFFER OR PROMOTION

2  
Hi-Fi  
SYSTEM



**Roksan**  
Kandy KD1 MKIII CD Player  
Kandy KA1 MKIII Amplifier  
**Monitor Audio**  
Silver S6 Speakers

£**1499.95** SAVE **£££**

PRICE EXCLUDES CABLES

HI-FI SYSTEM 3 - NOT IN CONJUNCTION WITH ANY OTHER OFFER OR PROMOTION

3  
Hi-Fi  
SYSTEM



**Musical Fidelity**  
X-Ray³ CD Player  
X-150 Amplifier  
**Monitor Audio**  
Gold Reference 10 Speakers

£**1999.95** SAVE **£££**

PRICE EXCLUDES CABLES & STANDS

HI-FI SYSTEM 4 - NOT IN CONJUNCTION WITH ANY OTHER OFFER OR PROMOTION

4  
Hi-Fi  
SYSTEM

## £ PRICING POLICY

We always try to ensure our prices are highly competitive.

In the event you can find the same products and excellent service at a lower price, please bring it to our store managers' attention.

FINISHES 26<sup>TH</sup> FEBRUARY 2005

## TURNTABLES

SEE OFFER AT THE TOP OF THE PAGE

Goldring GR1	£129.95
Michell Gyro SE/RB300	£ SALE
Michell TechnoDec (Ex Arm)	£ SALE
Project Debut Phono SB	£ SALE
Project Debut III (Black)	£ SALE
Project Debut III (Colours)	£ SALE
Project 1 Xpression	£189.95
Rolsan Radius 5 (Wood)	£749.95

## TUNERS

SEE OFFER AT THE TOP OF THE PAGE

Arcam DVA T61	£229.95
Cyrus FM X	£499.95
Denon TU260L MKII	£99.95
Harman Kardon TU970 DAB/AM/FM	£249.95
Marantz ST4000	£99.95
Pure DRX-701ES DAB	£189.95
Pure DRX-702ES Analogue/DAB	£269.95
Rolsan Kandy KT1 MKIII	£549.95

## CD PLAYERS

SEE OFFER AT THE TOP OF THE PAGE

Arcam DVA CD73T	£399.95
Arcam DVA CD192	£849.95
Arcam FMJ CD33T	£1349.95
Cyrus CD6	£599.95
Cyrus CD8 X	£999.95
Cyrus DAC X	£1099.95
Denon DCD485	£119.95
Linn Genki	£ SALE
Linn Ikemi	£ SALE
Marantz CD5400	£119.95
Marantz SA11 S1	£ SALE
Musical Fidelity X-Ray 10	£ SALE
Musical Fidelity A3.2	£699.95
Musical Fidelity A5	£ SALE
Musical Fidelity A308*	£1399.95
Quad 99 CD-P	£ SALE
Rolsan Kandy K1 MKIII	£649.95
Rolsan Caspian M	£1099.95
Rotel RCD02	£379.95
Rotel RCD1072	£594.95

## CD RECORDERS

Pioneer PDR609 CD-RW	£199.95
Yamaha CDR-HD1300/II	£479.95

## AMPLIFIERS

SEE OFFER AT THE TOP OF THE PAGE

Arcam DVA A65 Plus	£399.95
Arcam DVA A80	£599.95
Arcam DVA A90	£849.95
Arcam FMJ A32	£1199.95
Cyrus 6vs	£599.95
Cyrus 6vs	£799.95
Cyrus Pre X vs Pre	£1099.95
Cyrus Mono X Power (Each)	£1199.95
Denon PMA355	£169.95
Linn Kolektor	£ SALE
Linn LK85 Power	£ SALE
Marantz PM4400	£139.95
Marantz PM7200	£239.95
Marantz PM11 S1	£ SALE
Musical Fidelity X-80	£ SALE
Musical Fidelity X-150	£ SALE
Musical Fidelity A3.2 Pre	£699.95
Musical Fidelity A3.2 Power	£699.95
Musical Fidelity A5	£ SALE
Musical Fidelity A308	£1399.95
Quad 99 Power	£ SALE
Quad 909 Power	£ SALE
Rolsan Kandy KA1 MKIII	£649.95
Rolsan Caspian M	£999.95
Rolsan Caspian M Pre	£1249.95
Rolsan Caspian M Stereo Power	£749.95
Rolsan Caspian M Monobloc Power (Each)	£1099.95
Rotel RA-01	£249.95
Rotel RA-02	£349.95
Rotel RA-1062	£594.95

## SPEAKERS

SEE OFFER AT THE TOP OF THE PAGE

Acoustic Energy Aegis Evo One	£129.95
Acoustic Energy Aegis Evo Three	£249.95

Acoustic Energy Aelite Two	£ SALE
Acoustic Energy Aelite Three	£ SALE
Acoustic Energy AE1 MKIII	£ SALE
AWI Neutron IV	£ SALE
B&W DM601 S3	£249.95
B&W DM602 S3	£299.95
B&W 704	£1399.95
B&W 705	£899.95
KEF Q Compact	£ SALE
KEF Q4	£ SALE
KEF XQ1	£ SALE
Linn Katan	£ SALE
Mission m311	£119.95
Mission m341	£279.95
Mission 780SE	£ SALE
Mission 782SE	£ SALE
Monitor Audio Bronze B2	£299.95
Monitor Audio Silver S1	£299.95
Monitor Audio Silver S6	£499.95
Monitor Audio Silver S8	£799.95
Monitor Audio Gold Reference 10	£899.95
Monitor Audio Gold Reference 60	£1999.95
Quad 11L	£ SALE
Quad 12L	£ SALE
Quad 22L	£ SALE
Rusark Epilogue II	£ SALE
Rusark Talisman III	£ SALE
Rusark Sabre III	£ SALE
Wharfedale Diamond 9.1	£ SALE
Wharfedale Pacific Evolution 30	£ SALE

## HI-FI SYSTEMS

Denon 201 Ex Speakers	£479.95
Denon DF101 Ex Speakers	£299.95
Denon DM31 Ex Speakers	£189.95
Linn Classic Music Ex Speakers	£ SALE
Teac Legacy 600 Ex Speakers	£199.95

## DVD SYSTEMS

Denon ADV-M71 Inc SC-M51 Speakers	£449.95
Denon DHT-500SD Inc 5.1 Speaker Package	£429.95
Denon DHT-550SD Inc 5.1 Speaker Package	£ SALE
Jamo DVR50/A305PDD Inc Speakers	£ SALE
Jamo DVR50/A355PDD Inc Speakers	£ SALE
KEF KIT100 Inc Speakers	£ SALE
Teac Legacy 700/LS-1800 Inc Speakers	£799.95

## MULTI-ROOM AUDIO

SEE OFFER AT THE TOP OF THE PAGE

Cyrus Linkserver 160	£2999.95
Cyrus Linkserver 250	£3499.95
Cyrus Linkport	£649.95
Cyrus Linkwand	£199.95
Yamaha MusicCast MCX A10	£599.95
Yamaha MusicCast MCX 1000	£1799.95

## DVD PLAYERS

SEE OFFER AT THE TOP OF THE PAGE

MAKE & MODEL	REGION 2	MULTI REGION
Arcam DVA DV78	£699.95	£699.95
Arcam DVA DV79	£999.95	£999.95
Arcam FMJ DV29	£1599.95	£1599.95
Cyrus DVD8	£1199.95	£1199.95
Denon DVD-1710	£ SALE	£ SALE
Denon DVD-1910	£ SALE	£ SALE
Denon DVD-2200 Universal	£339.95	£349.95
Denon DVD-2900 Universal	£489.95	£499.95
Denon DVD-2910 Universal	£ SALE	£ SALE
Denon DVD-3910 Universal	£ SALE	£ SALE
Denon DVD-A11	£ SALE	£ SALE
Harman Kardon DVD22	£199.95	£199.95
Harman Kardon DVD31	£ SALE	£ SALE
Marantz DV4500	£ SALE	£ SALE
Moridian G98	£ SALE	£ SALE
Pioneer DV370	£69.95	£79.95
Pioneer DV575A Universal	£119.95	£119.95
Pioneer DV668Av Universal	£ SALE	£ SALE
Pioneer DV668Avi Universal	£ SALE	£ SALE
Toshiba SD240E	£59.95	£69.95
Toshiba SD340E	£69.95	£79.95
Yamaha DVD-S550	£119.95	£119.95
Yamaha DVD-S1500	£ SALE	£ SALE

## DVD RECORDERS

MAKE & MODEL	REGION 2	MULTI REGION
Panasonic DMR-E55 DVD-RAM	£199.95	£219.95
Panasonic DMR-E65 DVD-RAM	£ SALE	£ SALE

Panasonic DMR-E75 DVD-RAM	£ SALE	£ SALE
Panasonic DMR-E85 DVD-RAM	£ SALE	£ SALE
Panasonic DMR-E95 DVD-RAM	£ SALE	£ SALE
Panasonic DMR-E500 DVD-RAM	£ SALE	£ SALE
Pioneer DVR-220 DVD-RW	£199.95	£219.95
Pioneer DVR-320 DVD-RW	£ SALE	£ SALE
Pioneer DVR-420H HDD/DVD-RW	£ SALE	£ SALE
Pioneer DVR-520H HDD/DVD-RW	£ SALE	£ SALE
Pioneer DVR-720H HDD/DVD-RW	£ SALE	£ SALE
Pioneer DVR-920H HDD/DVD-RW	£ SALE	£ SALE

## A/V AMPLIFIERS

### RECEIVERS & PROCESSORS

SEE OFFER AT THE TOP OF THE PAGE

Arcam AVR250 AV Receiver	£999.95
Arcam AVR300 AV Receiver	£1299.95
Arcam AVB/P7 AV Pre/Processor/Power	£5749.95
Cyrus AV8 AV Processor	£1099.95
Denon AVC-A1SRA AV Amplifier	£ SALE
Denon AVC-A1XV AV Amplifier	£ SALE
Denon AVR1705 AV Receiver	£199.95
Denon AVR1905 AV Receiver	£ SALE
Denon AVR2105 AV Receiver	£ SALE
Denon AVR2805 AV Receiver	£ SALE
Denon AVR3805 AV Receiver	£799.95
Harman Kardon AVR330 AV Receiver	£ SALE
Harman Kardon AVR630 AV Receiver	£ SALE
Harman Kardon DPR2005 AV Receiver	£ SALE
Marantz SR4500 AV Receiver	£299.95
Marantz SR5500 AV Receiver	£ SALE
Pioneer VSX-D814 AV Receiver	£249.95
Pioneer VSX-AX3 AV Receiver	£ SALE
Pioneer VSX-2014 AV Receiver	£ SALE
Pioneer VSX-AX5i AV Receiver	£799.95
Pioneer VSX-AX5Ai AV Receiver	£999.95
Pioneer VSA-A10Ai AV Amplifier	£ SALE
Rotel RSX1056 AV Receiver	£1199.95
Rotel RSX1067 AV Receiver	£1799.95
Rotel RSP1066/RMB1075 AV Pre/Power	£1799.95
Rotel RSP1098 AV Processor	£2294.95
Yamaha DSP-AX750SE AV Amplifier	£ SALE
Yamaha DSP-Z9 AV Amplifier	£ SALE
Yamaha RX-V650 AV Receiver	£299.95
Yamaha RX-V650 AV Receiver	£369.95
Yamaha RX-V1400RDS AV Receiver	£629.95
Yamaha RX-V1500RDS AV Receiver	£ SALE
Yamaha RX-V2400RDS AV Receiver	£679.95
Yamaha RX-V2500RDS AV Receiver	£ SALE

## A/V SPEAKERS & PACKAGES

SEE OFFER AT THE TOP OF THE PAGE

Acoustic Energy Evo 3B	£679.95
Acoustic Energy Aego P5/II	£429.95
Acoustic Energy Aelite 5.1	£ SALE
Artcooustic Diablo	£ SALE
B&W VM1/AS1	£849.95
B&W DM300 AV	£899.95
KEF IGT1005	£299.95
KEF IGT2005.2	£ SALE
KEF IGT5005	£ SALE
KEF Q7 AV	£ SALE
M&K K5	£ SALE
M&K K3	£ SALE
M&K Xenon 25	£ SALE
M&K 850/CS35/A850	£ SALE
Mission M30 AV Pack	£399.95
Mission Elegante e82 7.1 Package	£ SALE
Monitor Audio Bronze B2 AV	£799.95
Monitor Audio Bronze B4 AV	£949.95
Monitor Audio Radius 5.1	£499.95
Monitor Audio Radius 5.1	£999.95
Mordaunt Short Genie	£ SALE
Quad L-Series	£ SALE
Wharfedale Diamond 9 HCP	£ SALE

## SUBWOOFERS

SEE OFFER AT THE TOP OF THE PAGE

B&W PVI	£949.95
MJ Acoustics Pro 50 (Black)	£ SALE
MJ Acoustics Pro 100 (Black)	£ SALE
MJ Acoustics Ref 100 (Black)	£ SALE
MJ Acoustics Ref 200 (Black)	£ SALE
MJ Acoustics Ref 1 MkII (Black)	£ SALE
Quad L Series	£ SALE
REL Q150E MKII (Brittix Black)	£499.95
REL Q201E (Brittix Black)	£724.95

REL Q400E (Brittix Black)	£999.95
REL Quake (Brittix Black)	£349.95
REL Stampede (Black)	£549.95
REL Strata 5 (Brittix Black)	£999.95
Wharfedale Diamond SW150	£ SALE

## PLASMA

Fujitsu P42H-A30 42"	£ SALE
Fujitsu P50XH-A30 50"	£ SALE
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# classical musik

Noel Keywood tells the story of Quad Musikwiedergabe, a German electrostatic loudspeaker specialist remanufacturing Quad ESL-57s and Braun LE-1s using the original tooling...



**Braun LE-2.** Unlike the new LE-1, this is not a reincarnation of a classic, as Braun never produced an LE-2. It is a re-dressed ESL63. Nice idea, but not cheap...

**L**oudspeakers don't get into the history books. Well, most don't. Cone loudspeakers are so effective, so universal and have been that way for so long - 80 years - that we take them for granted. They do their job well and are difficult to beat, but a box is a box and it's difficult to get excited about it when, visually at least, little seems to have changed over 80 years.

Not surprising then that when the first Quad electrostatic was demonstrated at The Waldorf hotel in 1955, Gilbert Briggs, founder of Wharfedale, wrote that "we solemnly agreed to change into black and meet in due course in the workhouse." By driving a sheet of Mylar film (similar to Clingfilm) on both sides by electrostatic forces, it seemed Quad had come up with a new form of loudspeaker able to eclipse the conventional cone-in-a-box on which Wharfedale's business had been built. This new panel loudspeaker threatened to change everything.

But it didn't turn out like that, as we all now know. Briggs later noted that "practical considerations always prove in the long run to be more potent than theoretical or technical

perfection". Quad's ESL, as it was then known, now usually called the ESL57 to distinguish it from later models, came to be highly regarded by the audio industry, but an object of curiosity to the buying public. It looks like a radiator in most people's view, takes up far too much space as a stereo pair, doesn't have much bass and costs a lot. Not the greatest list of attributes one can dream up really, yet still the ESL57 doggedly attracts praise - even though it's not made anymore!

In my book it remains one of the best loudspeakers ever, because it tells me what other loudspeakers do wrong. Now there are electrostatics that have superseded the ESL57, like the ESL63 and the current 989, yet all the same the ESL57 retains a simplicity and purity that's hard to beat. As the first seriously correct loudspeaker, one that understandably frightened box manufacturers of the time, the ESL57 has become a classic and is definitely one for the audio history book.

As hi-fi loudspeakers go, this one offered superb fidelity in its time. Ironically though, it is getting better, for these days we have a better understanding of its weaknesses and new improved parts are being re-manufactured in the UK - and in Germany, to renovate, upgrade and improve the ESL57.

"When Peter Walker decided to sell the company", Manfred Stein of Quad Musikwiedergabe, Koblenz, Germany, told us, we "got the chance to take over the original jig to strengthen the Mylar...and (most importantly) we got a lot of the knowledge of how to do everything. We now manufacture

all parts of the ESL57, including transformers, grills, wooden parts, everything. This means we can deliver the ESL57 completely rebuilt with new parts."

"When Braun did the LE1 in the 1960s they needed to design their own audio transformer, because the better Quad one would not fit into the LE1 box. The Braun transformer was not as good as the original Quad one, so the sound of the LE1 was always behind the LE1 for this reason. Today we manufacture a new audio transformer which meets the original specs of Peter's one, and with dimensions that fit into the LE1. Both the LE1 and ESL57 now come with protection boards".

Peter Walker told me that the audio transformer of the ESL57 had always been designed to saturate (magnetic overload) early, to help protect the bass panels from excessive input. But the original ESL57 had no protection; it was only with the ESL63 that protection was used. The '63 had a self powered (from the audio signal!) compressor circuit that muddled the sound, before it crowbarred the amp. Quad amps were designed to handle a complete short, but others weren't and one irate American customer, whose monster power amp went up in a puff of smoke, sued Quad in America for recompense.

As the 63 was coming to the end



**Fitting new panels to the ESL57.** Two bass panels flank a central treble panel.



**Manfred Stein and Dr Hirsch of Quad Musikwiedergabe with an ESL57 tensioning jig.**

of its life a new type of protection was tried: high voltage diodes in the audio transformer secondary circuit. These clip the signal hard and have proved more effective in use than earlier methods. As a result, upgraded ESL57s are best retroactively fitted with such protection, to prevent the arcing that would occur on overload which, ultimately, damaged the Mylar panels and necessitated a re-build. Refurbished ESL57s from Quad Musikwiedergabe come with such protection.

As Quad Musikwiedergabe explain, the Mylar for a '57 is stretched over a frame on jigs, and the correct tension must be achieved. It's a skilled business, one that Braun reputedly never got right. As a result their LE1, although cleanly styled in classic Bauhaus tradition, never really matched up to the ESL57. It had weaker bass, due to the modified audio transformer, and a little more treble too, for a brighter sound that, it was felt, would better appeal to German ears. The ESL57 had a slow treble roll off in classic UK tradition, which makes for a smooth and unintrusive sound, great for classical music in particular. Peter Walker never really took much to Rock music. Best not to mention it when speaking to him I found!

Another factor affecting the sound of a typical ESL57 is progressive loss of treble panel output due to ageing. Yep, 57's get old like all of us, but sound softer in their old age, perhaps not like all of us! Manfred Stein said refurbished ESL57s sound brighter as a result.

Quad Musikwiedergabe also now produce an ESL-63 re-dressed in Braun clothing and called the LE-2. The '63 is a true point source, full range loudspeaker, quite different to the twin-panel ESL57. Listening position is less critical, but still critical all the same I've found from long experience. The sound is softer too, deliberately so, since treble loss was engineered into the delay line

#### ON THE PANEL

I've lived with Quad electrostatics of various flavours, recently parting with my beloved ESL63s which finally made it to the loft after a long hard life. Nothing lasts too long in the hands of a reviewer and my 63s had already been totally rebuilt once. They were - felt, coming up for a second one. Reviewers have to review what people listen to which, more than ever, means boxes - lot of 'em with surround-sound. So what happened to my ESL63s isn't typical, I knew I should not part with them either, but then, as Annie said: 'I'll be back!'

Why? An electrostatic is true high fidelity. And when I come back to room is being prepared!) an upgraded ESL57 may just be what I choose to pair with my 300B valve amp. The thin, super light film moves fast in response to transients, it doesn't overshoot and distortion is remarkably low. There is no rear cabinet rattle. As a result, the ESL57 gives a super smooth, natural and open sound that is essentially colouration free. I, however, prefer to remove the felt damping pad behind the treble panel of the 57 (much to Peter Walker's disapproval). Speech and vocals sound wonderfully real, in a relaxed but utterly natural manner that is quite obviously different from a cone loudspeaker. Treble is also smooth, clean and totally integrated with the rest of the performance. I remain blissfully unaware of treble quality with Quads, unlike tweetered speakers.

An open panel starts to cancel as frequency goes down, hence the tight bass. There is quite a lot that can be done about this though. The open panels need rear space so rear radiation is lost, meaning usefully situated. My 16ft long room is on the small side for this so I used rear felt curtains, hung 6in behind the panel. Many people have long rooms though, in which an ESL57 is ideal. Peter Walker recommended putting them close to or against side walls to increase panel area, so reducing bass cancellation and extending bass. A narrow, long room is ideal, especially where two rooms have been knocked into one to get a 12ft x 16ft (say). I've heard ESL57s doing a great job with Reggae in a situation like this.

If I do some day go back to ESL57s (new 86s being another option of course) they would likely be run with a REL subwoofer. There's nothing quite like it for real high fidelity. NK

between the annular sections. Manfred admitted he preferred the ESL57, when in tip-top condition - and I'd agree.

And with what should you drive an ESL57? "Unquestionably, a modern Quad II valve power amplifier made by us", Manfred said. With output transformers made in Switzerland, using modern materials, and the rest of the amplifier made in Germany, this is a beast of fascinating pedigree. The ESL57 still remains one of our top loudspeakers. The market for good, classic audio is growing and continuing interest in the ESL57 confirms it as a true classic. Box speakers may come and go but the original electrostatic lives on, but now its spiritual home is Germany.



**The ESL57, Quad's first electrostatic and, for some, still the best. Going on sale in 1955, this classic still betters most modern loudspeakers. All parts are available new from Quad Musikwiedergabe in Germany.**

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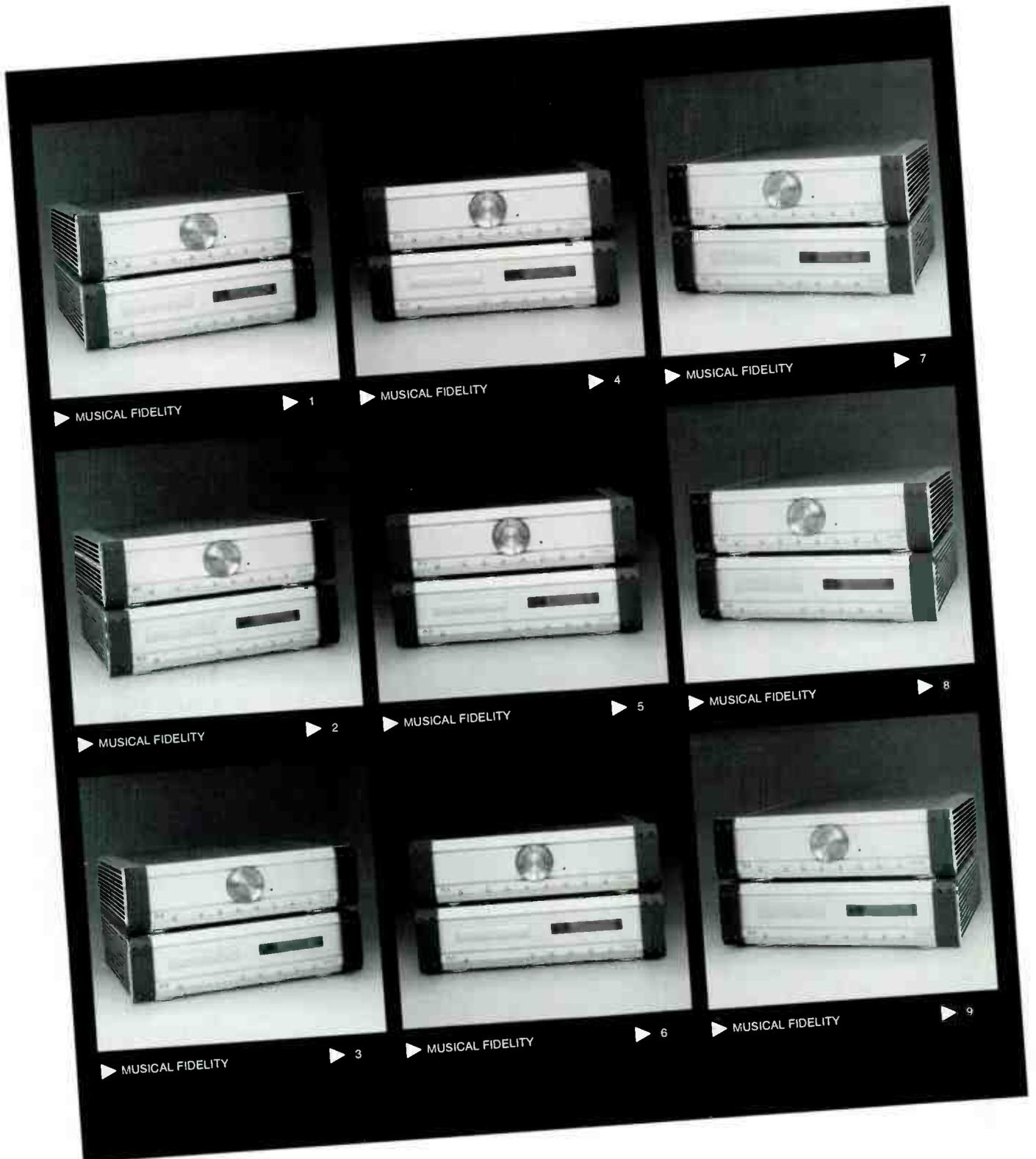
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# full, flat

**It's every loudspeaker owner's dream – the prospect of a true, full range system that's flat from bottom to top. No such thing exists, but David Price has an answer!**

**T**he trouble with Quad's ESL989 electrostatic loudspeaker is that, for something that is so, stunningly, disarmingly capable at some things, it's pretty damn crap at others. If it wasn't so incredibly accomplished in some ways, it wouldn't have raised my expectations so high, and maybe I'd have been less disappointed by its oh-so-obvious failings...

Now, I'm not having a pop at Quad. The problems that the 989 suffers from are largely a function of the fact that it's an electrostatic, which is to say that the same reason that gives it a transcendental midband also means that its bass is middling and its treble an afterthought.

Maybe I'm being a tad fussy. As regular readers will know, my other speaker is a Yamaha NS1000M, which succeeds – and fails – in all the ways the Quad fails – and succeeds. The Yam is, in my view, the best ever moving coil loudspeaker, and it shows us precisely what the best electrostatic is doing wrong – and vice versa.

To give you an example, the Yamas have gut-wrenching bass. Properly driven, the lows that these speakers give are so fast, tight and strong that it feels like someone's just hit you in the back of your chest with a cricket bat. Likewise, the treble is supremely crisp and spacious – a tad bright, but this is usually because what you're driving it with is; and if not, you can always trim it down with the NS1000M's level pot.

By the same token the midband is brilliantly open and neutral – but there it stops. The Quads show how loudspeakers can really image, and despite their lack of LF grunt, they really do give you a 'wall of sound'. This is probably because they are actually, literally, a wall of sound... The 989s show real imaging and dimensionality like nothing else I've ever heard, over so much of the room. They've no 'sweet spot' like a KEF Uni-Q or Tannoy Dual

Concentric driver. Rather, the Quads hang images in space like, well, that's where they were always supposed to be...

Go back to the NS1000Ms, and once again, the Quads sound like you've just switched on the 'high' and 'low' filters you used to get on 1970s Japanese amps. They're bandwidth-limited, constrained, hide-bound and compressed. It's such an anti-climax, and yet the things the Quads do well just blow the Yams into the weeds... Yet the things the Yams do kick the Quads back into 1957... Oh for the best of both worlds!

## BRING AND BUY

Well, I have an answer. True, it doesn't turn the ESL-989s into fire breathing, head-banging behemoths to rival the NS1000Ms, but it raises their game sufficiently for you not to be aware of their problems and pitfalls, enough for you to sit back and enjoy their brilliance without the tears of that risible (by the standards of other 'ultimate loudspeakers') bass and treble. It makes them work as a rounded, cohesive whole that – even after an evening pinned to the rear wall in front of a pair of NS1000Ms at full tilt – doesn't seem obviously compromised. The good news is that, as a percentage of their total purchase price, it isn't too expensive either – and there are added bonuses too. Enter Townshend Maximum Supertweeters and REL Strata 5 subwoofer. Time to say hello to a nice, evenly balanced 15Hz to 90kHz, and an audio experience that

## SHOUT TO THE TOP

The Townshend Maximum comes in a petite (50x30x100mm) casing in a choice of either Titanium or a stainless steel mirror finish which looks exquisite. Pressure relief vents in the sides of the case are provided to allow the air pressure on the ribbon to equalise in the event of sudden pressure changes. Inside is a super-powerful neodymium magnet and an ultra thin eight micron pure aluminium ribbon, plus a simple crossover to set the sensitivity. All copper conductors, including the matching transformer windings and the aluminium ribbon, use Townshend Audio's Deep Cryogenically Treated (DCT) process, as found in its Isolda loudspeaker cables, and are heat annealed (-190C to +150C).

Output may be set to suit loudspeakers with sensitivities from 80-110dB, adjusted in steps by a rear-mounted eight-position switch. Also on the back are the usual 4mm banana sockets. I run a discrete cable to each supertweeter (QED Micro suffices, and isn't too intrusive), with the Quad ESL-989s being aspirated by Chord Company Reference. Townshend says the Maximums run

**"The Townshend supertweeters and REL subwoofer make for another brick in the 'wall of sound', and then some..."**

few will ever forget. Listening to this threesome, you get that sense that what you're hearing is something few others – even most owners of super-fi loudspeakers and top studio engineers – will ever experience. It is special, truly it is.

from 20-70kHz (at -3dB points), or 12-90kHz (at -6dB). In my system, they sit atop the 989s angled ever-so-slightly inward, with the level controls set at one less than maximum (although this depends on your system).



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The results are truly amazing. I'm aware that – for whatever genetic reason? – I've got slightly more sensitive high frequency hearing than many – but even those who spent their adolescence with heads pressed to the PA stacks at Motorhead concerts can hear the extra space the Maximums add. There's obviously a whole octave or three of additional information (harmonics, mostly) that suddenly open the 989s up like unbolting and kicking open a barn door. But more important is what they do to the 989s' upper midband, which becomes dramatically better focussed and more lucid. Now, another criticism of the Quads is that, with Rock music in particular, they're not the funkiest of things. They're a bit 'white men can't dance' in their rhythmic abilities – or rather, they are without the Maximums. The Townshend supertweeter seems to put them at their ease, as if is reefer they had smoked, and the whole musical experience becomes obviously less cerebral and more intuitive. The Quads are damn good speakers, and with the Townshend Maximums you can really see why.

## BASS-IC INSTINCTS

Onto the next most significant bugbear of the 989s. Now, compared to ESL57s, 63s and 988s they're veritable bass monsters – many seasoned electrostatic users express disbelief that they're listening to 'statics when they hear a well set up pair of 989s. It's tight(ish), taut and very well integrated. Trouble is, when you put them up against serious moving coil three-ways like the NS1000Ms, they sound like AM radio - we're talking massive, gut-churning, visceral 'thwack' here. The 989s don't sound obviously compromised in isolation (far from it), but put them against something that pushes out 200W with almost no distortion and they're lightweights. How to compensate for this?

Well, you cant! But you can certainly divert attention from the Quads' lack of serious seismic activity with a subwoofer. But it's a touch more complex here. It's not a case of sticking a supertweeter on top and marvelling at the improvement. With a sub, you've got to [a] get a good one and [b] get it working properly.

Having a long running respect for REL subwoofers (NK can't speak highly enough of them) I opted for the new Strata 5. Now, this is by no means the biggest and baddest in the company's range – but with the Quads, it's a case of less is more. Think of it this way – they're delicate, carefully matched panel speakers (and now with similarly oriented ribbon supertweeters), and so the last thing you want is a Neanderthal boom-box ruining everything and wiping out £7,000 worth of carefully honed genius. The Strata 5 seemed just (little) enough to do the job – anything more would have been needless and probably careless too...

The new Strata 5 employs a sophisticated digital control regimen, which claims the most precise and comprehensive control of calibration parameters available in the sub-bass system market. A closed box design with a downward firing drive unit, it boasts a DC-coupled amplifier to avoid phase shifts, with audio-grade MOSFET output devices, high quality smoothing capacitors and ultra-quiet audio quality low-loss toroidal transformer. Filter capacitors are high quality nitrogen filled polystyrene types of 1% tolerance and indefinite life. Very close tolerance components ensure consistency of performance. Superior-grade 30mm MDF, available in Black Brittex for £700 or £800 for Maple, Cherry and Rosenut real wood veneers. This includes the remote control, which as we'll see, is darned useful for set-up. REL supply a long piece of wire for connection from the speaker output terminals, which they believe works better than via line-level RCA phono connections (also provided).

Switch the Strata 5 on and you're faced with several hours of fiddling. Actually, you can get really good results in the first couple of minutes, and from then it's down to fine tuning. Subs aren't hard to place – put them in one corner of the front wall, about 15cm from the walls themselves, where they then drive the room brilliantly. The next thing is to remember that the idea is NOT to hear the sub – it should be adjusted so you can't hear it, period.

This done properly, suddenly the system hits a sweet spot and starts to do great things. In the case of my room, gain was set very low (otherwise you hear boom) and the frequency dialled in, via the remote, to 26Hz. At this point, I could not discern the sub working at all – it simply wasn't audible – until you switch the power off and you hear

how bad it was without!

Using a proper subwoofer such as this is best likened to driving a big V8 car, getting used to it to the point where you wonder why you ever bothered to run such a gas guzzler, and then going back to an in-line four cylinder – whereupon it's a case of 'Oh my God – how did I put up with this lawnmower for so long!' It's far more a case of the problems it solves (which you'd become used to in your ignorance) rather than the obvious benefits it brings. Switch off the REL and suddenly what seemed to be a reasonably good bass (especially for an electrostatic) becomes light, frigid, tuneless and compressed. The Strata simply lets the Quad's upper bass do what it always wanted to, but was hitherto hidebound by having to exert itself trying to shift air. Suddenly the REL's there to do it for them, and the 989s' LF panels can relax and enjoy themselves. Things are more easy yet more dynamic (and that's no contradiction in terms), with greater fluidity, tunefulness and ultimately more oomph too – although the oomph is actually the least tangible benefit. Just as with V8 car engines, they make things seem easier and not more of a chore, which leaves you to enjoy the scenery/ music...

## THE END?

With sub and supertweeters, the Quad's still aren't up to the NS1000Ms in terms of bass thwack and treble glean, but they're a darned sight closer. And more importantly, you can now focus on what the 989s do so peerlessly, which is the midband. The upper mid is more spacious, smoother and more relaxed, bass more impactful, confident and tuneful – and then there's that swingeing 200Hz to 10kHz region where they're awesome. The NS1000Ms still have more incision and tonal colouring, but this is an aside compared to the majestic scale, dimensionality and expansiveness that the Quads afford. The Townshends and REL make for another brick in the 'wall of sound', and then some. It's one of hi-fi's most compelling and addictive loudspeaker combinations I've heard in my life, bar nothing.



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# dynamic *balancing*

**Ian R MacLeod looks at the ancient art of reproducing music — and the lengths to which people have been prepared to go to make it sound better...**

It wasn't always like this. For most of human history, people have enjoyed perfect music reproduction in their homes. From the times when our ancestors sat around fires in loincloths to the upright pianos in Victorian parlours, the sounds made to entertain ourselves were rendered with absolute precision. The only problem was, you or someone else had to do the playing. But that's just part of the story.

Long before the invention of the phonograph, other, essentially sonically more accurate, ways were being found of reproducing music. The ears of Marie Antoinette, whilst they were still upon the head attached to her body, were apparently enchanted by the sounds of an early music box. That was in the early 1790s; a time when extravagantly clever and expensive walking, speaking, chess-playing automata were all the rage. Music boxes, in a pattern which all hi-fi users would recognise, evolved through mass production in the nineteenth century into large, ornate, multi-cylinder and then multi-disk objects of domestic prestige and consumer lust.

Maintenance kits were available, finishes ranged from the utilitarian to the lushly expensive; there were magazines. And the sound had a bite and attack — an essential reality and 'hereness' — which modern high-end equipment couldn't hope to match, even if today's audiophiles would doubtless define the performance as a tad 'mechanical'...

Then, in the 1890s, came pianolas. No self-respecting Edwardian drawing room or Prohibition speakeasy would be without one or another version of

these devices, which evolved from the hand-cranked to the electrical, and from workaday coin-in-the-slot to extravagantly complex. Great pianists of the day such as Rachamaninov recorded performances on high-end versions of these devices, which could then be reproduced anywhere and are still sometimes played, whilst composers such as Stravinsky wrote specially commissioned pieces. It wasn't just pianos, either. The wealthy audio fan of 1910 could perhaps consider the delights of the Phonoliszt-Violina, which combined the piano with the violin, or even, if you were really into the dedicated-listening-room end of things, a pneumatically-powered Orchestrion, with strings, pipes, bells and piano and perhaps even flutes and saxophone, on which you could listen to anything from the classics to the latest dance craze, all played with staggering dynamics and clout.

## GRAM PASTIMES

Set against this, it's surprising that Edison's crackly old phonograph ever got a look in, especially when you consider his limited vision of the use of his device, and his insistence (in an early version of the War of the Formats) on the use of cylinder rather than disk. With this variety of recorded audio, such a late arrival on a home audio scene in which telephonic transmission was already making a strong impression, it was certainly touch-and-go. The reclusive Marcel Proust took time off in his cork-lined Paris apartment from writing his mammoth novel 'À la Recherche de Temps Perdu' to dress up in evening attire and listen to an Operaphone service which relayed live concert performances straight

from the stage. Queen Victoria, not everyone's image of an audiophile, did the same. And the sound quality? It was commented approvingly that it was as if the performance Her Majesty was listening to was taking place in the room next door. Muffled by half a foot of brick and plaster, to put it another way.

When gramophone reproduction finally began to gain in popularity, it's no surprise to find that the designs mimicked the earlier formats and devices. They had the finish and veneer, the ivory and brass accouterments, not the mention the shape and purpose, of music boxes. In what perhaps might be defined as an early Eden of phonograph production, when the analogue signal in the groove was transmitted directly into the air without the inevitable compromises in reproduction which the use of electronic amplification inevitably brings, a beautiful symmetry of design and function could be achieved. Still, debates about sound quality raged then just as they do now. Soundbox or horn, or both? How many wind-up spring motors gave the longest-lasting performance and pitch stability, or was it better to go electric? And what combination of wood and metal gave the best, the most resonant, the truest, sound?

And, even if perfection was seemingly as far off then as it is today, you could always tweak. Tins of needles from competing manufacturers promised greater felicity, clarity and volume. Fibre needles, which required special cutters, offered reduced wear and tear. There were also speed testers, and at least as many varieties of cleaners and dusters as there are

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## GONE ELECTRIC

By the 1920s, electric amplification was the choice for most serious audiophiles, and specialist manufactures of modular hi-fi allowed an early version of mix-and-match. Valve amplifiers from this era can look startlingly like modern audio components of the same ilk, but a raffle through a catalogue for high-end loudspeakers of this time reveals some gorgeously beautiful shapes, colours and creations. The fan-like Gaumont Lumiere, the Art-Noveau Radiolavox and the frail and jewel-like Hervour Minilux would grace any modern state-of-the-art system in terms of their striking and idiosyncratic

these boxes became, once they were finally eviscerated of their audio contents.

## THE REST IS... HISTORY

From there, the story of what we put into our houses to make something resembling the sound of music becomes more fractured. There were Dansettes, designer statements, cheap-and-cheerful mass-produced transistor-ware, specialist components, plug-ugly esoterica and an increasing reliance on plastics, even if the plastics still often tried to look like the metals and woods of their long-forgotten music box forefathers. Just as in the era of competing varieties of music box disk and piano roll, new formats arose and made largely unfulfilled promises before vanishing back into the static of audio history.

Marcel Proust's trick of dressing up in evening attire to listen to a performance is an early example of tweaking...

looks.

The mainstream of audio, though, continued take its cue from the music box and the piano right up until the 1950s. The Chinese-lacquered Pye Black Box of the early 50s, would, as Gramophone remarked, "grace any drawing room or boudoir". These were heavy and expensive pieces of domestic furniture, designed to be noticed, especially in an era when the television was an empty corner still waiting to be filled with visions of bickering, insect-eating 'celebrities'. And when televisions did emerge, it seemed only natural to incorporate them as well, into huge, megalithic devices which took up at least as much space as a modern THX surround sound set-up. Even in the later fifties and early sixties, when hi-fi began to take on something like its present day appearance, many designs, in a fresh attempt at modernity, lunged towards the look of the cocktail cabinets. That, in fact, was what many of

Quadraphonic offered surround sound and too many boxes for most people's taste. Eight track provided a audio cassette large enough, if thrown, to fell a cat. When CD arrived in 1982, the hyperbole of the Victorian adverts which promised *Perfect Evenings of Music at the Fireside* resurfaced once again, and proved to be equally enticing, and just as illusory.

The way things are looking, with the hopes of SACD and DVD-A already heading in danger of heading the way of the Orchestrion, discriminating audiophiles may have to wait for blu-ray or possibly some other high-bitrate format to make a fresh attempt at the time-honoured task of reproducing real-seeming music in the home. But, whatever it is that finally emerges as the next big thing, you can be sure that the promises will be as rich as ever, and probably just as illusory. Perfect sound, indeed — try telling that to our Neolithic ancestors, or Marie Antoinette!

## TWEAK SPEAK

Marcel Proust's trick of dressing up in evening attire to listen to a relayed performance is perhaps an early example of tweaking, even if the tweak was psychological. But, then as now, there are few lengths that someone somewhere won't go to make the experience of listening more real...

We all know about sensible tweaks that work, but the ones which we find more fascinating - and let's face it, we're often willing to try - are the weirdest ones. I still have triangles of foil stuck to some to plugs and other odd and ends of audio equipment in mute (and, quite possibly, sound-enhancing) tribute to Peter Belt's theories. If I didn't own so many books, I might even have taken up the suggestion made in the 1980s that audio quality is contaminated by the presence of even-numbered objects in the room, and that an extra sheet of paper placed into every volume would product that extra bit of sonic nirvana.

The best tweaks, whilst seeming really odd, have to make a strange kind of sense. Who could argue, for example, that plastering your hi-fi gear with roofing bitumen wouldn't probably reduce resonance? Similarly, a child's rubber bathing ring would almost certainly make a good low-cost isolation platform, as well as providing an interesting visual focal point, especially if the inflatable ring happened to be in the shape of a pink-spotted animal, with head and tail. Putting a blanket over the telly also sounds as if it might have some logical basis, and echoes Linn's old horror of the sonic contamination of extra speakers, even if it does rather conjure up the image of covering up the budgie. But perhaps, if the little blighter's getting too noisy, we should all try that as well...

There's certainly logic to the idea that opening windows before a listening session to let in some new, fresh air could have a beneficial effect, even if the effect might be less sonic than psychological. Closing those same windows, and all doors as well, during playing the actual music, also makes sense, both in terms of science and the maintenance of domestic and neighbourly harmony. Raising all cables off the floor to reduce resonance — there might be a point in that, too, as a way of reducing unwanted resonances. And, for those of us with fireplaces, shoving a woofer up the chimney to increase bass response; now that would certainly do something to the sound. Then, and this must surely be most effective tweak of all, we could all get our ears syringed. But, in fact, I have to admit that I haven't seriously tried any of these tweaks because they seem, well, too obvious.

The most fascinating tweaks need to have to have something occult in their practice; an element which goes against a scientific world-view and all common sense. In view of the cultural and historical heritage of hi-fi, that's hardly surprising. After all, reproduced music in the home emerged amid many other voices into the culture of late Victorian society. It came with the stutter of Morse and the ping of the telephone and the hiss of gas and the splutter of electricity. But it also came amid a huge popular obsession with ghosts and spiritualism. Séances were being recorded; ghosts were being serenaded by phonograph voices in the hope that they, too, might be captured on cylinder or camera. Even today, what serious audiophile hasn't closed their eyes and seen the spectral face of a singer hanging between their speakers? And all the talk of imaging, breadth and depth: visually-based words which mean something else in terms of high fidelity.

Tweaks which have an element of magic about them will never go away. Placing amber beads on and around your hi-fi has a lovely tinge of well-dressing superstition about it. Putting coins on top of speakers almost sounds like a kind of tribute; a casting into the sonic wishing well. It's probably only a matter of time before the particular type of amber and coin (gold, surely, and preferably ancient) becomes the next tweak that someone, somewhere, is willing to try out.

Meanwhile, before I head off to spend a fortune on shipwreck Spanish doubloons salvaged from the Bermuda Triangle to offer to my homely B&Ws, I may even take a tip from Marcel in his cork-lined Paris apartment, and dust down that dinner jacket...

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# magic touch

Channa Vithana auditions Mordaunt Short's new Genie multichannel loudspeaker system...

**T**he 402 satellites have triangulated yet gently curved aluminium enclosures with only two visible panels. Those crisp curves resemble classic jet-age designs from the 1950s, without the garish chrome plating, coexisting here with a restrained contemporary feel.

Each has two aluminium drivers recessed in circular chamfered openings - a 102mm 2nd generation CPC woofer and a 25mm mesh covered aluminium dome tweeter (with a recommended power handling between 15-100W via a damped 2nd order crossover). Behind are nicely turned out screw-in aluminium binding posts accepting banana plugs or cable up to 10mm in diameter. The satellites come with an integral mini tabletop stand attached at an angle to a ball and socket joint into the cabinet allowing for flexible positioning. In the stand base, you can remove a rubber stop enabling cables to be passed through if wall mounting is required for which M-S usefully provide an alignment sheet for correct drilling, and there are optional tall stands.

The 404 centre speaker sports two 89mm aluminium CPC woofers either side of a 25mm tweeter, as used in the 402s. The 404s have a wider elliptical enclosure mounted horizontally, made with the same specification and attention to detail described above. The 409 subwoofer is finished in matching silver and complete with a choice of adjustable spikes for carpet and hard floors or softer feet for more delicate surfaces. It's active using an internal 200W amplifier driving a down-firing 250mm aluminium CPC woofer. At the rear are a series of knobs and switches including an auto power switch turning the unit on and off when necessary, a switchable variable notch filter with two knobs controlling cut dB and frequency Hz.

Below are two further knobs for

volume and frequency with a toggle switch for phase inversion. There are two sets of phono sockets with amp /processor line-in and line-out to connect another sub.

## SOUND QUALITY

Using just the 409 subwoofer with my reference (bass shy, resolution high) MA R852s proved simply stunning, underpinning their vibrantly energetic nature wonderfully. Moving to the full 402/409 combo as a 2.1 system, I was met with an undeniably smooth, though not bland, sound as the 402s almost kept up with the R852s in terms of speed and resolution. However, it was multichannel where the Genie system really shined, the satellites gelling perfectly to reveal Sting's 'Sacred Love' - previously a congested mess even on stereo SACD - as a fluidly natural piece with excellent integration of the electronic and analogue instruments.

Here all the speakers disappeared, melting into the surround mix and lacking the usual repellent 'whizzing-by' sounds from DVD movies. DVD-Audio proved just as enticing with Bjork's esoteric vocal-rich 'Medulla' showing great composure through the Genies, again highlighting a most refined, flush yet thrilling sound. Last but not least, listening to Queen's Greatest Video Hits 2 on DVD DTS 24/96 with video switched off was sublime enough to lose over an hour!

## CONCLUSION

In 2.1, the MS 402s were preferable to my MA R852 stereo reference speakers with the high-res formats,



though they were not as adept with regular stereo CDs,

where they struggled to achieve the same degree of treble finesse. However, with all the high-res music used, I preferred the multichannel option to the straight stereo for its greater separation and integrity to the musical structure. Given how well the Mordaunt Short Genie performed with all sources compared to bespoke hi-fi stereo loudspeakers, I was seriously impressed and would heartily recommend the system. Rarely do you find as well engineered and highly competent all rounders at or near the price - if ever. Simply the best-realised multichannel sub/sat speaker system I have seen.

## VERDICT ●●●●● £

Beautifully refined sound quality, flexible mounting options, an adjustable subwoofer and easy installation means this is multichannel without tears, and a darned capable two channel performer to boot!

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MS GENIE 5.1 £800

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## FOR

- attractive design
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## AGAINST

- no subwoofer remote

## SET UP

Using the supplied installation CD for test tones and hand held SPL meter to determine the settings for the variable notch filter (that forms M-S's Active Room Control) to closely match your room acoustics with the sub, set up was easy. I tested the Genies with a Marantz SR7400 multi-channel amp and Marantz DV8400 universal disc player. Speaker cabling was Chord Co Odyssey 4 single wired for fronts and Odyssey /Odyssey 2 for centre and rears. Interconnects for six channel audio were Chord Co solid for front, Kontak link 507s for centre /rear and QED silver anniversary for the sub. All satellites were placed on Birch Ply stands while the centre was atop the TV. A pair of closed box Monitor Audio R852s were used as a stereo reference.

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# alpha beater

'The British are coming' was the mantra Arcam applied to their little budget wonder, the Arcam Alpha 3 amplifier back in 1991. John May blows the dust off this 90's solid-statesman!



For most of the eighties, the budget amplifier sector was typified by Creek, NAD and Rotel. Back then, Japanese transistor integrations were renowned for possessing a hard-edged sound, with little emotive abilities and a grainy, monochromatic presentation. Where Nipponese amps did have the edge was in generally better and more consistent standards of finish, and more superfluous facilities of course!

In 1985, Arcam decided it wanted a piece of the 'budget audiophile' market. Hitherto residing in the mid-fi sector with its tremendously successful A60, the company took the essence of this amp and rehoused it in a plastic case which, for about five minutes, seemed extremely stylish. And with its sensible range of facilities and sweet sound it proved a big success with the hi-fi cognoscenti of the day... The Alpha 2 that followed boasted much improved aesthetics, establishing a new house-style for Arcam. Again, this proved a hit with the press and the public alike, selling over seven thousand units in 1990! There were a few teething problems with this design - namely 'designer' feet that kept falling off! - but by and large this was a highly impressive and adept performer.

The Arcam Alpha 3 that followed was a textbook example of budget design work done right. The MM/MC phono stage on the Alpha 2 was replaced with a quality MM-only phono stage. Cost savings here meant improved sonics elsewhere! More money was available to increase the power output of the amplifier from 30W to a more useable 40W. Air cored inductors

were employed to improve the sound, as well as a source-direct switch, and the provision of two sets of loudspeaker binding posts, facilitating the use of bi-wiring. One set of the loudspeaker binding posts was 'switched', muting when headphones were inserted, with the other set boasting a 'Direct' signal-path for ultimate fidelity. Those pesky feet were also replaced by more sensible rubber stick-on items.

The net effect was a finely voiced amplifier. That sweetness of sound and sheer listenability was still there, but the tonal palette was more 'mature' in nature, a little drier than its predecessors had been. It didn't possess the all-out clout, excitement and speaker driving ability of its rival Pioneer A400, but made up for this by proving a more engaging listen. Unfortunately, the Alpha 3 never did quite set the world alight in the same way as the Pioneer, which was a pity as it was arguably the more capable all-rounder. Whilst the Pioneer sounded more impressive on first audition, the Arcam was ultimately more faithful to the original source. It was also more forgiving of source components, too.

Today, the Alpha 3 may be had for as little as £30. As long as they have been well looked after, there is little that can go wrong with them. The cheap volume pot will certainly be noisy after fourteen years of use. This may be rectified with a squirt of isopropyl alcohol and the control rotated a few times to clean out the gunk. Even better, it can be replaced entirely by an ALPS Blue Pot for a cheap upgrade. The outside of the phono sockets also have a tendency to come away with the interconnect when unplugged! These may be

carefully glued into place for a stronger bond. Failing that, make sure the interconnects you use do not have tight phono plugs. Replacement phono sockets are still available however.

The ageing budget electrolytic capacitors should be replaced. I changed all of the low value items in my Alpha 3 with standard Black Gate types. This made a huge difference! Dynamics were vastly improved, reminding me of the original Naim Nait in certain respects. The real beauty of the Alpha 3 is its ability to get the best out of whatever genre you care to play through it. It has the knack of getting the best out of your source components, no matter what the price. Although only rated at 40W, it is quite adept at driving a wide variety of speakers with little trouble. When the great Eric Braithwaite reviewed the Alpha 3 in the October 1991 edition of *Hi-Fi World* he achieved respectable results with the Quad ELS electrostatics - no mean feat!

So here we have yet another important slice of British hi-fi heritage available for peanuts second-hand, and easy to upgrade for great sound as well! If you're on a budget, or perhaps casting around for a second system, the Alpha 3 warrants serious consideration.



# Dane-ty

Dominic Todd auditions the beautifully proportioned Royal Tower floorstanding loudspeaker from Danish Audiophile Loudspeaker Industries...



**T**he Royal Minuet II is one of Dali's longest serving models. It's a sweet little thing that, as with many a small 'speaker, has won a great deal of admiration over time. Finally sensing the potential, Danish Audiophile Loudspeaker Industries has developed a range around this baby monitor. The Royal family now consists of the slightly larger, Sceptre, a centre 'speaker called, Vocal and the tower 'speaker we have here called, erm... Tower!

As with other Dali 'speakers, the cabinet is assembled by hand in Denmark to a very high standard. The construction is 22mm MDF throughout, with centre brace and both front and rear reflex ports. Unlike some of the competition, however, there is no base cavity to fill with sand or lead shot. The examples we had for review were finished in a cherry wood veneer, although gloss black, white and other woods are also available. Cabinets are hand polished and lacquered, and the finish is generally superb. Having said that, these days I would expect nothing less as 'speakers such as the Chinese produced Quad L-range feature immaculately finished cabinets for a good deal less money [see box].

With such a beautifully finished cabinet it came as a let down to find that not all the spikes properly fitted the bolt-on feet. The cast feet themselves were fine, and add a good deal of stability to an otherwise narrow footprint. For a £1,000 'speaker, however, cross-threaded or incorrectly sized spikes is disappointing. Also less than ideal is the grill, which uses particularly flimsy mounting pegs. These may sound like small gripes, but could and should be easy to address.

As with other Dali 'speakers, drive unit selection is both careful and bespoke. The twin woofers and tweeter may not look like much, but they are both based upon established technology and appear well engineered. The woofers feature doped paper cones and cast aluminium chassis. They are not magnetically shielded but, in practice, I found the 'speakers had to be very close (within 15cm) of a TV set for this to be a problem.

For the high frequencies, Dali has chosen a 3/4" silk dome tweeter. Again, this is a safe, predictable choice, but no less worthy for it. With such a small treble unit, the Royal's crossover phases the treble in later than usual. This is designed to place less pressure upon the treble, and can be facilitated by the woofers dexterity at higher frequencies. The crossovers themselves, Dali are especially proud of. Each feature in-house, hand wound chokes, and good quality metallised polypropylene capacitors. All

components are hardwired and the terminals except bi-wiring. With the exception of the few niggling flaws, this is a beautifully finished 'speaker. It offers little in the way of groundbreaking technology, but just good old-fashioned attention to detail. I respect Dali for this, and know of many a successful 'speaker that follows the simple is best philosophy. Whether the Royal Tower is to join their clan remains to be seen...

## SOUND QUALITY

I found the sound of these loudspeakers to be quite unique, and unlike that of most British designs. Whist vocals were set well forward, the balance was extremely smooth. Bass was on the leaner and dryer side, missing the depth of some. The obverse of this though was excellent integration between bass and midrange, especially for a twin-woofer design. Decent timing and control also benefited from the use of smaller woofers. As you'd expect from a narrow cabinet, the Royal Towers produced a broad soundstage and a particularly open balance. Ultimate lack of cabinet capacity, however, meant that they couldn't quite match the competition in terms of bass weight.

It soon became clear that these would be excellent 'speakers to use with a low powered valve amp', as I regularly had to turn the volume down from what would be my more usual settings. Yet what also became clear, with Eminem's 'Kill You', was that the Royal Towers aren't exactly the hardest hitting of floorstanders. The forceful bass line was softened somewhat, and far from the deepest. That said, it never sounded particularly bass light, just down on what similarly priced and sized rivals offer. The real star, though, was the midrange. Where other floorstanders can sound rather confused and imprecise, the Royal Towers impressed with their vocal clarity and focus. Were you to listen to these 'speakers blind folded, you'd be forgiven for thinking they were a larger stand mount design and not a floorstander which, depending upon your viewpoint, may or may not be a good thing.

Such a balance certainly helped with acoustic music, such as the soundtrack from the film 'Amelie'. The Dalis produced vivid definition here, with each instrument clearly etched from thin air. The balance proved to be extremely transparent and likely to be favoured by those who listen for subtle differences

between instrument and musician. This, and the excellent tonality make for one of the most insightful 'speakers available at the price. Interestingly, although generally highly refined, the Royal Towers didn't portray the smooth at all costs balance that can prove boring to listen. When the brass sections came in, the sound moved forward and took on a metallic edge – exactly as it should.

The Divine Comedy's 'Bad Ambassador' benefited from a spacious, enveloping soundstage that easily draw the listener into the music. After the precision shown earlier I was surprised by some wooliness becoming apparent in the lower midrange. Certainly against metal-coned rivals, there was less control shown when the music became more complex. Before this hadn't arisen as an issue because the music was simpler. As with Eminem, the balance was on the safer side of neutral and not as exciting as some. Still, the supremely smooth strings contrasted with an electric guitar that, whilst not the most vivacious, still had plenty of bite.

All this held true with Classical music too - with Chabrier's, Espana, there wasn't massive attack, but the music did always remain composed and refined. Still, I did miss the tension and drama of the rippling bass lines, and the sharp attack of timpani drum. It sounded just a little too soft for me, and needed to sharpen up. Whilst scale and grip may have been a little lacking, accuracy of timbre from both brass and strings remained to the fore. Although not the most dynamic, the instruments did at least sound true, and the Dali didn't favour one section over the other.

## CONCLUSION

Clearly this is not a 'speaker for lovers of dance or rock music. Even those who favour large scale Classical orchestration may be disappointed. Although the name suggests strong bass and crunching dynamics, the real picture is rather different. Nevertheless, for others though, the Royal Towers have formidable talents that make them immensely

appealing. The insight and realism offered from the midrange is quite exceptional from a floorstanding 'speaker. The handmade crossovers appear to work well, as the response from bass to treble is a good deal more seamless than many. The drive units may not be flashy, but they also have a winning way when it comes to vocal and instrumental texture. As a device to really feel the music from a musicians perspective, the Dali's score highly. Whilst the Royal's cabinet finish is up there with the best, it is let down by a few niggling flaws. Dali must attend to this, as most rivals are, these days, simply flawless when it comes to presentation. Whilst this 'speaker won't suit everyone, there are those who will adore it. I can imagine that teamed up with something like a Naim CD5i CD player and PrimaLuna 1 valve amp', they would simply sing. Perhaps not the king of 'speakers, but a worthy prince nonetheless.

The Dali's are unusual in that most of their European competitors are now built in the Far East. Reduced costs has the effect of either lowering the cost to the consumer, or ensuring a higher spec' at the same price. Both of these advantages can be seen with two of the Dali's main rivals. The Quad 22L not only manages to undercut the Royal Towers by £200, but also features an equally impressive cabinet finish. Sonically it sounds a little more forward than the Dali, and bassy too, although it can't match the Towers' sense of refinement or openness. Key rival number two is the Epos M22. Like the Quads, they are also built in China, even if the cabinet finish isn't quite so glossy. It is more substantial, though, and the twin woofers are larger in diameter. As you'd expect from Epos, the M22 wins friends through its fleet of foot pace and punchy, dynamic sound. The Towers are a more subtle 'speaker and engage in a very different way. If the Dali's are too laid back for you, though, then Epos has the answer right here.

## VERDICT

Well engineered, beautifully finished floorstander whose smooth, cohesive and transparent sound suits acoustic music brilliantly, but lovers of rock and dance might look elsewhere.

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## FOR

- drive unit cohesion
- insight and realism
- cabinet quality

## AGAINST

- limited bass
- softened transients
- build quality niggles

## MEASURED PERFORMANCE

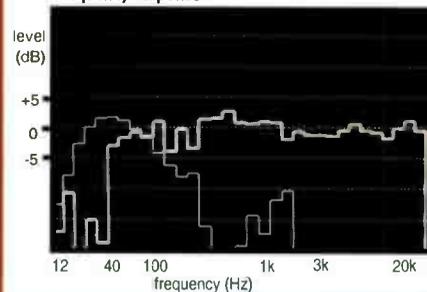
This floorstander was remarkable for how loud it went with little power. It's helped by measuring out at a low 5ohms overall impedance, but all the same 90dB from one nominal watt of input (2.84V) is very good going. The Royal Tower will run happily with low power amplifiers and it demands little from higher power types. It needs current rather than voltage swing, but most transistor amps can meet its requirements without trouble. Being comparatively unreactive across the audio band - bass peaks excepting - it will also get the best from most amplifiers.

Frequency response was pretty even across the audio band, although from all measuring microphone positions a lift in output exists below 1kHz, which may well add a little warmth or body - not usually a bad thing. Bass output remains smooth enough down to 40Hz, so this little Tower goes low. The lower port peaks around 40Hz too, but gets down lower so there will be good left in the sound within reasonable sized rooms. The tweeter has plenty of

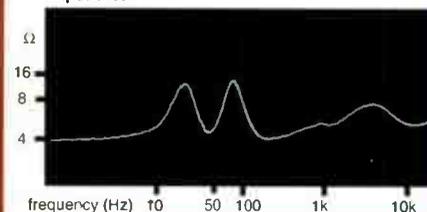
output up to 20kHz so bright CDs will sound bright; problems like this will be obvious.

The Dali Royal Tower measures well in all respects. It's response is a little less even than some, suggesting a little colour, but otherwise it looks very good. NK

Frequency response



Impedance



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# on design

**When Dominic Baker edited *Hi-Fi World* in the mid nineteen nineties, he was an absentee editor. Instead of bashing keyboards, he spent most of his time bolting drive units into large boxes, making loudspeakers on our listening room floor. Unsurprisingly, DB left us to work as senior designer at Focal JMLabs, where he did some of the company's most esoteric loudspeakers including the Utopia Be series. Now, as the newly appointed Managing Director of Focal UK, he talks to David Price about the fine art of loudspeaker design...**

**DP: IS IT EASIER TO DESIGN 'STATEMENT' PRODUCTS, OR 'AFFORDABLE' ONES?**

**DB:** I wouldn't say that one was easier than the other, but you do approach them in completely different ways. A 'statement' product, such as the Grande Utopia Be, is the result of many years of research into materials and technologies. The research takes the ideas you may have for new, better ways of doing things and refinements of existing technologies and develops them into something that can then be practically used. Combining the results of such research with existing materials/ technologies and developing them into a product is a very long process. But because it's a statement product, there are no deadlines, so less pressure. At the affordable end of the market things are quite different. It's about finding that perfect balance of the technologies and materials you have available to you to make the least compromise possible. This is incredibly difficult with a loudspeaker as each and every component has a knock on effect on sound quality. For a loudspeaker to become something special, each and every component must work in harmony.

**WHAT ARE THE RESPECTIVE DESIGN PRIORITIES FOR [A] HIGH END AND [B] AFFORDABLE PRODUCTS - AND WHY?**

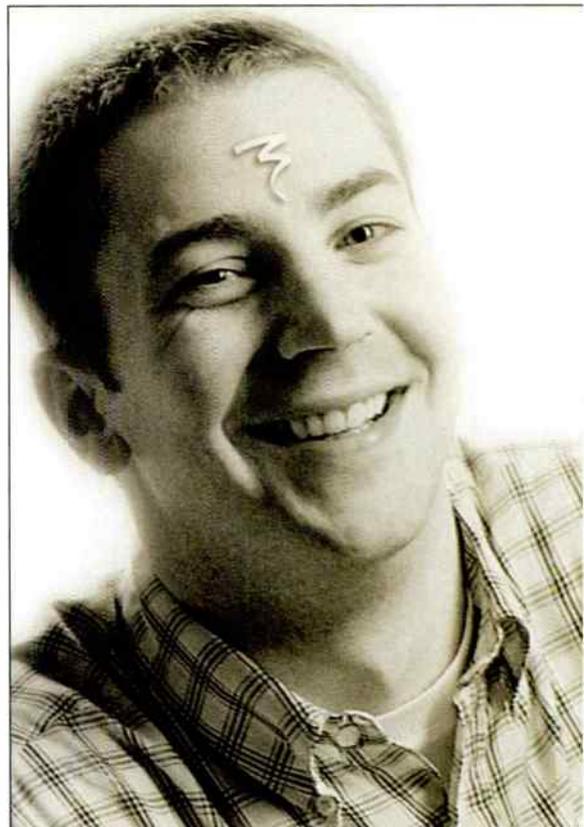
From an acoustic engineer's point of view, the list should look something like; sound, sound, sound, sound... Luckily Focal was founded and owned by an acoustic engineer, Jacques Mahul, who I know would agree with the above. For many modern buyers, aesthetics are the primary factor, which is something that we are becoming increasingly aware of. That's what our marketing department and industrial designers are responsible for, but as you know we still make squarish wooden boxes that sound good, so they haven't been allowed to conflict with this sonic priority.

**HOW DO YOU GO ABOUT COSTING THE COMPONENTS IN YOUR PRODUCTS - WHAT MAKES YOU DECIDE TO USE ONE CAPACITOR, FOR EXAMPLE, AND NOT ANOTHER? WHO DECIDES THIS?**

It's about keeping things in balance. Designing a product is basically navigating through a long chain of compromises. The best products are the ones that make the right decisions all the way down the chain, sensibly balancing one component with the next to take the shortest, least compromised path to the final product. One badly chosen compromise at the beginning of the process will cost you all the way down the line and the result will be average, at best. Taking your example to two extremes, I could use a fabulously expensive crossover capacitor that had ultimate sound, but if this meant making a compromise to the driver, then the extra detail the capacitor is supplying to the driver would be lost. Conversely, a high end driver fed by a crossover incapable of resolving the level of detail the driver is capable of would be equally wasteful.

**IS THERE ANY 'GOLDEN RULE' ABOUT THE IMPROVEMENTS/ COMPROMISES CAUSED BY SPECIFIC COMPONENTS (I.E. IF YOU SPEND 10% ON A BETTER CAPACITOR, DOES IT BRING A 10% IMPROVEMENT IN SOUND)?**

Nothing that you spend 10% extra on provides an instant 10% gain. But if you add 1% to 10 different elements, the right ones, you multiply the benefits. Spend a little extra on a tweeter that has a better diaphragm material (lower colouration) and a lower resonant frequency. Used within the same loudspeaker as one using a lesser tweeter and the differences will be minimal. Now, re-tune the crossover frequency a little lower to make use of its wider bandwidth and beaming effects from the upper midrange



**branded: working for Focal obviously had a great effect on DB...**



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will be reduced, increasing dispersion and giving a more open and natural midrange. To capitalise on the extra detail that the new tweeter is capable of, spend a little more on the crossover components and the cable and feed it more detail as well. The overall effect will be a dramatic improvement.

**HOW MUCH DOES LISTENING PLAY A PART IN THIS? DO YOU LISTEN TO ABSOLUTELY EVERYTHING? WHO DOES THE LISTENING?**

We listen to absolutely everything that has an effect on the sound. This is where Focal's approach of building everything in-house is especially powerful. We're not captive to a drive unit supplier, so will devote as much time listening to rubber compounds used in surrounds and the effects different glues have on the interface between the voice coil and cone as crossover components. Maybe there are loudspeaker manufacturers out there who actually listen to the types of metals they use for their spikes; I would suggest that buying in their drivers from 3rd parties has allowed them this luxury of this time.

Who? During the prototype stage whilst theories and materials are still under test, the entire design team, around 20 engineers, all music lovers. Once the product is nearing completion, the commercial teams who have a lot of experience in the marketplace, local and overseas, start to become involved. As the product nears completion, selected world distributors who have what we consider to be an experienced ear as well as some trusted dealers and final customers will also be invited to listen. The difficult task for the engineer is to constantly analyse all of these opinions to evolve the product along the right direction until, hopefully, we strike a balance.

**WHY DO YOU USE THE CONSTRUCTION MATERIALS YOU DO? DO THESE REALLY INFLUENCE THE SOUND? GIVE EXAMPLES. DO YOU FEEL THERE'S ANY BENEFIT TO USE SO-CALLED 'HI TECH' MATERIALS, OR IS THIS MORE ABOUT MARKETING?**

Sensible use of materials is key to loudspeaker design. The most important materials are those used for the diaphragms of the drive units, that's why we develop so many of them ourselves; glass and Kevlar sandwich cones, polyglass cones,

AlMg tweeter diaphragms, Beryllium etc. These diaphragm materials directly influence the sound and drive many of the engineering choices within a product. It's about picking the best material for the job, regardless of it's label as a hi-tech material or not. A good example of this is the paper cone, which we still use for our entry level products, albeit with a fine coating of hollow glass spheres which produces a slightly brighter, clearer tone. Today paper cones are among the most expensive to make (labour intensive) and difficult to market; regarded as cheap and low tech. Yet paper has wonderful acoustic properties, being stiffer than plastics, aluminium, glass fibre and Kevlar cones of the same weight.

**WHY DO YOUR COMPANY'S PRICE POINTS START AND STOP WHERE THEY DO? IS THIS BECAUSE YOU CAN'T MAKE ANYTHING CHEAPER, OR ANYTHING BETTER, (RESPECTIVELY) - OR IS THAT THE PROFITS/SALES/VOLUMES DICTATE THIS DECISION - OR MARKETING, EVEN?**

We start our product range with Chorus S. These products use a Focal hand built driver using a polyglass cone (hollow glass spheres bonded to a paper base) and a unique Aluminium/Magnesium inverted dome tweeter. Making these drivers any cheaper would significantly affect their performance. Moreover, because of the quality of these drivers they demand a certain cabinet/ damping and crossover quality to be able to realize their potential. This sets the base price. Our product range stops with the Grande Utopia Be, a loudspeaker where we made no compromises at all during its development. This is why it costs £45k. Either way, it's not sales/ marketing that determine our range. We want to offer a wide range of loudspeakers with the proviso that they are all 'Made in Focal' quality.

**WOULD MANUFACTURING, IN CHINA DRAMATICALLY IMPROVE YOUR PROFITS - OR WOULD IT DAMAGE YOUR BRAND?**

It could do, temporarily. But soon our products would only be as good as the technology that we could buy from our suppliers, suppliers that everyone has access to. We are already seeing the results of this: many manufacturers badging mediocre outsourced products that

are technically similar to those of their competitors. Price becomes the differentiating factor and the price war starts. Quality is driven downwards with price and eventually there will be casualties. I don't think it's a sensible long term choice for anyone that considers themselves a manufacturer.

It's not so much about the country where we are based, but the control that in-house manufacturing brings. I'll give you an example: If we outsourced drivers, I'd have to send a spec. to my supplier and wait around 3 weeks to see the samples. They wouldn't be perfect first time, so I'd have to send a list of modifications required and wait for a further 3 weeks. The product has to be finalised at some point and commercialised, so perhaps I'd have time to repeat this process three times and then settle for what I had.

Compare this to our way of developing a driver using in-house design and build. I send the spec for a new cone to our cone plant (about 5kms from the main site) at the end of the day and the next morning stop by to pick them up. I arrive at the lab and after an hour or so, have assembled a pair of drivers. Before lunch, they will be measured and characterised. After lunch, they are screwed into the cabinet, measured and a crossover developed. Mid afternoon we are already listening, but decide that a change to the cone damping factor is required. I write up the new specs and send it through to the cone plant and the process repeats. In the nine weeks I would have spent to get just 3 sample steps with an outside supplier, I would have been able to build 45 in-house drivers, therefore fine tuning them to a degree simply not possible due to the time factor of the other route. This is key to loudspeakers; the difference between an average loudspeaker and one that is truly exceptional is all in those last few percent.

**DO YOU SEE A NEED TO MOVE DOWNMARKET IN FUTURE - EVERYONE SEEMS TO BE RUSHING TO THE LOWEST POSSIBLE PRICE?**

Because of our philosophy, Made in Focal, I don't see this ever happening. Focal is owned by an acoustic engineer with a passion for music, something that has rubbed off on everyone involved with this company. Sure we could 'Focal' badge cheap, outsourced products, but where would be the fun in that?



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David Price Editor - Hi-Fi World



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# a class



**Antony Michaelson rather immodestly claims Musical Fidelity's new A5 to be 'the best CD player in the world'... Well, Dominic Todd liked it...**

It came as no surprise to discover that Musical Fidelity thinks its new A5 CD better than its existing A308. After all, the A308 is only £500 more expensive, and the A5 benefits from the latest chipsets and the lower manufacturing costs of Taiwan... But calling the A5 the best CD ever is surely a boast too far?

Well, the new machine certainly gets off to convincing start with its build and finish. The thick aluminium front panel and ribbed side cheeks wouldn't disgrace players from the class above, and are a definite step up from the class average here. Equally impressive is the weight and thickness of the casing, although it was something a surprise to find a lack of any discernable damping material.

Styling is a matter of taste, but it can't be denied that the A5 has presence. It has the visual authority of one far more exotic, but with the Art Deco twist that has been a Musical Fidelity trademark from the early days. Those faux rack mounting handles on the front, by the way, are of little practical use but do a fine job in breaking up the expanse of matt silver on the front panel. Generally, I thought the A5 to be a visual success, with only the slightly

plasticky buttons letting the side down. Otherwise, though, this could easily be a £5K machine!

You wouldn't expect a player such as this to be loaded with features, but you would expect a full complement of socketry. Some may miss the A5 not featuring balanced XLR outputs, but, otherwise, the MF has everything covered. The provision of both coaxial and optical outputs may not seem like a big deal, but you'd be surprised, especially at this price, by how many players omit one or both of these vital links.

Both transport and power supply are rigidly bolted to the casing, but both are of a decent quality. The Philips VAM1202 has become something of a standard for this type of player now, and the small toroidal power supply is equally unsurprising. Where the A5 is quite unique, though, is with its DAC. The 192kHz upsampling 24 bit, Delta-Sigma, dual differential, DAC isn't unusual in itself, but the output device most certainly is. With a nod to Musical Fidelity's highly rated, and far more expensive 'Vista' ranges, the A5 features twin mu-Vista (6112) valves in its output stage. These valves are quite rare, which explains why the production run of the A5, like other MF valve based products, will be

limited to 1500 units.

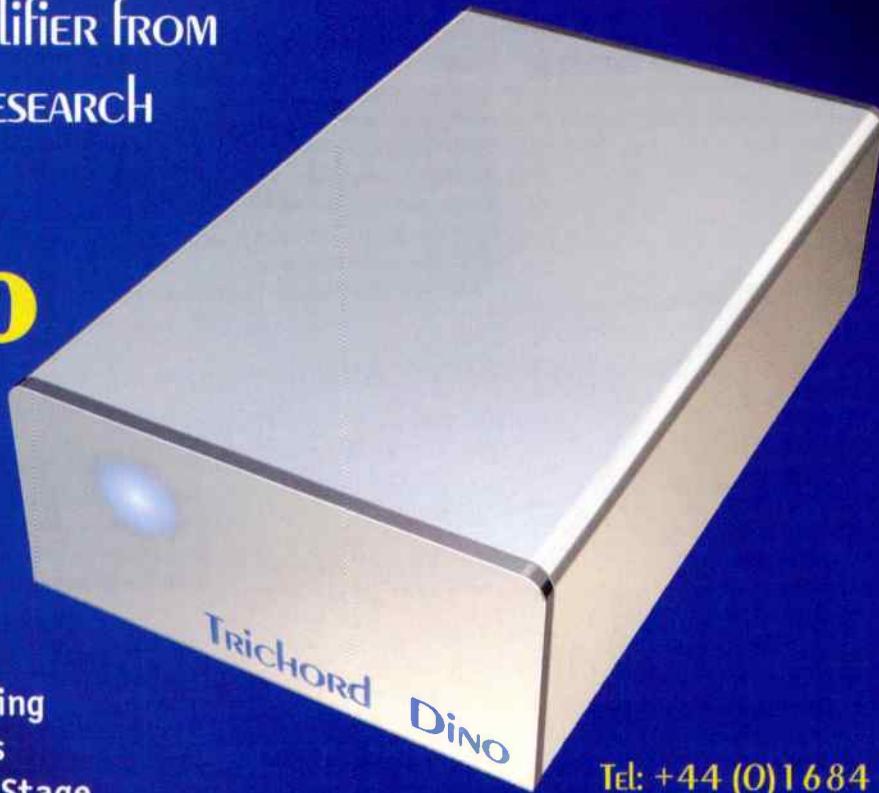
As before, although a 192/24 upsampling DAC can't improve the resolution of the 16bit CD format, it does mean that far gentler filters can be used downstream. As well as using the upsampling DAC, Musical Fidelity has also worked hard to improve the sound quality by focusing upon jitter. This involves getting the two sections of the machine, the transport and DAC, to effectively talk to each other better and, thus, reduce timing errors.

## SOUND QUALITY

With the A5 hooked up to my usual reference system, I also had an Arcam FMJ CD33 CD player and a Benchmark DAC1 on hand for comparison. To ensure system synergy, and give the A5 CD the best possible chance by using Musical Fidelity's matching A5 amp' (reviewed next month), in addition to my own. Listening began with Peter Cincotti's 'St. Louis Blues'. Straight away, for better and for worse, the effect of the mu-Vista valve outputs was instantly apparent. Focus and articulation of the vocals was first rate, with a sense of flow that is typical from a good valve, but rare from CD. The sense of texture and apparent subtle nuances of detail gave the A5

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Merlin Music Systems VSM Millennium loudspeaker. Obscure here, popular there - unusual US design with cult following - includes BAM bass module.	£2500	\$9000
Living Voice Avatar 2 - European Maple - scrumptious.	£2000	£2700
Living Voice OBX-R Mk 1. Even more scrumptious.	£2600	£4000
Aloia PST 11.01i HI-end 2 box line pre-amp - spotless - boxed.	£1500	£2800
Art Audio PX25 - 5 watt stereo power amp - big with Lowther fans.	£2500	£4500
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the feel of an analogue source. No matter how fluent the sound, however, one could never get away from the feeling that the A5 lacked bite. True enough, put against the DAC1 or a Naim CD5x, transients were softened and brass lacked the raw intensity that it would usually possess.

Daft Punk's 'Voyager' was produced with weight and authority. The depth of sound was highly impressive for this class but, once again, the tautness of bass and general attack was less so. This couldn't, however, prevent the A5 from demonstrating a more than generous soundstage with only the height being slightly inferior to the

couldn't be faulted. If you like to be immersed in music, then this is exactly what the A5 will do.

When it comes to getting down and dirty, for all its refinement, the A5 can still pull a few surprises. V2's 'Call You Sexy' had an expansiveness that swelled from the 'speakers. True, it still couldn't do anything about the softness of the lowest registers, but it certainly wasn't ponderous. Vocals remained cohesive and, even at high volumes, free from grain and spit. Whilst not having the greatest dynamic attack, it was the type of sound that you could turn up loud, and listen to for long periods of time without fatigue.

"in terms of separation the A5 is surely the finest in its class"

CD5x. Particular praise should be directed towards the fine balance achieved in terms of projection. Whilst the A5 boasted superb layering of sound, and generous projection from the 'speakers, one never felt as though the music was being 'thrown' from the 'speakers. Even higher volumes could easily be enjoyed without one's teeth being put on edge.

The first time the smooth character of the A5 really became an issue was with Halvorsen's 'Entry March of the Boyars'. It was here more than anywhere, where I really missed the metallic edge of brass, and the jarring impact that a full orchestra can, and should, radiate. Nevertheless, for fans of separation the A5 turned in a performance that is probably the finest in its class. To be able to follow individual instruments this easily, from a CD player of this price, simply hasn't been possible until now. Although soft in character, the A5 is still immensely precise and focused. Its musical viewpoint may have been somewhat rose-tinted, but it's a beguiling and inviting view nonetheless.

In terms of synergy, the Musical Fidelity was at its most impressive with female vocalists such as Annie Lennox. Here, the liquid smooth reproduction was ideal to calm the slightly spiky recording of Lennox's voice in 'A Thousand Beautiful Things'. The solo guitar was beautifully resolved and pulled, as ever, well clear from the rest of the mix. Despite the soft bass response, the scale and presence of the song

**CONCLUSION**

This isn't the best CD player ever - it simply isn't sonically rounded enough, for one. What it is, though, is certainly one of the most beguiling and fluid of players. For resolution, texture and articulation, combined with a complete lack of grain and harshness this is the finest in its class, and a good few above, too. Yet, there's more to a good piece of hi-fi than refinement, and this is where the A5 falls down.

Especially when not partnered with the matching A5 amp', you can't fail to notice the CD player's lack of bite and transient attack. Sometimes this is of little concern, but at others it is a disappointment. Lovers of brass, in particular, would probably disapprove of the softened sound. Had there not been the Naim CD5x and Benchmark DAC1 then I could probably have forgiven the A5 its softer responses, and still awarded it top marks - it really is that special in other respects. Yet, with it trailing so far behind these two in other areas, it can't quite be regarded as class best. For all that, this is still a magnificent CD player and one that should make for fifteen hundred very happy customers...

**THE RIVALS**

Although lower in price than the Musical Fidelity A308, the A5 will find competition, if anything, even tougher at its new price point. Two rivals stand out from our CD player group test of November 2004. Top of the tree is the Naim CD5x. Even without the optional FlatCap 2 power supply this is the £1,500 that the A5 must beat. Next to the A5 it does look rather dour, but the Naim does offer timing, focus and staging that are still unmatched at the price. The A5 counters with an even more "organic" and lucid sound. Both are superb. If you fancy something slightly different, however, then don't rule out the second placed player. Sony's CDP-XA9000ES may not quite match either of the others with CD, but it does offer spectacular results with SACD. It's also beautifully finished, and more than a match for the A5 here. Finally I've always been something of a fan of the Arcam FMJ CD players. Like the A5, the FMJ CD33 also uses upsampling DACs. It doesn't look as expensive as the MF, but then it is cheaper at £1300. It's a beautifully consistent player and, in some respects, is the safest option out of all the players here.

**VERDICT** ●●●●● £

One of the most beguiling CD players at any price, with a deliciously analogue sound, but not for everyone. Superb value and surely an instant classic.

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**FOR**

- class leading refinement
- stunning resolution
- esoteric finish

**AGAINST**

- lacks bite
- system and music dependant

**MEASURED PERFORMANCE**

The slight roll down in top end output from this player is enough to ensure it doesn't have the incisive brightness of so many CD players, but at the same time the effect is sufficiently limited to be hardly noticeable subjectively.

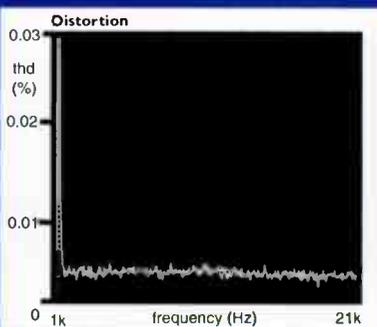
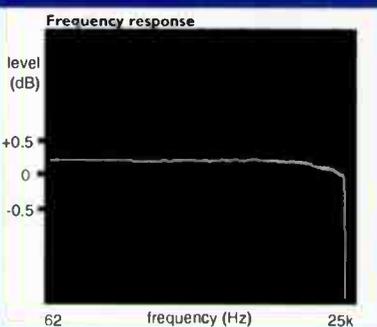
Distortion levels were low right through the player's dynamic range, coming in at 0.004% at -30dB and 0.2% at -60dB. Levels rise steeply below this as digital resolution declines, but a -80dB dithered figure of 1.7% is as good as it gets. The A5 produces as little distortion as can be expected from a 16bit code.

Separation figures were high and EIAJ dynamic range inevitably good considering the low distortion at -60dB. Jitter was also well suppressed, with some random non-programme related peaks to 30pS, below 20kHz, a miniscule amount.

The A5 measures well in every area. It should sound smooth and nicely balanced. NK

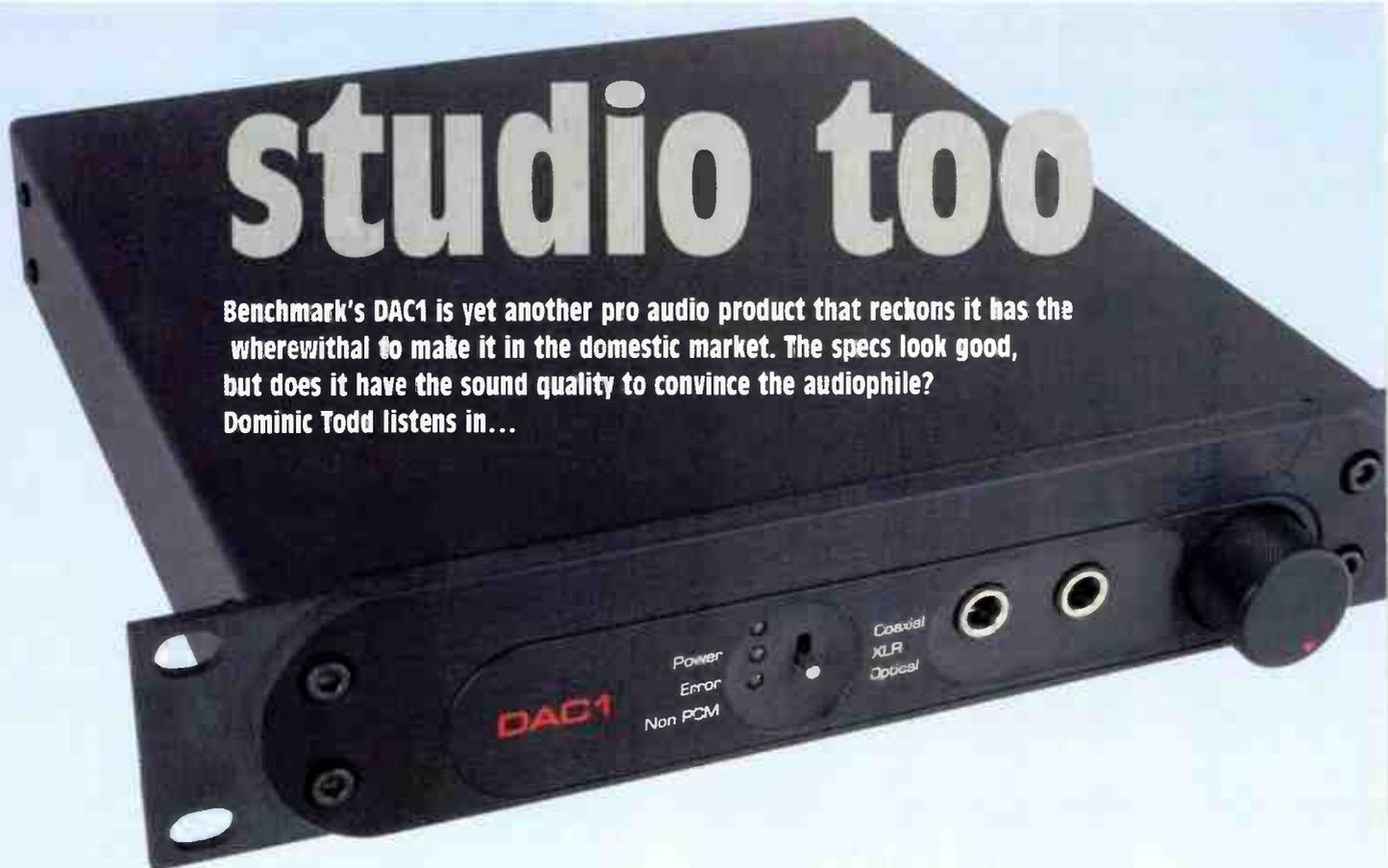
Frequency response	4Hz - 20.8Hz
Distortion	
-6dB	0.001
-60dB	0.2
-80	4.4

Separation	
1kHz	121dB
20kHz	103dB
Noise (IEC A)	-108dB
Dynamic range	111dB
Output	2.1V



# studio too

Benchmark's DAC1 is yet another pro audio product that reckons it has the wherewithal to make it in the domestic market. The specs look good, but does it have the sound quality to convince the audiophile? Dominic Todd listens in...



Rather like Apogee's Mini-DAC reviewed in December 2004, the Benchmark DAC1 is primarily designed for the studio. Yet, after experiencing the exceptional results of the Apogee, it's becoming clear that there is an increasing amount of studio kit that's more than acceptable for the audiophile...

Indeed, looking at the DAC1, you couldn't really mistake it for anything other than a studio product. Having said that, the Benchmark is better than many and, unlike the Mini-DAC has feet for a start! It also features a milled aluminium front panel and robust case. Whilst this is designed to be either rack mounted, or flight cased and manhandled, it will look perfectly unobtrusive in the confines

This feeds a 96kHz, 24bit Analogue Devices DAC with automatic sampling rate adjustment from 44.1 to 96kHz.

As with the Apogee, Benchmark has focused upon jitter as a major factor of sonic deterioration in the digital domain. As such, they've come up with a system they call 'Ultralock'. Reckoned to be 100% jitter free, the D/A conversion clock is totally isolated from the digital audio clocks in a topology that is said to outperform the type of two-stage, Phase-Locked-Loop design used in the Mini-DAC.

Being a professional product, the DAC1 has been designed to handle less-than-ideal digital signals with grace. A soft muting system means that pulling the power, or the digital feed, won't create any nasty pops

superior quality DAC, the Benchmark DAC1 also performs the function of high-grade headphone amp'. Twin quarter inch jacks are driven by Benchmark's HPA2 high-current amp', that is designed to drive a wide variety of headphone loads. Next to these front mounted jacks is a volume control which, if you choose, will also adjust the output level, making it suitable for direct connection to a power amp'. Unfortunately the volume control itself, is a pretty cheap device, but it does at least feel substantial in operation.

There is pretty much every type of socket you're likely to need. A balanced XLR digital input joins the more usual optical and coaxial. Whilst the coaxial uses a BNC connector, it's easy enough to fit a phono converter – in fact one even comes supplied with the unit. Switching between these inputs is managed by a toggle switch on the front panel. As you'd

"one of the most impressive digital products I've heard in quite some time"

of a domestic hi-fi.

Rather like other professional hi-fi, though, it's not the style that interests the audiophile, but the componentry inside. And it's here where the Benchmark looks especially promising. Unlike many professional DAC products, it appears that a good deal of care has been exercised over the choice of power supply. Designed for stability of current, the onboard toroidal design is of generous specification.

through the 'speakers, yet audio is present again within only 60 milliseconds of restoring the input. In the case of power, it's back within just 500 ms. Furthermore, the DAC1 won't mute unless it absolutely has to. The DAC1 will not mute even when the input data is all zeros, meaning that no audio is lost when an audio transient follows a silence. This should improve subtle detail, and the realism of sound.

As well as being designed as a

expect, the primary output is that of XLR, but there are also some gold-plated phonos for those without balanced inputs on their amps. The output features fixed, variable or user calibrated settings, accessed via a rear-mounted toggle. As I found when I reviewed the Mini-DAC, domestic DACs are rather thin on the ground these days. Still, the £939 DAC1 does have opposition: not only from the £880 Apogee, but also Cyrus' DAC-X at £1,100.

## SOUND QUALITY

Kicking off proceedings was Dr John's 'Chickee Le Pas'. The first aspect of sound that I couldn't help but notice was the sheer expanse of the sound stage, including a superb depth of field. This, combined with the tight focusing of individual musicians, created the type of staging you'd usually expect from a far more expensive product. Yet, the quality of staging was far from being a one-off sonic highlight. So revealing was the DAC1, that it brought tangible texture to the vocals. Bass weight was certainly superior to its nearest rival, the Mini-DAC, but by absolute reference standards, could be said to lack a small amount of extension.

That said, for a £1,000 DAC, bass performance was still well above par. Fine integration, decent definition and plenty of weight meant that this wasn't a DAC that had anything to be embarrassed about in the lower registers. Best of all, though, was the seamless way in which it appeared to unravel music with masterly finesse. So, the DAC1 made a pretty good first impression, but to see if it upheld this with a variety of different music genres, I switched to Eminem's 'Kill You'. If anything, the performance here was even more impressive. The dynamic control of the track was nothing short of sensational. I've never heard this sort of transient attack and grip from an audio product of this price before. Powerful bass projection and, once again, that spacious staging, helped to produce one of the most dextrous performances of this track I've ever heard.

By now, my expectations of this DAC were sky-high, so it probably wasn't surprising to find that the next track would come as something of a disappointment. The Divine Comedy's 'Come Home Billy Bird' didn't prove to be quite as engaging as I'd hoped. The performance was still well resolved, with smooth orchestration and fine vocal projection, but the rippling bass didn't have quite the authority or presence that I'd been hoping for. There was also a tad more sibilance than I'm used to, but I'm prepared to put this down to the DAC1's obsessive quest for detail rather than any specific sonic flaw.

Being true to the original recording was another aspect of the Benchmark that I was aware of with Jennifer Warnes's 'Big Noise New York'. I felt it to be exceptionally true to the recording, yet managing to be analytical without the often-

associated quality of a sterile nature and lack of listener involvement. No doubt the fine timing helped, with the solid bass also preventing the song from sounding too sparse. Otherwise, the precision, stable imaging and vocal articulation merely confirmed this to be a DAC of high merit.

Where I have, in the past, found some studio-based products to fall down, is in the area of stringed orchestration. No such worries with the DAC1, though. With John Rutter's 'A-roving', the bodies of the strings sounded as though they were made from wood and not glass. Yet, they were also possessed of just the right amount of metallic bite, to prevent them from sounding as though they'd been stroked with bows of silk. Being, at heart, an analytical beast, there was plenty of acoustic information in the background. Whether you like to hear the odd shuffle of paper or creek of chair is a personal matter but at least in this instance, I didn't find it personally intrusive. In addition to the accurate timbre and revealing detail, the Benchmark also granted the performance a decent sense of proportion, pace and vitality. Subtle details of resonant decay and individual bow movements simply confirmed my opinion of the Benchmark as being a particularly fine hi-fi component.

## CONCLUSION

It may look pretty innocuous but believe me, the Benchmark DAC1 is one of the most impressive digital products I've heard in quite some time. Where it is good, it is exceptionally so. In terms of precision, soundstage depth and focus and balance, the DAC1 deals a deadly blow to pretty much all of the opposition, and a good deal of integrated CD players costing up to £3,000, too. Where it is less good, there is usually a question of personal taste at issue.

For example, some listeners may find the sound slightly too dry, or too revealing. In this case it's hardly fair to blame the Benchmark, but the warts-and-all nature of the DAC1 is something

## HOME STUDIO

Not since DAT have we seen such a resurgence of pro-equipment filtering through to the domestic market. True, there have always been those who chose to use professional amps' and 'speakers for their home system, but instances of this are quite rare. Until now, crossover products have tended to be in the recording domain. Think Sony Pro-Walkman, Sony TCD-3D portable DAT and even the Revox B77, and you'll get the idea. These days it tends to be computer software that's shared between home and studio, although with products such as the DAC1 and Apogee Mini-DAC, the hardware crossover is making a comeback too.

potential purchasers need to be aware of.

As if the impressive sound quality of this product wasn't enough, it also proves refreshingly simply to use in a domestic setting. Whilst there are plenty of tweaky bits for the pro – including the calibrated output – it's an easy enough product for the domestic user to simply plug and play. I wouldn't suggest that it could compete with the best from Naim, MF or Cyrus when it comes to style but, then again, it is at least discrete. As studio products go, this is the most impressive I've heard yet and essential listening for audiophile. Highly recommended.

## VERDICT

Outstanding precision and detail that sets new standards for the class. Despite its pro origins, the DAC1 deserves serious consideration from all lovers of music.

## BENCHMARK DAC1 £938.83

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## FOR

- class leading sound
- comprehensive socketry
- domestic friendly

## AGAINST

- styling
- err, that's it!

## MEASURED PERFORMANCE

The DAC1 offers a pretty straightforward but good set of results. It has an almost flat frequency response right across the audio band. From an external synthesised digital signal generator it was flat from 1Hz to 20.8kHz; our analysis shows a convolved impulse from CD that depicts this.

Output was a massive 3.7V from the variable output set to maximum, and 3V from the fixed output.

Distortion levels were as low and they can get, measuring 0.21% at -60dB and just 1.6% with a -80dB dithered signal. The DAC1 matches the best CD players in this area.

Jitter was minimal with occasional peaks to 60pS, and noise also very low.

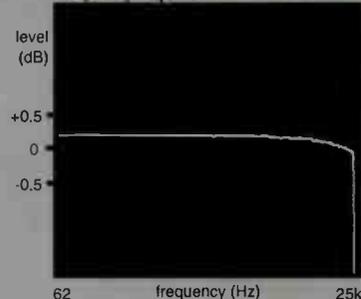
The DAC1 gives a tidy set of results with 16bit at 44.1kHz from CD. It is - potentially - a good way to upgrade an old CD player. NK

Frequency response 1Hz - 20.8kHz

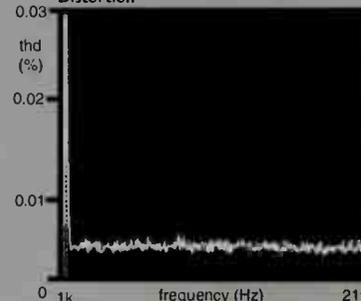
Distortion	
-6dB	0.0004
-60dB	0.21
-80 dithered	1.6

Separation	right
1kHz	121
20kHz	89
Noise (IEC A)	-116dB
Dynamic range	112dB
Output (max)	3.7V

Frequency response



Distortion



# X rated

With upgraded products either side of the NAC 112/NAP 150, Naim thought it time to 'x-rate' its entry-level pre and power amps too. Dominic Todd listens for improvements and suggests ways of taking the next step beyond...



**N**aim Audio is on something of a roll right now. As well as producing some of the most highly respected CD players around, it's also receiving near-universal praise for its amplifiers – which hasn't always been the case... Both the Nait 5i integrated and the NAC 282/NAP 200 pre/power have received rare five-globe reviews in this magazine, and it seems that, these days, Naim can do no wrong. Yet, the trouble with continuous improvement is that it doesn't take long for other models in the range to be left behind. And so it was with the entry-level pre/power, the NAC

112/NAP 150. Naim knew this, though, and it hasn't taken them long to do something about it. The new NAC 112x (£680) and NAP 150x (£795) are the results of a good deal of research and technology downscaling, which allows for both to feature ideas and circuit topology from the range-topping models.

Like all Naim preamps' the NAC 112x doesn't feature a built-in power supply. Instead, it takes its current from either a Naim power amp' or, better still, a separate power supply [see **UPGRADING**]. As is becoming more the fashion these days, Naim has opted for a resistor ladder volume control. This allows for less distortion – as there's no

potentiometer in the signal path – but also preset levels for each of the separate inputs. Speaking of which, the NAC 112x has six line level inputs. The good news for those unfamiliar with Naim products is that two of these are switchable from the standard DIN to the more conventional phono.

Other new additions to the 'x' model include the provision of RC5 and, optional, RS232 sockets. These allow the NAC 112x to be controlled externally, and are vital for the more demanding multi-room installations. Inside there is a completely new main board, with extensive use of star-earthing, and a revised display PCB, too. For the first

time, the display board now uses SMT (Surface Mount Technology), which should help to reduce noise levels. I found the rear connection panel to be rather loose but, oddly, Naim says that this is exactly how it's supposed to be! It helps it fit the new Frain rack,



apparently, and also reduces microphonic effects. Otherwise the casing is pure entry-level Naim. Entry-level in this case, though, doesn't mean penny pinching. The zinc and aluminium, die-cast, case may not be to everyone's taste, but you can be sure that it won't date quick!

As before, the NAP 150x power amp' features 50 watts per channel. This may not sound much but, with a healthy current swing, the NAP 150x should sound louder. A casing of the same size as the preamp' encloses a reasonably sized toroidal power supply and some very tidy circuitry. New to the NAP 150x are separate power supply windings for the two channels, rather than them being combined. The preamp's power supply is also upgraded, and the case receives the same tweaks to allow it to fit the Frain rack. Connection to the preamp' is by DIN only, although the 4mm, banana, 'speaker sockets are more conventional.

For this test, we used the FlatCap 2 (£525) power supply for the pre-amp'. As before, there really doesn't appear to be much to the FlatCap 2. Inside it's all rather empty with a solitary toroidal looking very lonely. Still, with selected low-noise regulators and two separate secondary windings to isolate each of the dual supplies, the resulting PSU represents a considerable step-up on powering the NAC 112x from the NAP 150x.

## SOUND QUALITY

Listening began with the Scissor Sisters' 'Mary'. Of all the tracks used, this actually turned out to be the most disappointing. In this case, though, the term disappointing is relative. In general, there was a spacious acoustic, a typically taut and well-integrated bass response and fine cohesion across the frequency response. Less pleasing, however, was a hardening of vocals, especially at higher volumes, and also a lack of bass weight. As I say, though, the pluses still far out number the minuses, and this was still a precise and well-focused performance that you'd expect from a modern Naim. After the superlative performances of the Nait 5i and NAC 282/NAP 200, though, it did seem a tad lacking.

Moving on to Blondie's 'Happy Dog' seemed to suit the Naim combo far better. Here, the raw guitars were to the fore and, although energetic and lively, the sound never became brash or uncouth. The trademark Naim foot-tapping rhythm was there, and the song leapt from the 'speakers without an ounce of spare fat. As before, bass was on the lighter side of what you'd expect from a £1,500 pre-power, but at least this time the vocals didn't harden as the volume rose. In fact, Harry's vocals were blessed with plenty of depth, and beautifully layered against the fulsome percussion. An impressive performance, then, but even more so as I began to realise the NAC 122x/NAP 150x were beginning to pull off that old trick that only the best hi-fi can achieve – that of invisibility. Not literally, of course, but the type of sonic invisibility that makes the listener simply forget about the hi-fi altogether and concentrate, instead, on the music.

Peter Cincotti's 'On The Moon' provided a similarly spellbinding rendition. The vocals didn't quite demonstrate the effortlessness of something like the MF XPRE v3/X-

P200, but there was certainly plenty of attack and drive from the percussion. Staging was extremely precise, making it easy to follow individual elements of the music and, if the vocals did lose a little in terms of height, then they were at least projected well forward of the rest of the mix.

If you like Dance music, then you can't fail to like the Naim. A case in point was the superb rendition of Narcotic Thrust's 'I Like It'. There's nothing like a good Naim amp', with super swift timing, to make the

## UPGRADING

As you may have already noticed, this particular Naim pre/power amp' was supplied with the upgraded power supply, amusingly termed the FlatCap 2. Naim has long believed that the quality of the power supply is crucial to an amplifier's performance, especially that of the preamp'. The £515 FlatCap 2 adds an extra incisiveness to the performance and improves upon the, already, decent resolution. As good as it is, though, you can get better. For a few pounds more, well £925 in total to be precise, Naim will offer you the HiCap. Using a half-sized version of the superior 2-series casing, the HiCap features improved vibration resistance. It also has a dirty great toroidal transformer and smoothing capacitors that make the FlatCap 2's supply look rather weedy by comparison! The beauty with pre/power combinations is that you don't have to go for a set combination. Should you decide to stick with the NAP150x, but go for a higher grade preamp' then you might want to consider the NAC 202 (£1,400) or even the NAC 282 (£2,830). The NAC 202 features precision matched rotary potentiometers with precious metal wipers. It also benefits from the more substantial 2-series casing, and is upgradeable still further by the NAPSC power supply which controls the digital and control sections of the amp' separately from the audio side. With the NAC 282, this is included as standard. There are also further upgrades to component quality and separate listen and record, source selectors. Combined with a HiCap power supply it's a formidable preamp, and sees off many more expensive competitors.

If you'd prefer to stick with the NAC 118x, but upgrade the power amp' then you've got the choice, realistically, of either the NAP 200 (£1385) or NAP 250 (£2315). The Nap 200 has, once again, that better quality, anti-vibration, casing and a useful power hike to 70 watts. The NAP 250 raises the stakes considerably by not simply boosting the power output to 80 watts, but by also using the same 007 transistors as used in the fearfully expensive NAP 500. Even though it's changed much over the 27 years of its life, the NAP 250 is still something of a classic and, like the NAC 282, still a formidable competitor.

So, cards on table, if I were to upgrade I would look towards the preamp first. Unless the NAP150x doesn't have enough grunt to power your 'speakers, you'll get a greater benefit from upgrading the pre' than the power amp'. In my opinion a NAC 202 with NAP 150x sounds better than a NAC 118x with NAP 200. Either way, as soon as you can afford it, the HiCap will transform the sound of either preamp, and is probably the most cost effective upgrade here.

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listener want to get up and dance. With the NAC 122x/NAP 150x, that's exactly what you'll want to do. It wasn't just in the timing, but in the way it could seemingly start and stop the pace on a sixpence. To use a DJ analogy, the Naim had the alertness of a decent direct drive 'deck, such as the SL1200, against the opposition's own-brand budget belt-drive special. In short, after listening to a NAC 112x/NAP 150x, everything else just sounds sloppy. Having said that, for all the vigour and passion, the Naim was still lacking in ultimate bass..

If the Naim had been at its peak with Dance music then, with Classical,

it came down a notch or two. That's not to say the sound was in any way poor, it just didn't impress as much as it had done before. With Mily Balakirev's 'Islamey', string tone wasn't quite as sweet as a good valve amp', or even the transistor Musical Fidelity for that matter. That, and the lack of scale, prevented the Naim from producing a first class performance. That said, the way in which the combo held a tight grip on the music, even during the most complex passages, was impressive. Even amongst the most chaotic sections, small details from percussion could still be heard with crystalline detail.

**THE RIVALS**

Perhaps Naim's greatest adversary, these days, is Musical Fidelity. It's therefore no surprise to find that the 112x/150x combo faces its toughest test from the MF XPRE v3 and X-P200. It's true that the Musical Fidelity is a touch more expensive, but then it does also boast a Naim-bashing 200 watts power output. Interestingly, when the junior, integrated, versions of these two amps (the 5i and X-150) battled each other in June 2004 it was the cheaper Naim that just came out on top. This time, in my opinion, the positions are reversed. As rhythmic and precise as the Naim sounds, it simply can't match the MF for scale or weight. With a second power amp' added, the MF is in another league which, even with a HiCap added, the Naim has no answer to. It's another reason for this Naim to just miss the five-globe mark.

Musical Fidelity aside, I would put the NAC112x/NAP150x ahead of its rivals. That means that, against last month's contenders in the group test, it would have come second. Not bad when you consider that these included the none-too-shabby Cyrus 8vs/PSX, Roksan Caspian Pre/Power and Exposure.2010 integrated/power. The Naim manages to create a superior blend of precision and involvement than all of them, even though they may, individually, score a point or two over the Naim in some areas. Certainly, as has already been mentioned, if you have a particularly tricky pair of 'speakers to drive, then the Roksaan, in particular, may prove the better choice.

Another rival you might like to consider is the Quad 99/909. Like the Musical Fidelity, it's a little more expensive than the Naim, but a good deal more powerful with it. It will sound a little ponderous by comparison, but counters with a more authoritative sound and a broader soundstage. Finally, from the left field, don't forget Prima Luna's remarkable Prologue 1. At £800 it's a good deal cheaper than the Naim. It's also an integrated, and a valve amp', but none the worse for being either. It loses some of the Naim's precision but, in terms of fluidity and lush musicality, is in a league of one. The good news is that, whichever amp' you do choose, you can be assured of the best sound quality at this price point that there's ever been. The new NAC112x/NAP150x simply reinforces that.

**CONCLUSION**

Had the Naim Nait 5i or NAC 282/ NAP 200 not existed, then this would be a five-globe product, no questions asked. The trouble is that they do, and for all its qualities – and there are many – the NAC 112x/NAP 150x can't match either. Sonically it's a country mile off the more expensive combination whilst, in terms of value, it can't compete with the stupendous performance per pound of the Nait 5i.

For all that, this is still a super amp', and an improvement upon the earlier models. In terms of listener involvement, vitality and sheer precision this is one of, if not the, most impressive amps' in its class. The sticking point comes with lower frequencies. It's here, especially with less sympathetic 'speakers, that the muscle of the opposition begins to tell. By comparison, the Naim simply sounds light in the bass, lacking in authority and restricted in stage width. It's a measure of how good the rest of the amp' is, then, that I would still whole-heartedly recommend this amp'. Match with efficient 'speakers, and sympathetic cables, and you'll have one of the most musical entry-level pre-power combos about.

**VERDICT** ●●●●● £

Another superb product from Naim, that just misses out on greatness because of the competition both from within and from the Musical Fidelity XPRE v3/X-P200.

**NAIM NAC112X/NAP150X £1,475**  
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**MEASURED PERFORMANCE**

The NAP 150 power amplifier produces 50W into 8ohms and a 80W into 4ohms, not much for a dedicated solid-state power amplifier these days, but in practice enough for most domestic situations, providing reasonably sensitive loudspeakers are used. The aim here is to get a Naim-like presentation – taut and dynamic – in a modest package.

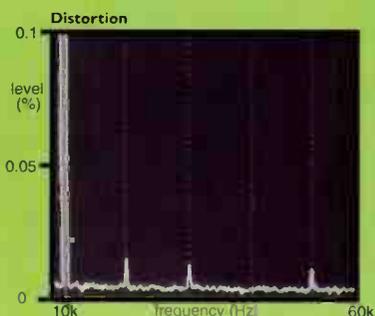
Distortion was kept well under control. Our analysis of 1W output at 10kHz shows some fifth and higher harmonics were present, but at just 0.02% levels was low. There was little change in structure with level, always a good sign. Near full output (-10dB) things changed little, a worst case result of 0.04% being returned at 10kHz.

Naim amps traditionally have an unusually high input sensitivity of 70mV, suited to old tuners and cassette decks, but not to modern sources that deliver 500mV or more. The NAC112X/NAP150 combo have a low-ish input sensitivity of 500mV, good for CD but with some sources volume (gain) may have to be turned up high.

As always bandwidth was tightly limited to no more than audio frequencies, the upper -1dB limit measuring 24kHz. This helps keep the sound smooth and contributes to the darker presentation.

The NAC112X and NAP150 combo measure well – and as classic Naims in most areas. NK

Power	50watts
CD/tuner/aux.	
Frequency response	12Hz-24kHz
Separation	86dB
Noise	-91dB
Distortion	0.02%
Sensitivity	500mV
dc offset	2.4/8.3mV
Disc	
Frequency response	Hz-kHz
Separation	dB
Noise	dB
Distortion	%
Sensitivity	mV
Overload	mV



# hello *shanling*

**Right now, Shanling is the star of the burgeoning Chinese hi-fi scene. And after a couple of killer digital disc spinners, the company now has a pair of monobloc tube power amplifiers out, in the striking shape of the 3Dacoustics by Shanling SP-80C. David Price meets and greets...**

**M**y trip to China last August was a real ear-opener. Beijing's a beautiful city, more modern even than that one-time inspiration for *Bladerunner*, Tokyo (a place I spent much of my adult life in). You get the sense that it's a place that's growing and changing at a remarkable pace – one hitherto only seen in Japan in the early nineteen seventies as the country moved to become the world's second largest economy after the United States of America. Right now, China is number six, but this can't be for long...

What's happening in the Chinese hi-fi scene is a function of this. There's a bewildering array of brands springing up hither and thither, often as a result of companies working as OEM suppliers to established foreign audio names, and then going-it-alone with their own marque. Shanling is one of the best known from the People's Republic here, thanks to its interesting, innovative even, CD and SACD players.

If one can possibly ascribe national characteristics to hi-fi, then Shanling is very Chinese – design-wise it's dramatic, quirky yet conservative. An interesting new application of very well established technology, this is no simple clone of Japanese, European or American kit – even though there are definitely 'echoes' of all the aforementioned. Build is lavish, but still has that slightly imperfect 'home made' (read: hand built) feel that Japanese high end lacks. Although Shanling throws lots of chunky, well finished brushed aluminium at the casings, the fit and finish doesn't quite have the sense of being 'hewn from solid with millimetric precision' that (admittedly more expensive) high end Japanese stuff exudes. Compare and contrast, for example, JVC's equivalently priced AX-SD1 Class A integrated

transistor amp: everything from the silky gate of the on-off switch to the beautifully radiused aluminium fascia plate gives it the look and feel of a top Lexus. The Shanling SP80Cs by contrast, feel more like a Lotus; stunning styling, oh-so-clever design by not quite up there on finish...

There's no much to them; each monobloc sports two EL34s, a 6N8P and a 6N9P, plus a massive toroidal power transformer and equally voluminous output tranny. This adds up to 16kg and 460x204x188mm – no small thing, an SP80C. The fascia sports a smallish circular window (very Marantz – no surprise, as this company is very, very big on the Chinese high end market) with a fluorescent volume display (switch on default: -40.0dB). To the rear of the left side is a single RCA phono socket, and opposite on the right side is a cheap looking power switch. Behind, on the rear panel, are three large gold plated speaker binding posts (ground, 4ohm tap, 8 ohm tap), and IEC socket and a 2.5mm minijack for



connection to one another. Essentially, this links both amps up so the remote volume controls them both simultaneously; you nominate one as the 'master' and the other as the 'slave' by a tiny switch above, and this is indicated by a blue LED in the frontal display. Finally, the units come complete with the white Michael Jackson gloves (so as not to get fingerprints on your beloved new bits of kit during set up), tasty looking power leads (although the review units lacked UK 3-pin mains plugs and had north European plugs instead) and a lovely little all aluminium remote control.

### SOUND QUALITY

Warning: not all valve amplifiers are made this way. If you're interested in tube amps in principle because of their innate smoothness, fluidity and grace, then don't buy the SP-80C because it has little of this. Indeed, so much of antidote to the trad 'Quad II' stereotype ('scuse the pun) of 'loose and lovely' is the Shanling that one can only think they had Naim's NAP250 in their corporate sights!

Of course, being a highish power push-pull running EL34s, you'd never expect it to be sweetness and light, but the surprise was how far away it was even from the likes of Audio Research's VSi-55 and my own modded World Audio K588 I, both of which have a real tiger in their tanks. It's no

exaggeration to say that the Shanling is the most bracing tube amp I've heard to date, and none the worse for it...

Bracing? Think touching down at Heathrow in November after a long spell in the Tropics. It's a

aural equivalent of a chill late autumn morning, so crisp you could almost carve your initials into the sound. But this is only the half of it, because the Shanling sounds massively powerful. It's a kind of Musical Fidelity kW500 of tube amps, I guess you could say. It takes anything you want it to play and veritably catapults it at you with breathtaking authority. And the great thing is that, being a tube design, it does have that ever-so-slightly sweet patina ever present, but it has to be said that with the SP-80C this is a minor mitigating factor!

Driven by the smooth, svelte strains of Stello's DP200 DAC/preamp (in 'Fixed' output mode) upsampling at 192kHz the digitals from a Musical Fidelity X-RAY v3 CD player, the Shanling made my Yamaha NS1000Ms sit up and take notice like no other tube amplifier I've tried with them. Jocelyn Brown's 'Somebody Else's Guy' was just plain astringent until I knocked the treble level pots back by 0.5dB each side. This just tipped the balance back from 'raucous' to 'revealing', and the SP80C's real character flooded out.

Let's start with the good news. As a brief look at the output transformer suggests (and a quick lift off the ground too) that this has massive bass power – and it has! Even Audio Research's superb VSi-55 lacks its ability to flap those big twelve inch woofers of the NS1000M. It was disarmingly strong and tight, and just kept on punching harder and harder as I 'tickled the loud pedal'. Snare drums stopped and started with greater speed (and commitment) than any other tube amp I've heard, bar none. This simply did not sound like valves, save the tiniest, merest and most modest hint of tonal 'warmth' down in the low bass. This subtly pleasing tonality allied to lightening attack transients proved an infectious combination...

When you move upwards to the midband, the Shanling has another ace up its sleeve – stereo imaging and projection. This obvious strength is, I believe, closely associated with those monster-truck output trannies. Unlike many tube amps which struggle to push any kind of stereo image out of the loudspeakers and into the room, the SP-80Cs well and truly kick it into the opposition's half. These monoblocs are staggeringly good at pushing vocals out at you, and just about anything else too. Lateral image location is also superb – things are tightly located within an expansive, architectural soundstage. It's all laid out on a plate for you,

# Kandy

It's not all  
black and white.



Roksan, for those with a little more grey matter.

without so much as an ounce of doubt.

All well and good then, but the Shanling isn't the multi-talented master of all trades its early promise would suggest. Alfonse Mouzon's 'By All Means', with its rasping brass, sounded positively acerbic at high volumes - there's simply too much negative feedback dialed in for it to achieve that trademark velveteen tube midband. The utterly self-effacing neutrality of the NS1000Ms showed it's a tad ecgy alright, but frankly I didn't dwell on this, as the brilliance of the bass had me entranced. The way this amplifier combo can start and stop on a sixpence (or one Euro cent, or whatever) has to be heard to be believed.

4hero's 'Escape That', with its beautifully recorded acoustic instruments, showed that no matter

NEW DIMENSION

Real Hi-fi has worked closely with Shanling to create a range of products called 3Dacoustics. It begins with true 240V transformers and follows with 240V rated components throughout. In addition a number of improvements to the electronic circuitry and parts selection are specified, with new op-amps and coupling capacitors (plus upgraded power supply rectifiers and regulators in the SACD & CD players) and simplified signal circuitry and upgraded power supplies in the amplifiers. With this in mind, it's safe to expect that direct import 'Shanling' products will not sound the same as '3Dacoustics by Shanling' products from Real Hi-Fi.

detracts from the SP-80C experience. Musically, they're very mechanical. By tube standards, songs don't have a cohesive flow from beginning to end - rather, they seem like a collection of impressive 'hi-fi moments' (very strong and fast dynamic swings). This amplifier can't easily knit together music to make it a real, organic, whole (think: SME Series V tonearms, analogue addicts).

cable, etc., all of which would pull the Shanlings towards warmth and musicality. Right now they sound powerful but emotionally standoffish, but methinks it's not beyond the realms of possibility to get them sweeter and groovier, as they're such a strong basic design.

CONCLUSION

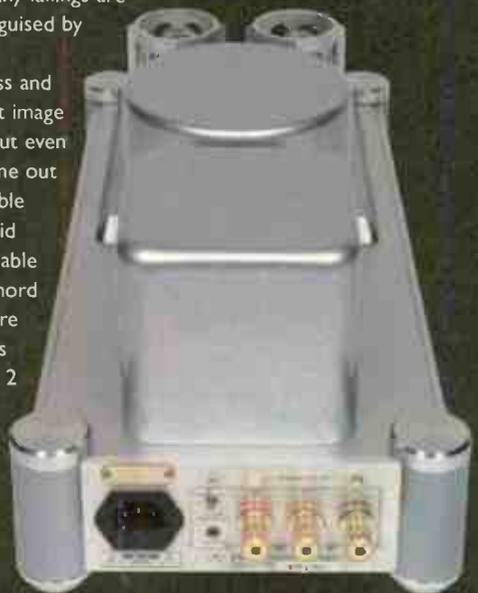
While writing this, I agonised over whether to give the Shanling SP-80Cs five globes or not. In the end, despite their slightly bright and mechanical nature, plus the excellence of similarly priced transistor fare (JVC AX-SD1, Musical Fidelity X-PRE v3/XF-200 bridged, etc.), they just about edged on to the top spot thanks to that power, punch, speed and imaging. Welcome in!

"this is the most bracing tube amp I've heard to date, and none the worse for it..."

how confidently the Shanlings can project into the room and etch the stereo image onto your very forehead, this amplifier combo is still veiled. It doesn't hang images back behind the plane of the speakers well, and as a result suffers from a lack of air and space, despite its tonal brightness. Moreover, it's not great at tonal colouring either. There's a slight hint of grain on violins, which isn't so much grey transistor mush as ice-white frost. Up in the treble, this is even more pronounced - trebles have a zing that you'd normally expect from £200 transistor integrats.

However, an idea: I've recently tried Deep Cryogenically Treating (i.e. DCT) the input valves on my own World Audio K5881, and got quite remarkable results. In brief, it was almost as if it made my push-pull amp sound like Parallel Single-Ended, such were the gains in fluidity and cohesion. So I'd suggest that the SP-80Cs would be ideal candidates for this, and the usual other raft of tweaks like Sorbothane feet (i.e. Foculbods), revalving, Kontak, trick mains

As I've said, much of the Shanling's many failings are brilliantly disguised by the glorious, awesome bass and super-explicit image projection. But even if you can tune out the lively treble and upper mid with clever cable matching (Chord RCA Signature interconnects and Odyssey 2 loudspeaker cables are a great start), then there's one thing that really



**VERDICT** ★★★★★

A fantastic package, with stunning styling, strong build and punchy power delivery making them superlative value for money; forward sound won't be to all tastes though.

**3DACOUSTICS SHANLING SP80C** £2,000

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MEASURED PERFORMANCE

The Shanling uses a pair of EL34s in self bias push-pull to give an expected 32W. It clips smoothly and symmetrical, although there was the bounce of power supply modulation present. Whilst many Chinese valve amps use tubular screening cans to hide undersize and inadequate output transformers the Shanling offers fine, if not perfect performance here. It swings full output at 40Hz, showing there's plenty of core metal. Distortion was an acceptable 0.6% under these conditions.

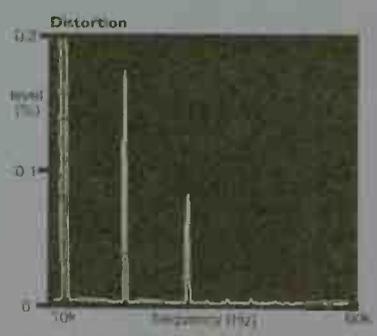
Mid-band distortion was low at 1W output, but not purely second - there was some third. This was the case at other powers and frequencies. The Shanling will sound possibly a little sharper in its presentation than is heard from a second harmonic only design. There was some 100Hz power supply side-band modulation too, which will also act to subtly degrade clarity. So although very good the Shanling needs to be a little better to get the very best from EL34s. All the same I expect it will have fast, powerful bass that - for a valve amp - will surprise a lot of listeners.

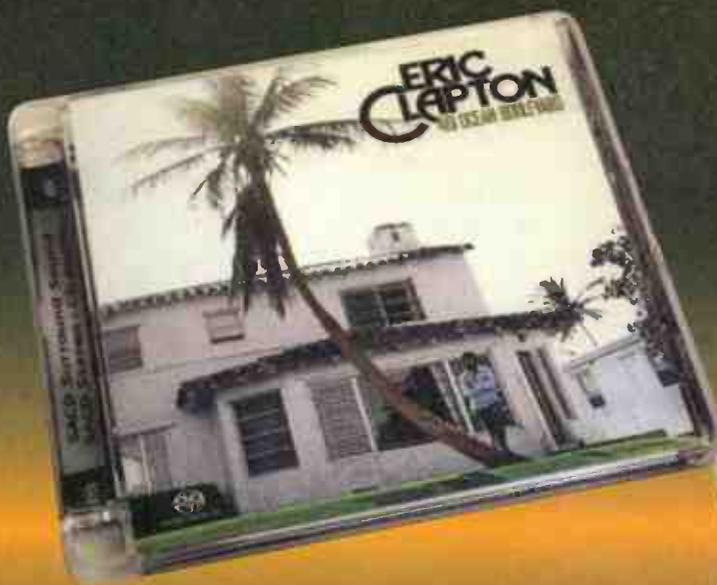
Frequency response was a wide 20Hz - 46kHz, reaching -3dB at 123kHz. Sharply defined clipping (overload), wide bandwidth and mid-band distortion

suggest Shanling have used as much feedback as possible to keep this amp under control, so expect a tight, clean sound, but one less fluid than is possible.

The Shanling measures well and has good transformers. It isn't up with the best, like Audio Research or World Audio, measurement clearly shows but it will startle with its sound. EL34s run like this sound sweet, detailed and fast. There may be a little less transparency and liquidity than possible though. NK

Power	32watts
CD/tuner, aux	
Frequency response	20Hz-46kHz
Noise	dB
Distortion	0.6%
Sensitivity	380mV





**ERIC CLAPTON**  
**461 OCEAN BOULEVARD**  
 (HYBRID SACD: STEREO &  
 MULTI-CHANNEL DSD)

We usually attempt to divide our attention between formats and labels, but it is hard to ignore the fact the only major label putting out high resolution discs in sizable numbers is Universal, which means that this month's rundown consists exclusively of Universal Chronicles series classic rock back catalogue. It says something about the demographic they are aiming for that the vintage of these thirty-odd year old Claptons and Eltons puts them before the time of the average forty year old. '461' is the only album here I have significant familiarity with - and that was listening to the parental copy - so these opinions are those of someone listening properly to these albums for the first time in their surround forms.

While the Elton SACDs have all been worked on by Greg Penny, the Claptons have had their mixes done by a variety of engineers and producers with 'Slowhand' (which is also available as a multi-channel SACD) done by original producer Glyn Johns. The surround versions for '461' and 'Layla' were actually produced by UK eighties pop musician Simon Climie, and '461' has been given a subtly attractive feel. It's

a more involving, cleaner sounding version of the album I probably last heard twenty years ago. '461' is a much stronger set than 'Slowhand', with great performances from the man himself and a consistent band of sidemen, including a fantastic live-sounding Jamie Oldaker on drums. Check out the straightforward, almost stereo version of Robert Johnson's 'Steady Rollin' Man'. Clapton's dobro sounds gorgeous on 'Give Me Strength' and Yvonne Elliman's supporting presence is felt throughout. It is a shame that with a double Deluxe Edition made available on CD at the same time space can only be found for three bonus tracks, but these do fit in both thematically and musically.

**DEREK AND THE DOMINOS**  
**LAYLA**  
 (HYBRID SACD: STEREO &  
 MULTI-CHANNEL DSD)

'Layla (and other assorted love songs)' is a rock classic, containing as it does that seminal title track, but there is plenty else to commend it as an album. Key to the whole project is Clapton's writing hook up with Bobby Whitlock and the guitar interchange between EC and Duane Allman. It is fascinating how, in four short years between 1970 and 1974 Clapton had gone from this primal blues-rock to the more middle of the road variant

to be found on '461'. The difference in vintage is also evident in the recording: although both albums were produced by Tom Dowd, '461' also sounds tamer and easier on the ear than 'Layla' which is admirably live, but a little thin and shrill. It is difficult for me to comment on the fidelity of this, having heard neither the original tapes nor preceding versions of the album, but the sound might fatigue slightly after the full eighty minutes.

It is impossible to quibble with the musical qualities of the album, but like '461' few risks are taken with the material in the surround mix. Disappointingly the title track is not the all-around assault that some might have done (some reportedly prefer the aborted surround mix by Elliott Scheiner - that is a story for another day...). From the point of view of a rock history student it is a shame that, in common with the other Claptons, no textual background is supplied - the packaging is the bare bones original supplemented with SACD reworking credits. You would have thought that with the effort being made to turn these three Clapton artefacts into the new format, budget could have been spared to add a contextualising sleevenote or two but on the whole they are nonetheless worthy of addition to your collection, according to taste of course...



**ELTON JOHN**  
**ELTON JOHN**  
**(HYBRID SACD: STEREO & MULTI-CHANNEL DSD)**

After the initial success of the exemplary 'Goodbye Yellow Brick Road' SACD and DVD-Audio it was inevitable that more classic Elton John would be revisited by mixer/producer Greg Penny. The first batch consists of this eponymous second album, 'Madman across the water', 'Tumbleweec Connection', 'Honky Chateau' and 'Captain Fantastic'. The reason for selecting these two titles for review is not just that they are the most prominent of that little batch. They are also the best served in the supplementary tracks stakes, as both add three excellent tracks to the original running order. In the case of 'Elton John' these include the delightful orchestration of 'Bad Side Of The Moon' which echo the spectacularly attractive arrangements of Paul Buckmaster found on the album proper. Musically this is the quintessential early seventies singer-songwriter album, containing the classics 'Your Song', 'Take Me To The Pilot' and 'Border Song'. John's vocals are soulful and strong, and the original sequence ends with the quaint primitive synth on the symphonic 'The Cage' and the positively proggy 'The King Must Die'.

'Goodbye Yellow Brick Road' was justifiably criticised by some for its over-

bright sound, particularly in its SACD guise. The nitpickers have attempted to tar the new batch with the same brush, but I found the sound of this album in particular to be richly satisfying, with a lovely natural bass guitar sound, and all five discs exhibit a consistency of quality. Perhaps Penny does read the message boards and heed the criticism! Of course what Penny really excels at is creating enjoyable surround versions, and throughout this batch he is demonstrating an admirable emergent talent for 'S. ling'. This album is given a similarly natural feel to the Claptons, but is somehow more involving and richer sounding. The surround is definitely the main event with these discs.

**ELTON JOHN**  
**CAPTAIN FANTASTIC AND THE BROWN DIRT COWBOY**  
**(HYBRID SACD: STEREO DSD ONLY)**

'Captain Fantastic' ranks with 'Goodbye Yellow Brick Road' as one of John's most successful albums, and it is not hard to see why. The style has moved on, and has become closer to the distinctive up-tempo pop which became his seventies trademark. The likes of '(Gotta Get) A Meal Ticket' are textbook examples of the tight Elton John Band sound, held together by Davey Johnstone's layered guitar parts, but the only real classic in the main

running order is 'Someone Saved My Life Tonight'. The bonuses are thus all the more important here, and they include stunning surround versions of single-only tracks such as 'Lucy In The Sky With Diamonds' and 'Philadelphia Freedom', the latter having a wonderfully exact, punchy sound.

The packaging standards are higher than the Claptons, but not by much. After the delightful restored artwork of the 'Goodbye Yellow Brick Road' digipak it is a disappointment to get doggily reproduced versions of the mid-nineties remasters' artwork, but at least that means we get John Tobler's useful sleeve notes. Elton John fans will undoubtedly want to acquire all five discs, but waverers should start with these two as exemplars of his undoubted talent and of how far Elton progressed in the first half of the seventies. Interested parties should note that by the time you read this the next batch should be close to the mastering stage, and will include 'Caribou', 'Don't Shoot Me I'm Only The Piano Player', 'Rock Of The Westies' and 'Blue Moves'. It is to be hoped that once he is through the Eltons, (maybe just the classic ones, eh?), Penny succeeds in his aim of moving on to other albums he has stewarded in their stereo past-lives by the likes of KD Lang, Rickie Lee Jones and Eddi Reader. He should be the absolute coyen of multichannel mixes by then, if he isn't already...

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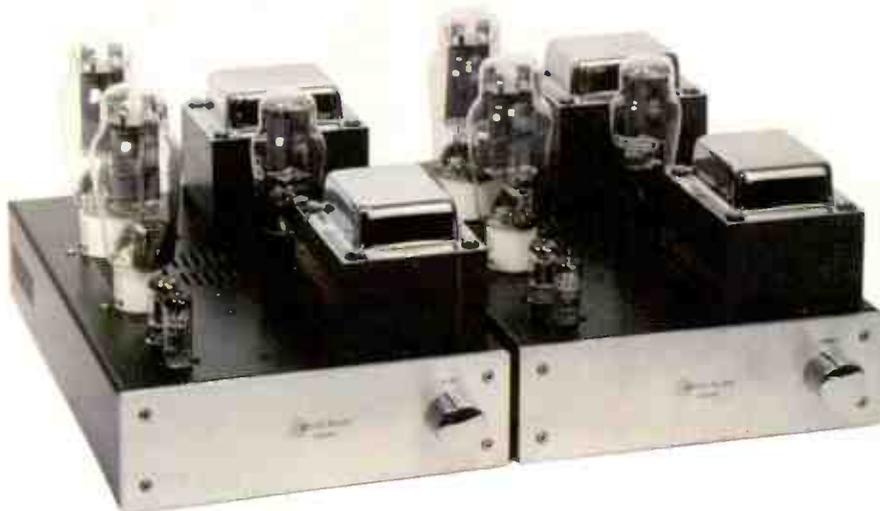
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**300B PSE MONOBLOC KIT**

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Kel84 is an affordable, integrated valve amplifier for those who want to enjoy the valve sound, but from a simple, easy to build kit. It uses inexpensive EL84 output valves, known for their sweet sound, in conventional push-pull arrangement to provide 15 watts into an 8 ohm load. The output transformers are our own quality Ultra Linear design. Up front, the circuit employs an ECF80 input/phase splitter valve, which contributes to Kel84's extremely smooth sound.

The amplifier has very low hum and for simplicity it is built on a printed circuit board. A strong steel chassis is fronted by a 3mm anodised front panel and attractive brushed aluminium effect knobs. There are five line level inputs, plus one monitor input, with a tape output included, all controlled from the front panel.

At the rear is a mains switch/IEC power input, earth post, phono sockets, and 4mm banana sockets for loudspeakers. The Kel84 will highlight all the intricacies and depth of detail in your favourite recordings whilst retaining a warmth and fullness that is almost exclusive to pure valve amps and is rare at this price point.

Kel84 weighs 10kg. External dimensions with valves are 300mm(w) x 270mm(d) x 150mm(h). Single input version also available at £285.



**KEL84 VALVE INTEGRATED AMPLIFIER KIT**

**£335**



Our 6550 series amplifiers are built around the rugged 6550 beam tetrode that's popular in America. This valve is widely available at a good price. Producing no less than 40 watts into an 8 ohm load. (available in a 4 ohm version if required) our 6550 is a power house, since valve watts always sound louder than transistor watts!

The difference between our 6550 and most others is that we use valve rectification (5U4) and a choke pi filter, for a power supply that is quiet and free from solid-state hardness. This is a true high-end design from Andy Grove, hard wired. It is a cut above the many other 6550s, with enough power to drive most loudspeakers, including insensitive electrostatics for example. 6550 combines high

power with a top-end smoothness of sound, yet doesn't cost the earth to run, as the valves are inexpensive and have a long life.

The amplifier weighs 19kg. Dimensions are 390mm(w) x 330mm(d) x 190mm(h) with valves, or 220mm(h) with cage.

**KIT6550** - An integrated amplifier with line inputs and volume control. Accepts CD, tuner, tape etc., but not LP.

**KAT6550** - A power amplifier for use with a separate pre-amp. Paired with PRE II and PHONO II (+PSU II), can provide LP reproduction.

**KIT6550 VALVE INTEGRATED AMPLIFIER KIT**

**£615**

**KAT6550 VALVE POWER AMPLIFIER KIT**

**£580**

The Headphone II amplifier is a beautifully simple design using Mullard ECL83 valves, a triode and power pentode housed in the same envelope. It works directly from any source, be it CD, tape, tuner etc., or from an amplifier's tape out or pre-amp out sockets. The circuit uses high specification E/I output transformers that will drive any headphone load from 16 ohms to over 300 ohms depending on how the secondaries are wired up.

The Headphone II is a pure Class A single-ended design with the power pentode wired up in triode configuration for added sonic purity, and it is as quiet as a mouse. Treble has the crispness of the best solid-state, but with the tonal resolution and delicacy associated with valves. Bass is punchy and controlled without becoming artificial.

External dimensions 270mm wide, 275mm deep and 85mm high



**HEADPHONE II**

**£285**

## Reference Books

## Building Valve Amplifiers

The practical guide to building, modifying, fault finding and repairing valve amplifiers.

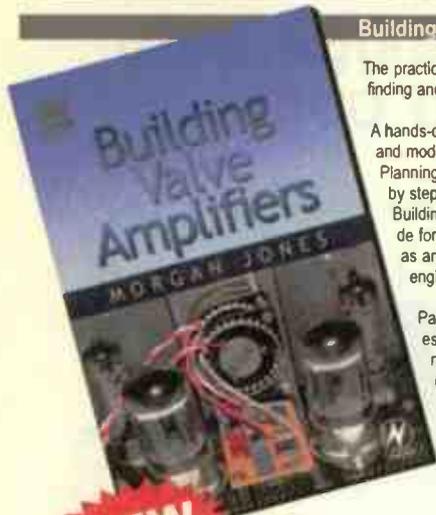
A hands-on approach to valve electronics, classic and modern - with a minimum of theory. Planning, fault finding and testing illustrated by step by step examples.

Building Valve Amplifiers is a unique hands-on guide for anyone working with tube audio equipment as an electronics experimenter, audiophile or audio engineer.

Particular attention has been paid to answering questions commonly asked by newcomers to the world of vacuum tubes, whether audio enthusiasts tackling their first build, or more experienced amplifier designers seeking to learn the ropes of working with valves.

The practical side of this book is reinforced by numerous clear illustrations throughout.

Price £20 plus £2 p&p



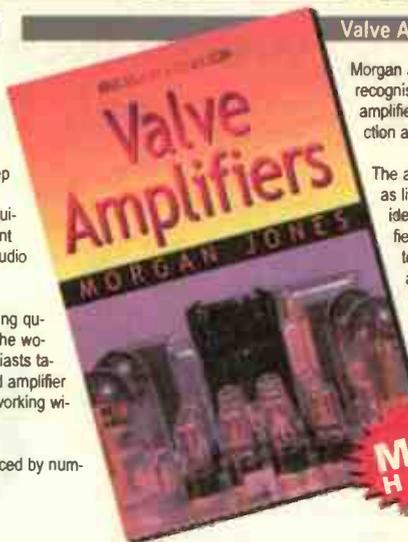
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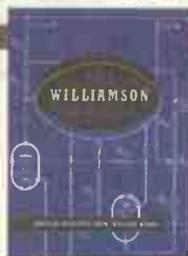
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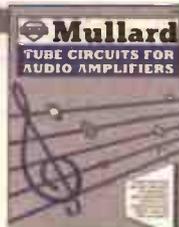
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The Williamson Amplifier by D.T.N. Williamson.

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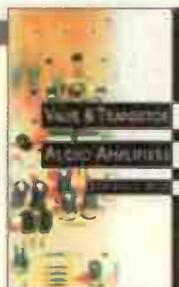


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AMPLIFIER DESCRIPTION	PRICE (inc vat)	PARTS DESCRIPTION	PRICE (inc vat)	PARTS DESCRIPTION	PRICE (inc vat)
KaT6550 with valves	£ 580.00	6550 mains transformer	£120.00	Kel84 PCB	£ 30.00
KaT6550 without valves	£ 450.00	Kel84 mains transformer	£ 60.00	Kel34 PCB	£ 12.00
KiT6550 with valves	£ 615.00	PSU-II mains transformer	£ 40.00	Kel80 PCB (pair)	£ 52.00
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Kel84 with valves	£ 298.00	6550 choke	£ 40.00	Headphone II PCB	£ 20.00
Kel84 without valves	£ 268.00	Kel84 choke	£ 20.00	PSU-II PCB	£ 20.00
PSU-II	£ 205.00	300B choke	£ 40.00	PRE-II PCB	£ 20.00
PRE-II	£ 215.00	PSU-II choke	£ 20.00	PHONO-II PCB	£ 20.00
PAS-II	£ 235.00	6550 output transformer (pair)	£130.00	Tag board	£ 4.00
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300B PSE with valves	£1197.00 per pair	300B PSE output transformer (each)	£110.00	6550/34 safety cage	£ 80.00
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300B PP with valves	£1197.00 per pair				
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These are expert kits, not for the inexperienced. You must be able to solder and read a circuit diagram. The valve kits contain lethal voltages. We cannot be held responsible for any injury or damage arising from the construction of these kits.



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JENSEN Capacitors

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PIO signal 0.1uF Aluminium Foil	£12.50 each	£ 45.00 set of 4
PIO signal 0.1uF Copper Foil	£18.27 each	£ 65.77 set of 4
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PIO signal 0.22uF Copper Foil	£22.02 each	£ 79.28 set of 4
PIO signal 0.47uF Aluminium Foil	£16.61 each	£ 59.80 set of 4
PIO signal 0.47uF Copper Foil	£28.94 each	£104.18 set of 4
PIO signal 1uF Aluminium Foil	£19.99 each	£ 71.95 set of 4
PIO signal 1uF Copper Foil	£41.23 each	£148.43 set of 4

Other values and versions available. Please Call. All Jensen PIO signal capacitors are 630V

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Jupiter

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0.047uF / 600V	Copper Leads	£ 7.79	Silver Leads	£ 9.49
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0.22uF / 600V	Copper Leads	£ 8.39	Silver Leads	£10.00
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Personal callers are welcome to collect their purchases in person or visit our Demo Room but please phone ahead especially if making a long journey as we can't always be there to greet you.

#### By Car

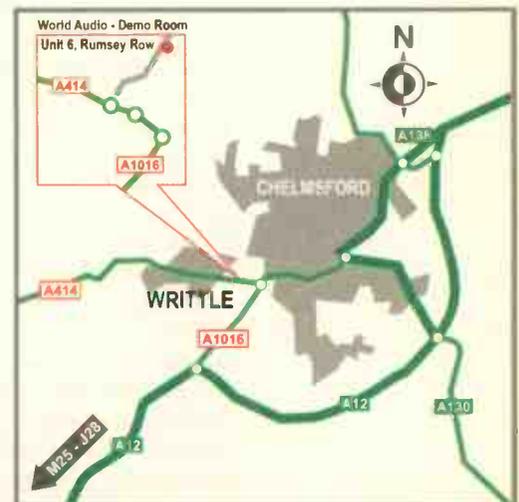
Directions from the M25 London Orbital: Exit the M25 at junction 28 signposted Brentwood and Chelmsford. Take the A12 north bound heading Chelmsford and Colchester. Exit the A12 at the turning marked A414 Chelmsford and Harlow then at the Widford roundabout take the 1st exit heading Harlow A414. At the second roundabout head right towards Writtle. At the T junction head right then left at the crossroads next to the Cock and Bell pub. When you see the village green to your left, take the next left and park up on the road adjacent to the green (near the Inn on the Green). Cross the road you just arrived on and locate Rumsey Row between the chemist and 'Which-Craft' WAD are located in the last unit on the right.

#### By Rail

The train journey from London, Liverpool Street station to Chelmsford takes about 40 minutes, with 3-4 trains running per hour. You can then get a taxi or catch a bus (numbers 45A & 45C) to Writtle Village Green where you will find Rumsey Row between the chemist and 'Which-Craft'. WAD are located at the far end in the last unit on the right.

#### By Air

London Stansted, London's third airport, is only a 35 minute drive from Writtle with cheap flights to many EU destinations. Heathrow and Gatwick are also easily accessible via the M25 (90 minute drive).



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# noel keywood



**L**oudspeakers still have a great impact on final sound quality and can sound staggeringly different from each other, despite all the claims of perfection. I have heard a lot over 'speakers over the years, I've also heard mountains of tech talk, have designed and built loudspeakers myself for World Audio Design, and have spent far too much time experimenting with Quad electrostatics. Yet in spite of all this I am still undecided about what's best!

At the moment my house is a shambles again, with floorboards up, power tools everywhere and a lot of huffing and puffing over quite what to do next. And loudspeakers are very much a part of the problem I'm grappling with. No loudspeaker is perfect, so in the end I have to live with imperfection just like everyone else. It's a case of which imperfections do I want to live with, rather than which strengths.

My first advice to anyone desperate to find the ultimate loudspeaker is - don't panic! Good small ones can be very good by any standard. One reason work stopped in my home is that I finally decided not one, but two listening rooms were needed. High definition video is here to stay so the lounge is being altered to house a high fidelity surround sound system that can handle both audio as well as video sound track. The second room will have to be a working room, likely with reference electrostatics driven from a valve amp as one option, since this is, for me, the best sound you can get. I'm going to lose floor area here and electrostatics are no great accompaniment for DVD, so whilst this room will likely have a TV and the ability to house surround-sound, a stereo system with LP on a wall shelf will take pride of place. I'll

let you know in due course which room I spend most time in...

For now though, let me explain in a little more detail why I am doing this, because choosing either high definition stereo or surround-sound is an option that faces us all. I hear many say "not me"! Most *Hi-Fi World* readers are not dreaming about surround-sound. It's too commercial,

**“ my advice to anyone desperate to find the ultimate loudspeaker is - don't panic!**

too complicated and it clutters up the home. All of which is true. However, I have a different slant. The music business is mixing mostly in surround-sound and much of it is good. I've also noticed also that using five loudspeakers gives much more even sound pressure through the room, a more consistent quality to the sound field as if the room is having less effect, and - importantly - an easy, low distortion sound with good bass quality that is powerful yet effortless.

Since all this can be had from small, high quality loudspeakers and since, I've found, that with a bit of help from B&Q I can shoehorn the whole shebang in and gain floor space rather than lose it, this is going to be what I use in future in my lounge. Well, for the time being at least.

With surround-sound, rear speaker cables must go under the floor, or it becomes an unholy mess. A fireplace is being opened and some top brickwork removed to house the centre speaker at the same height as left and right. It's usually difficult to get the centre speaker properly located for music, an undiscussed problem with 5.1

and, in my experience, the main one when it comes to reproducing music rather than film sound. The other is centre channel dominance, which gives high quality mono! This is a bizarre phenomenon, as much down to mixing as anything else, but it can be compensated by reducing centre speaker output.

Loudspeakers of choice in the second listening room will be electrostatics run from a valve amp. This room will have heavier sound treatment to cope, and also to ensure good conditions for loudspeaker reviewing in general. I'm toying with the idea of using either ESL57s with One Thing panels, or

new Quad 989s. ESL57s are more amenable to modification and upgrade, since there's a growing body of knowledge about them that aids DIYers like myself, as well as a widening pool of parts. What doesn't concern me is ultimate bass quality, because it encourages artificiality. 'Fast' loudspeakers with 'slam' are commonly optimised to be like this through various tuning techniques that compromise accuracy and add colouration. Exciting on straight-forward Rock music, they fall down if asked to reproduce anything else; not my bag.

In the past I have run large, quality conventional floorstanders, like most people. As electrostatics and subwoofers get better I feel a tug back in this direction, but with Blu-Ray and high definition video soon to be upon us, totting up to six channels of 24/192 digital audio, I won't want to be missing out here either! Whichever sort of system you choose, stereo or surround-sound, getting fantastic results doesn't mean spending an arm and a leg on the loudspeakers. Swapping the furniture around and doing a little DIY might be all it takes to set things up for great results ●

# David Price



**T**he greatest thing about high fidelity music reproduction equipment is that it's the means to an awe-inspiring end – listening to music – which is surely one of life's highest pleasures. The next best thing about hi-fi is that you get back what you put in, which is to say that the more intelligently you choose, match, tweak and tune your stuff, the better the results will be. Yet what fascinates me most, however, are all the engineering, economic, political and even philosophical decisions that are made on the way – in short, who said what, where, when and why? And nowhere are these more explicit than when designing a loudspeaker...

That most speakers look the way they do is more about expediency than anything else – there is no rule book that states that moving coil cone and dome transducers in largish narrow boxes are necessarily better than anything else – in fact, in many situations, the reverse is true. So when I speak to designers who sing the praises of this or that particular midrange drive unit or cabinet, I can't help thinking that this is more of a psychological process (self-affirmation) than pure intellectual justification. It's the audio engineering equivalent of Steve Coogan's fictional salesman Gareth Cheeseman staring at himself in the mirror and saying 'Grrr... you're a tiger'!

You see, the sad thing for any speaker designer is that whatever he does or doesn't, he's already lost the war. This is because his basic building blocks are seriously limiting him, and in order to get round this, he has to [a] be a genius, [b] design and manufacture an alternative set of building blocks and then refer back to [a]. Because it's so hard to conceive of

(let alone build, let alone implement cost-effectively) the perfect transducer, then any designer is already working with a whole set of compromises before he leaves the starting grid. Imagine having to come up with a race-winning Formula One car running bicycle tyres and a diesel

**“ the trouble with speakers is that – even living with some of the very best in the world – you're just never happy... ”**

engine...

No speaker is perfect, but in the realm of affordable audio, you don't expect it to be. At the high end though, what's most shocking is that there's often little (or no) advance on a loudspeaker's ability to offer convincing all round performance. Indeed, the higher you go, often the less well rounded they often tend to be, with the designer going 'hell for leather' trying to get precisely what he wants, rather than anyone else. The result is that many 'ultimate' loudspeakers are 'hyper-focused' on doing one thing particularly well, and to hell with the rest of it...

Wilson Benesch's Curves are a case in point. They're a stunningly well engineered, deliciously styled piece of pure indulgence. Anyone who likes megabass should look elsewhere, but if you're after electrostatic-like midband incision, then this is your box. What the Curves bring to the party over their Quad ESL-989 rivals however, is treble extension (a real bugbear of the Quads) and bass punch (as opposed to bass, ermm, presence). Being moving coil, the WBs can shift air better than the Quads,

yet offer similar levels of midband delicacy and textural faithfulness. They lack the Quads' imaging, but so does every other loudspeaker I've heard. Ultimately then, the Curve is very intelligently voiced – offering most of the performance of an electrostatic panel design without its flaws and some unique strengths of its own.

I have to say I am deeply impressed by them. Although they're essentially a textbook box loudspeaker, Wilson Benesch offer genuine innovation with materials technology. Any fool can stick some off-the-shelf drivers in an MDF box and load it with bits of wool, and although WB

take this basic template, the driver cones are bespoke, featherweight, super-rigid carbon fibre and the cabinet is too.

Given that both these factors influence the sound tremendously, The Curve is pure good news to me. The Quad ESL-989s of course use radically different transducers (better, in the midband at least, than the WBs, I think) but spoil the delicious recipe with perfunctory treble and mediocre bass. Having used a pair for the past two years, I for one would love to hear 989s re-framed in Carbon Fibre, instead of their current wibbly-wobbly wood(?) enclosures. Or, how about WB placing electrostatic or NXT panels in gorgeous carbon fibre exo-skeletons? Either way, the results would be stunning. As for the chances of this happening, well – start at zero and work downwards.

Quad is committed to its technology, WB its, and never the twain shall meet – not for abstract reasons of design or engineering, but commercial necessity. That's the trouble with speakers – even living with some of the very best in the world, you're just never happy. ●

# dominic todd



**B**ack in 1992 there was a war on - a fierce rivalry between brand new digital recording formats, MiniDisc (MD) and Digital Compact Cassette (DCC).

Although most agreed that DCC actually sounded better it was, thanks to a combination of convenience and the marketing might of Sony, MiniDisc that won the day.

Since then, it's proved to be a remarkably robust format that has coped surprisingly well with the advent of both CDR and MP3. Indeed, it was only less than a year ago when Sony launched their latest enhancement of the technology, Hi-MD. In a riposte to MP3 portables, Sony managed to develop the ATRAC codec and blank disc to deal with an amazing 1GB of memory per disc. The claim of 45 albums on one disc certainly sounded impressive, even if the required 48kbps bitrate was less so...

Although Sony has a much-reduced range of full-size players, they only recently launched a brand new, and comprehensive, range of MD portables. This, and a substantial fan base for the format, made me think that here was a technology that would go on forever. It's already defied the doomsayers, so why should that change now? Well, in a word the answer comes from Sharp. Or rather, it doesn't anymore. An unrelated glance at their UK website the other day, listed no portable MD players whatsoever. Sure enough, manuals and service support is available, but no actual players for sale.

The importance of this for the future of MiniDisc cannot be underestimated, as it was Sharp who, along with Sony, developed the format. It's fair enough to say that Sony did indeed do the lion's share of the work, but Sharp do still hold a good deal of patents relating to

MiniDisc technology and, to my knowledge, were the only other company to develop a domestic MiniDisc transport. A visit to the international site does still list MD players, but for the company to apparently pull the plug on what was a healthy (UK) market can't bode well for the format. Of course, one look at the high street and you can see why Sharp's priorities have

## ” MiniDisc's final stay surely can't be far away...

changed. LCD TVs were all over the place this Christmas, and Sharp have a very generous chunk of the market share. You can hardly blame them for filling their warehouses with LCD TVs, when they're in such a strong position.

What will be interesting to observe is what the few other remaining manufacturers' reaction will be to Sharp's move. It can't be denied that MiniDisc has been declining for some years now, but a look at the current range of portable players available in the UK shows a truly anaemic range. Panasonic lists just two models. The SJMJ50 and SJMR230 are both actually rather good but, come replacement time, I doubt very much that either will see a successor.

To illustrate just how these players have become flavour of yesterday, take a look at a price comparison website such as Kelkoo. The SJMJ50 is listed by just a single retailer, whilst the SJMR230 isn't even on at all. By comparison 14 stores list the ubiquitous Apple iPod 40GB. The iPod Mini, in all its different hues, incidentally, is listed even more times (I gave up counting). If that's not proof enough of a format on its death bed, then take a look at the only other producer of portable MiniDisc; Aiwa. Like Panasonic, and

even Sony, Aiwa actually feature an MP3 player on their website "splash page". Dig into the site, though, and you'll find a couple of players. Like the Panasonics, the AM-NX9 and AM-NX1 are both actually rather good. Yet, take a look at the price comparison website, Pricerunner, and you'll find just 3 retailers promoting the former and just a single seller offering the AM-NX1. In fact, the

bold figures show that out of the entire 39 MiniDisc portables listed, 33 were made by Sony, and many of these were either duplications in colour or discontinued lines. Alongside the 393 MP3 players listed, it was certainly enough to convince me that MiniDisc's final stay surely can't be far away.

One thing's for sure, the format can certainly no longer rely on either the professional or home market. With just 2 full-size players available in the UK, Sony have already realised that the market for full-size recorders has long since passed its heyday of the late '90's. Whereas Sony were once joined by, amongst others, Yamaha, Technics, Sharp, Pioneer and Denon, these days there is just a solitary Pioneer model and a trio of, system matching, Denons.

For all its comebacks and continuous improvements I think, that this time, MiniDisc's days are finally numbered. I shall actually miss the format, for though no fan initially, I did grow to respect the technology for sheer staying power and an undeniable convenience. Let's not forget that MiniDisc made digital recording accessible and a great deal more convenient than portable CD. It also pretty much introduced the public to the idea of using compression codecs to record which, of course, has been one of the cornerstones of the success of MP3 portables. Still, as I'm sure Sony are set to prove with their new NW-HD3, if you can't beat 'em then join 'em... ●



# It's set right

I would never have been a success as a lawyer. That was why I gave it up and became a writer. As an academic subject, the law was enchanting; to make the transition from the world of scholarship to practice in what proved to be a world of commerce was disgusting. Yet it was there, in a Chancery Lane office, that I first encountered the tape recorder. In those early 1950s I suppose that this was many people's first meeting with the device.

One of the features of this office contraption was the automatic maintenance of playback level, so that a half-swallowed syllable or a complete fit of the mumbles might still be heard and understood. Since this sad world contains more bad speakers than good audio-typists, that corrective circuitry was doubtless a boon; I wonder, though, whether it was the origin of that curious notion, prevalent among so many of today's listeners, that everything in a recording should be heard equally well?

Perhaps it could. What about the rattle of the keywork on George Zukerman's beautifully-played bassoon during his performance of the Mozart concerto? Or the heavy breathing and the creaking chairs of some impassioned string quartet? Do we expect or want to hear the tracker action of some ancient church organ? Or the whispered curse of some unfortunate orchestral clarinetist whose reed has come adrift?

Close miking is folly, for it does not even allow the instrument to sound as it should be heard; if you are listening to somebody singing or playing an instrument in an ordinary room, you do not stand close up to him. Multiple close miking is worse, for it does not allow an ensemble to sound consistent. Sure, I want to hear the bassoon obbligato while the upper voices of Verdi's Requiem

soloists sing 'Quid sum miser', but I can usually hear it well enough in the auditorium; why not in a recording, unless it be that the 'engineer' has turned the singers' mikes up and the orchestra down?

It is an entirely different matter when a singer deliberately chooses to hold a microphone close. In familiar popular music, it may be for an

can be done within the limits of that 20%: sound engineering is only a whisker away from unsound engineering.

In this context, what does High Fidelity mean? The expression cannot be limited to the things that seem to worry those nerd-like obsessives who fret and fume about sampling rates, output wattages, bi-amping and

dipoles. What did The IT Man tell them thirty years ago, but that the most important thing is the source? Admittedly he was trying to sell them LP12 Sondeks at the time, but what he spoke was a greater

truth: hi-fi actually starts at the microphone.

So why should hi-fi magazines not poke and pry into recording studios, argue with architects, interview recording engineers, examine microphones, vet processing circuitry, consult performers? The domestic enjoyment of music depends as much on these as upon the domestic apparatus through which we relay their products.

Although there are some few record companies who conscientiously do a remarkably good job, readers need to be informed not only about them but also about the others whose commercial priorities encourage them to issue volumes of compression and syrup, of thunder and lightning, for the moneyed but unmusical customers who are today so image-conscious that they believe their eyes rather than their ears.

If that majority really wants such stuff, I suppose there is no reason for them not to have it; but publication should be education, and it should be a duty to explain to those who are missing the best just what they are missing. Bread and circuses are all very well, but not when for the same money one could enjoy protein and the opera. ●

“ sound engineering is only a whisker away from unsound engineering...”

essentially artistic reason. In heavyweight rock and the like, it may simply be for the sake of being heard above the general amplified din. There is a similar case for the modest amplification of an inherently weak instrument (violin, say, or acoustic guitar) in a concertante role — or even a voice: pity the poor little soprano trying to be heard in the Four Last Songs above that enormous and overbearing Richard Strauss orchestra. Even in a good concert hall (a rare commodity nowadays) the problem can be real, though where the orchestra is not so big as to be spilling over the edges of the platform there is usually room to bring the soloist well forward. Things may be very different in the recording studio...

In such cases the procedure is valid, but even then the scope for over-engineering the effect is vast and dangerous. I once asked the man at the mixing desk for the Supertramp group, back in the 1970s (remember *Crime of the Century*?), to what extent he considered himself to be applying musical criteria to his apparently technical work, and he judged that his motivation was at least 80% music and at most 20% technology. It still worries me to think how much harm

# patrick cleasby



**A**nother year, another confusing morass of digital vapour-ware to claw through... welcome to 2005! And here is the oft-promised state of the blue laser format war address.

January gives the consumer electronics industry the opportunity to start the year of with a bang with CES, and the pre-show trails during the entire month of December have clearly indicated that battle lines have been drawn.

It is hard to believe that is at least three years since the initial whispers of blue laser technology enabling higher capacity 12cm shiny data disks emerged. The terminology Blu-Ray for the Sony innovation, customarily supported by the Sony/Philips axis (now they have all but lost interest in SACD hardware and software), has been around for a similar length of time, although recent months have seen the term BD gain currency as the adopted abbreviation for 'Blu-Ray Disc' as a packaged medium. (Caddied Blu-Ray ROM discs and consumer HD video recorders using them have been around in Japan for some time now).

HD-DVD is a more recent blue laser variant primarily promoted by the usual S/P opponents Toshiba (along with NEC), which in common with DVD-Audio has been endorsed by the DVD Forum. (I wonder if that will do HD-DVD as much good as it did DVD-A!)

The tag vapour-ware is a little bit unfair in the case of Blu-Ray and HD-DVD, as 2005 is the year which should see specifications finalised during the first quarter of the year, and product available to the (American) consumer before their end-of-year holiday season.

The evidence of solidification is all around - the beginning of

December saw most of the major Hollywood studios throw their hats into the ring, and the weight of studios putting their vote behind HD-DVD seemed to suggest first strike to the DVD-Forum. However this was swiftly countered by the not insignificant announcement that the Mouse was behind Blu-Ray. Yes, Disney, the studio which was an

**the key thing to remember is that, as per DVD, we audiophiles are always last in the queue for consideration...**

ardent supporter of such failed and flaky as ideas as DIVX, (not Divx the video codec, but DIVX the short-lived time-expiry 'DVD'), had somehow hooked up with Sony et al to queer what could have been a smooth run in for HD-DVD.

That said, nearly every other pre-show announcement strengthens the case for Blu-Ray. There is the inevitable weight of its inclusion in the forthcoming Sony PlayStation 3. There is the fact that while the Memory-Tech announcement of an HD-DVD/DVD hybrid only allows for a DVD-5 DVD layer (no use for most movies guys!), the JVC announcement of a similarly backwards compatible Blu-Ray disc allows for the customary DVD-9 layer. Philips are ready with an OEM CD/DVD/BD drive. At least the main DVD authoring software providers Sonic and their recent acquisition Roxio plan to release both Blu-ray and HD-DVD burning/authoring solutions. Maybe Sony haven't won yet!

As ever the reasons for the corporate decision making are not clear yet, (although I suspect the

usual piles of loot to be a factor), and again as ever, until things settle down the net result is confusion and anguished decision making (or disastrously for the CE companies NON-decision making) for the consumer.

So how can we here at HFV help clarify these muddy waters for you? The answer, dear reader, is that as yet we can't. Although CES may bring a slight degree of greater lucidity, in reality it is going to take at least the rest of this year to watch the dust settle. The key thing we have to remember is that as was the way with DVD, we audiophiles are always last in the queue for consideration and information. Yes, details

of which audio codec is likely to be found on which carrier are starting to emerge, but it is much easier to find informed debate on the video codec side of the equation.

The reason for this is obvious - the main driver behind the need for higher capacity carriers has nothing to do with audio, and everything to do with the struggle to accommodate a full-length movie in High Definition form. Now, we are not a home cinema magazine, and I leave it entirely up to you the reader to decide if you want to read me pontificating on the video codec side of this debate in future issues. Some of you may not have the slightest interest in video displays and AV amps, but I suspect a lot of you do, and as this area hurtles into the foreground there is important information which can be imparted to ensure costly bad purchasing decisions are not made. Please let us know in the usual manner if you would prefer to entrust your decisions to the counsel of other publications, or if you would like me to attempt to elucidate the video side of the HD issue next time! ●

# world classics

In this heavily revised section, you'll find the great and the good from audio's glorious past. Most are seminal designs which have earned their place in hi-fi history, but you'll also see some oddities which aren't classic as such, but are great used buys. The year of introduction is given, alongside the original UK launch price. Think we've overlooked something? Then write in and let us know!

## DIGITAL

### CAMBRIDGE AUDIO CD11986 [£1500]

Inspired Stan Curtis' redesign of Philips CD104, complete with switchable digital filter. Lean but tight and musical performer.

### CAMBRIDGE AUDIO

#### CD4SE 1998 [£200]

A touch soft in the treble and tonally light, but outstanding in every other respect.

### LINN KARIK III 1995 [£1775]

The final Karik was a gem. Superb transport gives a brilliantly tight, grippy dynamic sound, albeit tonally dry.

### MARANTZ CD73 1983 [£700]

A riot of gold brushed aluminium and LEDs, this distinctive machine squeezed every last ounce from its 14x4 DAC -super musical



### MARANTZ SA-1 2000 [£5,000]

The greatest argument for SACD. This sublime Ken Ishiwata design is utterly musically convincing with both CD and SACD, beating most audiophile CD spinners hands down.



### MERIDIAN 207 1988 [£995]

Beautifully-built two-box with pre-amp stage. Very musical although not as refined as modern Bitstream gear. No digital output.

### MUSICAL FIDELITY

#### TRIVISTA 2002 £4000

When playing SACDs, the sweetest, most lucid and lyrical digital disc spinner we've heard. Old school stereo, pure DSD design. CD sound is up in the £1000 class, too! Future classic.

### MERIDIAN MCD 1984 [£600]

The first British 'audiophile' machine was a sweeter, more detailed Philips CD100. 14x4 never sounded so good, until the MCD Pro arrived a year later.



### NAIM CDS 1990 [£ N/A]

Classic Philips 16x4 chipset with serious attention to power supplies equals grin-inducing sonics.



### SONY CDP-101 1982 [£800]

The first Japanese CD spinner was powerful and involving. Brilliant transport more than compensated for 16x2 DAC, and you even got remote control!

### SONY CDP-R1/DAS-R1 1987 [£3,000]

Sony's first two boxer was right first time. Tonally lean, but probably the most detailed and architectural sounding machine of the eighties.



### SONY CDP-701ES 1984 [£890]

Sony's first ever bespoke high end audiophile machine used a 16x2 DAC to provide a clinically incisive sound; supreme build quality allied to the pure unadulterated luxury of a paper-book-sized remote control.

### YAMAHA CD-X1 1983 [£340]

Nicely built 16x2 machine with a very sharp and detailed sound; sometimes too much so. Excellent ergonomics, unlike almost every other rival of the time.

## COMPACT DISC TRANSPORTS

### TEAC VRDS-T1 1994 [£600]

Warm and expansive sound made this a mid price hit. Well built, with a slick mech.



### ESOTERIC P0 1997 [£8,000]

The best CD drive bar none; TEAC's Tokyo boys pushed the boat out in style. Brilliantly incisive, ridiculously over engineered.

### KENWOOD 9010 1986 [£600]

The first discrete Jap transport was beautifully done and responds well to re-clocking even today.

## DACs

### CAMBRIDGE AUDIO

#### DACMAGIC 1995 [£99]

Good value upgrade for budget CD players with extensive facilities and detailed sonics.



### DCS ELGAR 1997 [£8500]

Extremely open and natural performer, albeit extremely pricey - superb.



### DPA LITTLE BIT 3 1996 [£299]

Rich, clean, rhythmic and punchy sound transforms budget CD players.



### PINK TRIANGLE

#### DACAPO 1993 [£ N/A]

Exquisite; the warmest and most lyrical 16bit digital audio we have ever heard. Clever plug-in digital filter modules really worked!



### QED DIGIT 1991 [£90]

Budget bitstream performer with tweaks aplenty. Positron PSU upgrade makes it smooth, but now past it.

## TURNTABLES

### ARISTON RD11S 1972 [£94]

Modern evolution of Thorens' original belt drive paradigm, Scotland's original super-deck was warm and musical, albeit soft. Still capable of fine results today.

**PIONEER PL12D** [1973] £36

The beginning of the end for the British turntable industry. When vinyl was the leading source, this bought new standards of noise performance and stability to the class, plus a low friction S-shaped tonearm. Later PL12D was off the pace compared to rivals



**DUAL CS505** 1982 [£75]

Simple high quality engineering and a respectable low mass tonearm made for a brilliant budget buy. Polished, smooth and slightly bland sound.

**GOLDRING LENCO 88/89** 1963 [£15.65]

Simple, well engineered middleweight with soft, sweet sound and reasonable tonearms. Good spares and servicing support even today from specialists.

**LINN AXIS** 1987 [£253]

Simplified cut-price version of the Sondek complete with LX arm. Elegant and decently performing mid-price package. Later version with Akito tonearm better.

**LINN SONDEK LP12** 1973 [£86]

For many, the Brit superdeck; constant mods meant that early ones sound warmer and more lyrical than modern versions. Beguilingly musical but now off the pace.



**TECHNICS SP10** 1973 [£400]

Seminal Japanese engineering. Sonics depend on plinths, but a well mounted SP10/II will give any modern a hard time, especially in respect of bass power and midband accuracy.

**MARANTZ TT1000** 1978 [£ N/A]

Beautiful seventies high end belt drive with sweet and clean sound. Rare in Europe, but big in Japan.



**MICHELL GYRODEC** 1981 [£599]

Thanks to its stunning visuals, this bold design wasn't accorded the respect it deserved until recently. Early examples sound cold and mechanical, but now right on the pace. Clean, solid and architectural sound.

**REGA PLANAR 3** 1978 [£79]

Brilliantly simple but clean and musical performer, complete with Acos-derived S-shape tonearm. 1983 saw the arrival of the RB300, which added detail at the expense of warmth. Superb budget buy.

**GARRARD 301/401** 1953 [£19]

Heavy metal - tremendously strong and articulate with only a veiled treble to let it down. In many respects, better than the seventies 'superdecks' that succeeded it.



**ROKSAN XERXES** 1984 [£550]

Supposedly the first to 'better' the LP12. Super tight and clean sound, with excellent transients. Less musical than the Sondek, but more neutral. Sagging plinth top-plates make them a dubious used buy.

**THORENS TD124** 1959 [£ N/A]

The template for virtually every 1970s 'superdeck', this iconic design was the only real competition for Garrard's 301. It was sweeter and more lyrical, yet lighter and less impactful in the bass.



**TOWNSHEND ROCK** 1979 [£ N/A]

The product of academic research by the Cranfield Institute, this novel machine has an extremely clean and fluid sound. Substantially modified through the years, and capable of superb results even today.

**TRIO LO-7D** 1978 [£600]

The best 'all-in-one' turntable package ever made, Trio/Kenwood threw their 'engineering best practice' book at this one with startling results. Clean, powerful and three-dimensional sound, ultimately limited by the tonearm.

**TO NEARMS**

**ACOS LUSTRE GST-1** 1975 [£46]

The archetypal S-shaped seventies arm; good, propulsive and involving sound in its day, but ragged and undynamic now.

**AUDIO TECHNICA AT 1120** 1978 [£75]

Fine finish can't compensate for this ultra low mass arm's limited sonics - a good starter arm if you've only got a few quid to spend.

**ALPHASON HR1005** 1981 [£150]

First class arm, practically up to present-day standards. Buy carefully, though, as there is no service available now. Totally under priced when new, exceptional.



**SME 3009** 1959 [£18]

Once state of the art, but long since bettered. Musical enough, but weak at frequency extremes and veiled in the midband. Legendary serviceability has made it a cult, used prices unjustifiably high.

**GRACE G707** 1974 [£58]

This early Japanese example of the tonearm art has a smooth, lyrical sound. Imported by Linn, fitted to early LP12s. Sonically way off the pace now, though.

**REGA RB300** 1983 [£88]

Inspired budget esoterica. Detailed, tight, neutral sound but tonally grey sounding in absolute terms. Responds well to tweaking, and its cheaper RB250 brother better still.



**SME SERIES III** 1979 [£113]

Clever variable mass design complete with Titanium Nitride tube tried to be all things to all men, and failed. Charming nonetheless, with a warm and inoffensive sound.

**HADCOCK GH228** 1976 [£46]

Evergreen unipivot with lovely sweet, fluid sound. Excellent service backup.



**LINN ITTOK LVII** 1978 [£253]

Arguably the first 'superarm'; Japanese design to Linn specs made for a muscular, rhythmic sound with real dynamics. Now off the pace, but the final LVIII version worth seeking out.

**NAIMARO** 1986 [£875]

Truly endearing and charismatic performer - wonderfully engaging mid-band makes up for softened frequency extremes.



**TECHNICS EPA-501** 1979 [£ N/A]

Popular partner for late seventies Technics motor units. Nice build and Titanium Nitride tube can't compensate for middling sound.

**INTEGRATED AMPLIFIERS/COMBOS**

**DELTEC** 1987 [£1900]

Fast, dry and with excellent transients, this first DPA integrated is the real deal for eighties obsessives. Ridiculously punchy 80W per channel from a tiny, half-size box. Radical, cool and more than a little strange.

**ROGERS A75** 1978 [£220]

The prototypical Audiolab 8000a – lots of sensible facilities, a goodly power output and nice sound in one box. The later A75II and A100 versions offered improved sonics and were seriously sweet and open to listen to.

**EXPOSURE VII/VIII** 1985 [£625]

Seminal mid-eighties Exposure pre-power, offering most of what rival Naim amps did with just that little bit extra smoothness and sweetness. Still, it's by no means 'sweet' by today's standards, being lean, punchy, musical. It's also possessed of that quintessentially eighties look – frumpy black steel boxes with rough silk screened logos!

**SUGDEN CS1/P51** 1976 [£130]

Soft sounding early Sugden combo with a plethora of facilities and filters, complete with seventies-tastic DIN socketry. A sweet and endearing performer as you'd expect, but lacking in power and poor load driving ability, so partner carefully.

**VTL MINIMAL/50W MONOBLOCK** 1985 [£1,300]

Vacuum Tube Logic was one of the Europe's biggest tube names in the eighties, and it shows. Rugged, professional build and finish allied to a lively and punchy sound (albeit with limited power) make them an excellent used buy.

**A&R A60** 1977 [£115]

Sweet and musical feature-packed integrated; the Audiolab 8000A used its blueprint to great effect.

**CREEK CAS4040** 1983 [£150]

More musical than any budget amp before it; CAS4140 loses tone controls, gains grip.

**AUDIOLAB 8000A** 1985 [£495]

Smooth integrated with clean MM/MC phono stage and huge feature count. Extremely reliable, too. Post '93 versions a top used buy.

**MCINTOSH MA6800** 1995 [£3735]

Effortlessly sweet, strong and powerful with seminal styling to match.

**SUGDEN A21** 1969 [£ N/A]

Class A transistor integrated with an eminently likeable smoothness and musicality. Limited inputs via DIN sockets.

**MISSION CYRUS 2** 1984 [£299]

Classic eighties minimalism combines arresting styling with clean, open, lively sound. Further upgradeable with PSX power supply.

**MUSICAL FIDELITY A1** 1985 [£350]

Beguiling Class A integrated with exquisite styling. Questionable reliability.

**NAIM NAIT** 1984 [£350]

Superb rhythms and dynamics make it truly musical, but tonally monochromatic. Fine phono stage, very low power.

**NAD 3020** 1979 [£69]

Brilliantly smooth, sweet and punchy at the price and even has a better phono stage than you'd expect. The archetypal budget super-amp.

**MYST TMA3** 1983 [£300]

Madcap eighties minimalism, but a strong and tight performer all the same.

**ROGERS CADET III** 1965 [£34]

Sweet sounding valve integrated, uses ECL86 output valves, even has a half useable phono stage, sweet, warm a good introduction to valves

**ROTEL RA-820BX** 1983 [£139]

Lively and clean budget integrated that arguably started the move to minimalism.

**PREAMPLIFIERS****AUDIOLAB 8000C** 1991 [£499]

Tonally grey but fine phono input and great facilities make it an excellent general purpose tool.

**AUDIO RESEARCH SP-81982** [£1,400]

Beautifully designed and built high end tube preamplifier with deliciously sweet and smooth sound. Not the last word in incision or grip, but that didn't matter to those who aspired to it.

**CONRAD JOHNSON****MOTIV MC-8** 1986 [£2,500]

Minimalist FET-based preamplifier from the Yank valve specialists is brilliantly neutral and smooth with a spry, light balance in the mould of Sugden high end stuff. Something of a curio, but worthwhile nonetheless.

**CROFT MICRO** 1986 [£150]

Budget valve pre-amp with exceptionally transparent performance.

**LEAK POINT ONE STEREO**

1958 [£ N/A]

Good for their time, but way off the pace these days. Use of EF86 pentode valve for high gain rules out ultra performance. Not the highest-fi!

**LINN LK-1** 1986 [£499]

A brave attempt by the Glasgow boys to bring remote controlled user-friendliness to hair-shirt audiophile hi-fi. Didn't quite work, but not half bad for under £100.

**NAIM NAC32.5** 1978 [£ N/A]

The Salisbury company came of age with this, their classic high end pre. Brilliantly fast and incisive sound that's a joy with vinyl but a tad forward for digital.

**LECSON AC-1** 1973 [£ N/A]

Amazing styling courtesy of Allan Boothroyd can't disguise its rather cloudy sound, but a design classic nonetheless.

**QUAD 22** 1958 [£25]

The partner to the much vaunted Quad II monoblocs - cloudy and vague sound means it's for anacrophiles only.

**QUAD 33** 1968 [£43]

Better than the 22, but Quad's first tranny pre isn't outstanding. Responds well to tweaking/ rebuilding though...

**POWER AMPLIFIERS****LEAK STEREO 20** 1958 [£31]

Excellent workaday classic valve amplifier with decent power and drive. Surprisingly modern sounding if rebuilt sympathetically. Irrepressibly musical and fluid.

**LECSON API** 1973 [£ N/A]

Madcap cylindrical styling alluded to its 'tower of power' pretensions, but it wasn't. Poor build, but decently clean sounding when working.

**MARANTZ MODEL 9** 1997 [£8000]

Authentic reproduction monoblocs still more than cut the sonic mustard. Highly expensive and highly sought after.

**MICHELL ALECTO** 1997 [£1989]  
Crisp, clean and beautifully controlled with gorgeous styling. Partnered with the £1650 Orca this sounds delicious!

**LEAK POINT ONE, TL10, TL12.1** 1949 [£28]  
Early classics that are getting expensive. Overhauling is de rigeur before use, using original parts if possible. Surprisingly crisp and musical sound, that's far more modern than Quad IIs. Deeply impressive when in fine fettle.



**MUSICAL FIDELITY XA200** 1996 [£1000PR]  
200W of sweet smooth transistor stomp in a grooved tube! Under-rated oddity.



**RADFORD STA25 RENAISSANCE** 1986 [£977]

At the time, very possibly the least cool amplifier on the planet – and we're not talking heat dissipation here. This reworking of Radford's original late sixties design was possessed of a wonderfully rich, old school valve sound with enough power (25W) and lots of subtlety.



**QUAD II** 1952 [£22]  
The all-time classic valve amplifier, with a deliciously fluid and lyrical voice. In other respects though, it sounds hopelessly dated. Low power and hard to partner properly.



**QUAD 405** 1978 [£115]  
The first of the current dumpers is a capable design with smooth, effortless power and a decently musical sound. 606 and 707 continue the theme with greater detail and incision.

**QUAD 303** 1968 [£55]  
Bullet proof build, but woolly sound. Off the pace, but endearing nonetheless. Some pipe smoking slipper wearers swear by them!

**KRELL KMA100 II** [1987] £5,750  
Ludicrous monoblock version of the giant KSA-100 is one of the seminal eighties transistor power amplifiers. Massive wallop allied to a very clean and open Class A sound makes this one of the best amplifiers of its type, ever.

**PIONEER M-73** 1988 [£1,200]  
Monster stomp from this seminal Japanese power amplifier, complete with switchable Class A and Class B operation. Clean, open and assured sounding, albeit a tad behind the pace on high speed dance music. Rosewood side cheeks and black brushed aluminium completes the eighties-tastic experience.



## PHONO STAGES

**CREEK OBH-8 SE** 1996 [£180]  
Punchy, rhythmic character with oodles of detail makes this a great budget audiophile classic. Partner with a Goldring G1042 for an unbeatable budget combination.



**LINN LINNK** 1984 [£149]  
Naim-designed MC phono stage built to partner the original Naim NAIT - yes, really! Fine sound, although off the pace these days.

**MICHELL ISO** 1988 [£ N/A]  
This Tom Evans-designed black box started the trend for high performance offboard phono stages. Charismatic, musical and punchy - if lacking in finesse.

## TUNERS

**MARANTZ ST-8** 1978 [£353]  
Marantz's finest radio moment. Warm, organic sound plus an oscilloscope for checking the signal strength and multipath.



**CREEK CAS3140** 1985 [£199]  
Excellent detail, separation and dynamics - brilliantly musical at the price. T40 continued the theme...

**NAD 4040** 1979 [£79]  
Tremendously smooth and natural sound allied to low prices and good availability make this budget analogue esoterica. Needs a good antenna to work properly, however.

**NAIM NAT03** 1993 [£595]  
The warm, atmospheric sound is further proof of Naim's proficiency with tuners.

**PIONEER TX-9500** 1976 [£295]  
Another of the serious classic solid-staters. Boasts the usual high end Jap package of fine sound, brilliant sensitivity and superb build.

**LEAK TROUGHLINE** 1956 [£25]  
Series I an interesting ornament but limited to 88-100MHz only. II and III are arguably the best-sounding tuners ever. Adaptation for stereo easy via phono multiplex socket. Fed by a modern outboard decoder they're deliciously lucid with true dimensionality.



**YAMAHA CT7000** 1977 [£444]  
Reputedly the best of the classic Jap analogues, this combines sleek ergonomics, high sensitivity and an explicit, detailed sound.

**QUAD FM4** 1983 [£240]  
Supreme ergonomics and styling allied to a pleasingly lyrical sound with plenty of sweetness and detail made this one of the best tuners around upon its launch.



**REVOX B760** 1975 [£520]  
More of a semi-pro machine than a domestic bit of kit, the Revox offers superlative measured performance although the sound isn't quite as staggering as the numbers. Fine nonetheless, and surely the most durable tuner here?

**NAD 4140** 1995 [£199]  
Brilliant affordable digital tuner has a smooth, detailed musical sound plus sensible real-world facilities.

**ROGERST75** 1977 [£125]  
Superb mid-price British audiophile design, complete with understated black fascia. Fine sound in the true Rogers mould – smooth and sweet with fine dimensionality.

**SANSUITU-9900** 1976 [£300]  
A flagship Japanese tuner designed to steal sales from the likes of Accuphase and Revox, it boasts superlative RF performance and an extremely smooth and lucid sound, along with very fine build and finish.

**SONY ST-5950** 1977 [£222]  
One of the first Dolby FM-equipped tuners, a format that came to nought. Still, it was Sony's most expensive tuner to date, and boasted a very good sound quality allied to brilliant ergonomics.



**TECHNICS ST-8080** 1976 [£180]  
National Panasonic's specialist hi-fi brand was a big hitter back then, and this is no exception. Superb FM stage makes for a very clean and smooth listen with lots of detail and depth.

**ANALOGUE RECORDERS**

**YAMAHA TC-800GL** 1977 [£179]  
Early classic with ski-slope styling courtesy of Mario Bellini. Middling sonics by modern standards, but cool nonetheless!



**AIWA XD-009** 1989 [£600]  
Aiwa's Nak beater didn't, but it wasn't half bad nonetheless. Massive spec even included a 16x4 DAC!

**NAKAMICHI CR-7E** 1987 [£800]  
The very best sounding Nakamichi ever - but lacks the visual drama of a Dragon.



**PIONEER CTF-950** 1978 [£400]  
Not up to modern standards sonically, but a great symbol of the cassette deck art nonetheless.



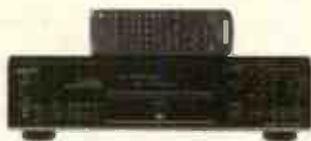
**REVOX A77** 1968 [£145]  
The first domestic open reel that the pros used at home. Superbly made, but sonically off the pace these days. B77 better, but couldn't match the Japanese.



**SONY WM-D6C** 1985 [£290]  
Single capstan transport on a par with a Swiss watch, single rec/replay head better than most Naks. Result: sublime.

**DIGITAL RECORDERS**

**SONY MDS-JE555ES** 2000 [£900]  
The best sounding MD deck ever, thanks to awesome build and heroic ATRAC-DSP Type R coding.



**PIONEER PDR-555RW** 1999 [£480]  
For a moment, this was the CD recorder to have. Clean and detailed.

**MARANTZ DR-17** 1999 [£1100]  
Probably the best sounding CD recorder made; built like a brick outhouse with a true audiophile sound and HDCD compatibility.



**KENWOOD DM-9090** 1997 [£500]  
Serious and sophisticated sound thanks to well implemented ATRAC 4.5; surprisingly musical MD recorder.

**SONY TCD-8 DATMAN** 1996 [£599]  
Super clean sound makes this an amazing portable, but fragile.

**LOUDSPEAKERS**

**ACOUSTIC RESEARCH AR18S** 1978 [£125]  
Yank designed, British built loudspeaker became a budget staple for many rock fans, thanks to the great speed from the paper drivers, although finesse was most definitely not their forte...

**BBC LS3/5A** 1972 [£88]  
Extremely low colouration design is amazing in some respects - articulation, stage depth, clarity - and useless in others (both frequency extremes). Came in wide variety of guises from various manufacturers building it under licence. Partner with Rogers ABI subwoofers for an extra two octaves of bass!



**LOWTHER PM6A** 1957 [£18 EACH]  
This seminal full-range driver is still manufactured. High sensitivity, as fitted to many classic horn designs.

**TANNOY WESTMINSTER** 1985 [£4500]  
Folded horn monsters which certainly sound good if you have the space. Not the last word in tautness but can drive large rooms and image like few others.



**JR 149** 1977 [£120]  
Infamous cylindrical speaker that was ignored for decades but now back in fashion! Based on classic KEFT27 / B110 combo as seen in the BBC LS3/5a. Doesn't play loud, needs a powerful transistor amplifier, but rewards with fine clarity in imaging.



**SPENDOR BCI** 1976 [£240]  
Celestion HF1300 tweeter meets bespoke Spendor Bextrene mid-bass unit - and the result is a beautifully warm yet well focussed sound. A little bass bloom necessitates careful low-stand mounting, but these prove that the seventies did have some fine designs after all!

**QUAD ESL57** 1956 [£45 EACH]  
Wonderfully open and neutral sound puts box loudspeakers to shame. Properly serviced they give superb midband performance, although frequency extremes less impressive. Ideally, use in stacked pairs or with subwoofers and supertweeters.



**KEF R105** 1977 [£785]  
Three way Bextrene-based floorstander (complete with castors!) gave a truly wide-band listen and massive (500W) power handling. A very neutral, spacious and polite sounding design, but rhythmically well off the pace. The quintessential nineteen seventies loudspeaker.

**IMF TLS80** 1976 [£550]  
Warm and powerful nineteen seventies behemoth with transmission loading and a mixture of KEF and Celestion drive units. Impressively physical wideband sound but rhythms aren't its forte.

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**MAGNEPLANAR SMGA198X [£800]**

Technological loudspeaker with genuinely musical abilities; fast, smooth, open, dry.

**MISSION 770 1980 [£375]**

Back in its day, it was an innovative product and one of the first of the polypropylene designs. Warm, smooth, clean and powerful sound.

**MISSION 752 1995 [£495]**

Cracking Henry Azima-designed floor-standers combined HDA drive units and metal dome tweeters with surprisingly warm results. Benign load characteristics makes them great for valves.

**HEYBROOK HBI 1982 [£130]**

Peter Comeau-designed standmounters with an amazingly lyrical yet decently refined sound. Good enough to partner with very high end ancillaries, yet great with budget kit too. A classic.

**CELESTION SL6 1984 [£350]**

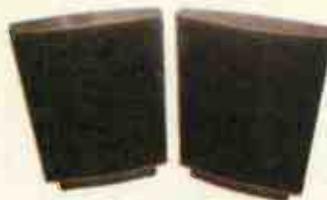
Smallish two way design complete with aluminium dome tweeter and plastic mid-bass unit set the blueprint for nineteen eighties loudspeakers. Very open and clean sounding, albeit course at high frequencies and limp in the bass. Speakers would never be the same again...

**LEAK SANDWICH 1961 [£39 EACH]**

Warm sounding infinite baffle that, with a reasonably powerful amplifier can sound quite satisfying.

**QUAD ESL63 1980 [£1200]**

An update of the ESL57, with stiffer cabinets. Until the 989, the best of the Quad electro-statics.

**YAMAHA NS1000 1977 [£532]**

High tech Beryllium midband and tweeter domes and brutish 12" woofers in massive sealed mirror image cabs equals stunning transients, speed and wallop allied to superb transparency and ultra low distortion. Partner carefully!

**MISSION X-SPACE 1999 [£499]**

The first mass production sub and sat system using NXT panels is a sure-fire future classic - not flawless, but a tantalisingly unboxy sound nevertheless!



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Sonus Faber Concertino Home Loudspeakers	£429.00
Theta Digital Dreadnaught -5 ch-amp	£4739.00
Theta Digital David II - CD/DVD Drive	£2999.00
Wilson Audio CUB - Loudspeakers Silver	£2900.00
Wilson Audio CUB II w/stands Black	£5499.00
Wilson Audio Witt II Loudspeakers Black	£5400.00
Z Systems RQ1 - Transparent Digital Equalizer	£1850.00

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# World standards

These are the best products we've heard that are currently on sale in the UK, complete with the date they were originally launched and their current retail prices. Watch out for regular updates...!

## TURNTABLES

**ANTI/ARM ONE/IQ1 1998 £175**  
Redesigned Systemdek IIX now off the pace, but the arm and cartridge are both star performers.

**LINN LP12/ LINGO 1973 £2100**  
The quintessential belt drive superdeck offers a beguilingly musical midband at the expense of lumpy bass and nebulous imaging. Latest Lingo brings a new lease of life, with even more punch and polish.

**MICHELL TECNODEC 2003 £575**  
Superb introduction to Michell turntables on a budget. Top quality build and elegant design make it the class of the mid-price field right now.

**MICHELL GYRODEC SE 2002 £870**  
Its beauty is more than skin deep - superbly build and finish allied to clever design equals class leading performance. Latest DC motor with 'Never Connected' PSU make it all the more unassailable.

**MICHELL ORBE SE 2002 £1916**  
Cost-no-object evolution of the Gyro adds massy acrylic platter and two-stage isolation. Fantastically capable all rounder with commanding, powerful, detailed sound that gets the best from almost any arm and cartridge



**PRO-JECT DEBUT II PHONO SB 2002 £170**  
Fuss-free all in one starter turntable, complete with built in phono stage. Not a star performer, but a fine midi system upgrade all the same.

**REGA P3 2000 £298**  
Great entry level audiophile deck with fine bundled tonearm. Tweakable, and responds well to careful siting on a Base platform.

**REGA P25 2001 £619**  
Until the TecnoDec, the best mid-price turntable package. Fine build and elegant styling. Clean, open sound but limited at frequency extremes in absolute terms.

**SME MODEL 10A 1995 £3333**  
Exquisitely engineered deck and arm combo, but dry and clinical sounding compared to rivals. Accomplished performer with classical music, nonetheless.

**CLEARAUDIO REFERENCE 1996 £4,070**  
Fine bass articulation and power allied a stunningly open and atmospheric midband and beautifully etched treble makes this one of the very best sounding turntables at any price. Michell's Orbe offers marginally more impactful bass, but can't touch that amazing mid. Exquisite.

**ORIGIN LIVE AURORA GOLD 2004 £1,470**  
Seminal 'entry level high end' deck showing Mark Baker's characteristically obsessive attention to detail. The result is an extremely wide open and natural sounding machine that lacks the Michell GyroDec's slightly 'mechanical' nature - along with some of its scale and accuracy. Ideal for those seeking that classically beguiling vinyl sound.



**GOLDRING GR-1 2004 £140**  
Essentially a Rega P2 built down to very low price and bundled with a decent Goldring MM, this is cracking value for money. Head and shoulders above its immediate rivals, it offers a surprisingly musical and detailed sound that will stun those new to vinyl - which is precisely what it was designed to do.

**THORENS TD190 2003 £290**  
Ease of set up and use, allied to fully automatic operation mean that, although hardly the last word in performance, this deck is most certainly a model of convenience.

**ROKSAN RADIUS 5 2003 £750**  
Fantastic value allied to intelligent, interesting and 'out of the box' design makes for a wonderful entry-level superdeck. Open and musical sound is more inviting than Michell TecnoDec rival, and the bundled Nima Unipivot arm is a superstar.



**MICHELL TECNOARM A2003 £399**  
John Michell's brilliant reworking of the Rega RB250 theme, using blasting and drilling techniques usually seen in motorsport! The result is the best sounding arm at £400, and as good as most at four times the price. Runs SMEV very close in all except bass, and betters it for musicality. Stunning.

**ORIGIN LIVE AURORA 2003 £1600**  
Cleaner than a Linn LP12 and warmer and more mellifluous than a Michell GyroDec - but lacks the latter's incision and dimensionality. When fitted with an OLI arm, this package is all many will ever want...

**CLEARAUDIO REFERENCE 2003 £4,000**  
The company's best value vinyl spinner; good enough to get the best from almost any tonearm and cartridge combination. Brilliantly open and neutral sound; superlative pitch stability; stunning build and styling - Michell Orbe does most of this at half the price, however.

## TONEARMS

**TECHNICS SL1200/III 1973 £395**  
Slick build makes it a respectable performer, although the cheapo arm limits it - fit a Rega RB250 and it's suddenly a serious mid-price machine.



**HADCOCK 242 SE 2000 £649**  
Latest of a long line of unipivots, with added mass, revised geometry and better finish. Musical like few others at or near the price.

**LINN EKOS 1987 £1700**  
Subtle mods over the years, including revised bearings and the recent new wiring has kept it a serious contender in the superarm stakes. Lacks the SME's slam, the OL's clarity or the ARO's emotion, but has a feisty musicality all of its own.

**ORIGIN LIVE ILLUSTRIOUS 2002 £1570**  
A modern superarm with battleship build. Extremely strong, even and open sound in the mould of the late, lamented Zeta, plus fine tonal colouring. Exquisite.



**NAIM ARO 1987 £1425**

Charismatic unipivot is poor at frequency extremes but sublime in the midband; truly emotive and insightful.

**ORIGIN LIVE SILVER 2502001 £625**

This fully developed and expertly fettled Rega boasts a superbly even, transparent and tuneful sound. Gives away only a small degree of finesse and dimensionality to top arms.

**REGA RB250 1984 £112**

Sold through Moth Marketing, this is capable far beyond its price point, with a tight, lean and detailed sound. Responds brilliantly to Origin Live counterweight modification, and well to rewiring.

**SME 309 1989 £767**

Entry level SME complete with cost-cut aluminium armtube and detachable headshell. Tight, neutral sound with good tonality, but lacks the IV's pace and precision.

**SME SERIES IV 1988 £1127**

Offers nine tenths of the SMEV's magic at just over half price. Exquisitely built and finished, and a design classic. Faces stiff competition these days, but lovely nevertheless.

**SME SERIES V 1987 £1614**

The so-called Best Pickup Arm in the VWorld isn't, but comes close. Vice-like bass with incredible weight, ultra clear midband and treble. Does everything except beguile the listener.

**CARRIDGES****ORTOFON KONTRA' B 1999 £720**

Surprisingly articulate performer by Ortofon standards. All the brand's usual polish and detail allied to real vim. Loves making music!

**AUDIO TECHNICA AT-110 1984 £29**

Great starter cartridge that's refined, detailed and musical beyond its price.

**DYNAVECTOR DV10X5 2003 £250**

A distant descendent of the classic Ultimo 10X, this has warmth and sweetness in spades, allied to a punchy bass. Beats G1042 comfortably.

**GOLDRING G1042 1994 £135**

One of the best MMs going, with sweet and extended treble and punchy, muscular bass.

**LYRIA LYDIAN BETA 1998 £600**

An altogether more beguiling listen than the MC30S, although not quite as incisive. Superb all rounder, nonetheless.

**SUMIKO BPS 1995 £250**

Charismatic performer with rhythm aplenty, but in other respects way off the pace – lacks smoothness and sophistication of the DV10X5.

**LYRA PARNASSUS DCT 1997 £1895**

Jonathan Carr's masterpiece is a brilliantly lyrical and fluid performer, with a deliciously sweet tone and immense subtlety and polish.

**ORTOFON MC25FL 1994 £285**

Strong budget MC with a cleaner and more detailed sound than the Dynavector; more sterile and less emotive, however.

**ORTOFON MC30 SUPR' 1995 £550**

Beautifully clean and detailed device with real finesse, albeit a tad mechanical sounding.

**DYNAVECTOR DV20X-H2003 £395**

The best modern budget MC combines deliciously sweet sound with fantastic get-up-and-go. High output version works a treat with valve phono stages too.

**MUSIC MAKER 1999 £575**

When mated with a good quality arm, this hand finished high-output pick-up gives an ear-boggling account of itself. Very high compliance ensures maximum information retrieval. An absolute (grain orientated) gem.

**SHURE V15XMR 1994 £350**

The most musical MM yet made – brilliantly dynamic and punchy in the classic Shure mould, yet refined and tidy too.

**KOETSU RED 2004 £1,600**

Although the new Koetsus have lost some of their 'romance', you'll not hear a more lyrical and emotive performer. Startlingly 'analogue' nature makes rival Ortofon and Clearaudios sound frigid.

**ORTOFON KONTRA PUNKT C 2004 £1,000**

The most secure tracking MC we've heard; its super clean, fast, detailed and neutral sonics make it a brilliant partner to warmer sounding turntables.

**DIGITAL DISC PLAYERS****CREEK CD5011 2004 £699**

Extensive revisions make this an altogether more beguiling machine, and one of the best at its price. Extremely musical sound that's surprisingly upfront for a Creek design. Excellent mid-price purchase, with only its Marantz rival to challenge it.

**CYRUS CD8 2003 £1000**

Highly incisive, engaging, grippy and dynamic sound, but needs careful matching to smooth ancillaries. Optional PSX-R adds bass and dimensionality.

**LINN GENKI 1999 £995**

Undeniably fast, lithe, musical and fun - but some won't take to its dry, wry character. Works best in all-Linn systems, where it really rises to the challenge!

**ARCAM FMJ CD33T 2003 £1,300**

Superbly detailed midband allied to excellent bass extension makes this a powerfully musical machine in the best traditions of Arcam CD spinners. Nothing to criticise at the price, everything to recommend it!

**LINN IKEMI 1999 £1950**

Has the brilliant focus and clarity of the previous Karik III with a dose more tonal richness and polish. More grip and poise than most at any price - still superb!

**MARANTZ CD17 II 2002 £800**

Of-overlooked middleweight boasts a truly beguiling sound with lots of tonal flavour. Sits awkwardly between the £600 and £1000 price points, where some brilliant value buys reside, though.

**NAIM CDX2-XPS2 2003 £4950**

A fine high end machine, but add an XPS2 and it becomes one of the most charismaticly engaging 16bit machines we've ever heard. Plays music with such passion!

**NAIM CDS3 2003 £7050**

The most polished Naim CD to date; tremendously capable and musical, but lacks the Rotweiler quality of the cheaper CDX2-XPS2.

**PHILIPS DVD963SA 2003 £400**

Creamy CD sound allied to superb SACD and DVD video playback makes this brilliant value for money.

**REGA PLANET 2002 £498**

Rhythmic and beguiling performer, although lacks the warmth of tone needed to better its Marantz rival. Superb ergonomics and design, nonetheless.

**MARANTZ SA-17S1 2003 £1400**

Brilliant CD playback comes close to the best at any price, while SACD performance is almost as convincing - superbly warm and three dimensional nature makes listening a joy. However, the lack of DVD-Audio decoding and poor feature count makes it look middling value compared to some of the universal players here.

**REGA JUPITER 2002 £1000**

A Planet on steroids, this machine adds depth and breadth to its baby brothers already impressive sound. Good, but facing stiff competition.

**MUSICAL FIDELITY TRI-VISTA21 DAC 2003 £1,200**

Superbly neutral and expansive sound makes this offboard digital-to-analogue convertor an excellent upgrade to any mid-price CD player - fed by a decent transport, few 16bit players at any price come close.

**CAMBRIDGE AUDIO 640C 2003 £250**

Tremendously well-rounded yet engaging sound makes this the best budget silver disc spinner by far. Build quality is excellent at the price, and the styling bang up to the minute. Blistering value for money.

**CREEK CD5011 2004 £699**

Extensive revisions make this an altogether more beguiling machine, and one of the best at its price. Extremely musical sound that's surprisingly upfront for a Creek design. Excellent mid-price purchase, with only its Marantz rival to challenge it.

**DENON DVD-2200 2003 £499**

Superb do it all mid-price player; fine DVD-A and SACD sound allied to excellent video performance will be all many could ever want. Ultimately it's a little bright and mechanical sounding, but you have to go into high end territory to truly better it. Stunning value.

**PANASONIC DVD-S75 2002 £120**

Real ability and fine measured performance for an unbelievably low price. Impressive in its own way, if not truly audiophile. If you just want a cheap DVD spinner with DVD-Audio as a bolt-on goodie, this is the one.

**PIONEER DV-868AVI 2003 £799**

Pioneer's most accomplished mid-price machine to date, this boasts full DVD-A/SACD playback, a welter of facilities and the all-important HDMI video and i-Link audio digital outputs, making it nigh-on future-proof. Factor in fine – if not outstanding – sound and superb pictures and it's practically impossible to fault.

**SONY SCD-XB790 2003 £250**

Quite unlike any other budget Sony CD spinner we've heard, here's a very 'analogue' sounding machine that's smooth and warm and even. Factor in fine SACD playback and this machine is a brilliant budget buy – unless you want DVD-Audio that is, which it lacks.

**ORELLE CD100EVO 2003 £1,200**

Extremely engaging and musical sound, but maybe a tad too bracing for some tastes. Superb aesthetics complete an attractive package.

**ARCAM CD73 2004 £400**

The best all rounder at the price; unfailingly smooth and couch sound allied to fine build and attractive styling makes this a worthy upgrade to entry-level designs.

**ARCAM DV78 2004 £800**

We've not found a more capable 'real world' DVD player; peerless picture and CD sound at the price, although lack of universal playback will deter some.

**ARCAM FMJ CD33 2004 £1,300**

Consummate smoothie with an unusually organic and natural sound, but lacks the command of some rivals. Its all round sonic, aesthetic and ergonomic polish will endear it to many.

**CAMBRIDGE AUDIO AZUR 640C 2004 £250**

The best budget CD spinner we've heard; warm and satisfyingly musical; fine build and aesthetics and that remote control make for unarguable package at the price.

**DENON DVD-A11 2004 £1,600**

Classic Japanese 'battleship' DVD universal machine does practically everything superbly, with no obvious weak points except the undistinguished CD sound. Top value.

**EXPOSURE 3010 2003 £1,200**

One of the most 'analogue' CD players, second only to the Shanling. Wonderfully beguiling balance leaves you looking for the tube output stage.

**LINN CLASSIC MOVIE SYSTEM 2002 £2,500**

If it's a one box, music-centred DVD system you want, there is none that can compare. Delicious design that doubles as a real hi-fi system to satisfy even demanding audiophiles.

**LINN UNIDISK 1.1 2004 £6,500**

Surely the ultimate universal DVD player; superb in every department, but its CD playback shines brightest considering it's not a bespoke Red Book machine.

**MARANTZ CD7300 2003 £350**

Superlative build and styling for the money, and the sound is as good as you'll get below £600. Smooth, detailed and engaging beyond its price.

**MUSICAL FIDELITY X-RAY V3 2004 £900**

Striking looking mid-price stromer with very even, accurate and even sonics; perfect for those seeking detail and neutrality over character and/or colour.

**NAIM CD51 2004 £825**

The most engaging mid-price CD player on the market, but with a surprisingly velvety sound. Delightful build and iconic styling make this one of Salisbury's true classics.

**PIONEER DV-868I 2003 £800**

The best mid-price universal player right now; CD sound is respectable, SACD and DVD-A impressive and the video truly special. Does everything very well for the price.

**SHANLING SCD-T200C 2004 £2,150**

Superb SACD player with tube output stage; arresting looks and truly special sound; be sure to go for 3DAcoustics version for best sound and UK aftersales support.

**SONY SCD-XA3000ES 2003 £600**

Surprising mid-price SACD spinner with multi-channel capability; sweet sound; not the best at the price but certainly the most versatile.

**SONY SCD-XA9000ES 2003 £1,600**

Slick, beautifully built high end SACD player with very transparent, if rather dry, sound. Unexpectedly sweet CD playback but not the most gripping at the price.

**STELLO DP-200 2004 £1,495**

Brilliant do-it-all upsampling DAC preamp with headphone output and phono in. One of the best digital to analogue converters around, allied to mind-boggling flexibility.

**DIGITAL RECORDERS****APPLE IPOD 40GB £399**

Genre-defining best of breed, thanks to supreme ergonomics and build allied to fine sound.

**PIONEER PDR-609 2001 £200**

Brilliant value CD recorder that makes excellent recordings from its digital inputs. Half decent digital converters, too.

**PHILIPS DVDR880 2003 £370**

Poor CD audio playback, but makes great DVD video recordings and boasts fine ergonomics. Top AV value.

**SONY RCD-W3 2002 £250**

Usual superb Sony ergonomics make for nonsense budget buy. Fine direct digital copies, but analogue input poor. Middling sonics, but there's a digital output!

**YAMAHA CDR-HD1300E2002 £600**

HD means MD-style ease of editing, but compromises recording quality ever-so slightly. Add decent CD replay and it's a fine all rounder nonetheless – top value.

**ONKYO MB-S1 2001 £1100**

An interesting machine complete with MP3 functionality, but high price, fussy ergonomics and over-smooth sound make it mediocre value against the Yamaha.

**PHONO STAGES****CREEK OBH-21SE 2003 £250**

Musically enjoyable yet highly refined for the price – a superb buy. Gives the Dino a real hard time.

**EAR 834P 1993 £400**

Classic tube design with a deliciously warm and expansive sound – shame about the loose bass and veiled treble!

**LINN LINTO 2000 £900**

A musical and incisive performer, with more speed than the Delphini at the expense of detail and tonal colour.

**QED DISCSAVER 1995 £35**

Rhythmic, bouncy sound via battery, although it's bright and forward. Great value, but £100 more on the X-LP is well worth it!

**TRICHORD DINO 2002 £299**

Great all rounder with switchable MM/MC. Fast, fluid and smooth like no others at the price.

**TRICHORD DELPHINI 2003 £995**

The very latest 'Never Connected' variant is easily the best, bringing velvety smoothness to an already refined and engaging performer. Neutral to a fault – some will mourn the passing of the charismatic ISO.

**MUSICAL FIDELITY XLPSV3 2003 £249**

Fine all rounder at the price, which a satisfyingly full bodied sound that's smoother than the Creek but a tad less engaging. Only Trichord's Dino, with its easy upgradability for just £50, reflects badly on this fine bit of kit.

**PROJECT PHONOBOX LE2004 £99**

Great little box that improves on most bundled phono stages found in budget integrated amplifiers, adding detail and definition and a measure of smoothness too. If £100 is all you're prepared to spend, then do it happily on this, but you'll get obviously better results from the £250 brigade.

**WHEST AUDIO PS.20 /MSU.20 2004 £1,000**

Disarmingly clean, smooth, open sound makes this the very best phono stage we've auditioned to date, but some will still prefer the gutsier feel of the Trichord Delphini!

**GRAHAM SLEE ERA GOLDV 2004 £460**

Wonderfully warm, open and musical nature makes this an essential audition for those wanting a top value mid-price phono stage.

**AMPLIFIERS****ARCAM DIVA A65 PLUS 2002 £370**

Classic budget Arcam fare – decently sweet and open with sensible facilities and plenty of power.

**ARCAM FMJ A32 2001 £1150**

For those who value serious power and labyrinthine facilities over outright clarity or grip. A very impressive all rounder with an unusually muscular power amp at this price.

**AUDIO NOTE OTO SE 2000 £1199**

This baby tuber is beautifully sweet and creamy, but lacks solid-state's clarity, detail and incision. Low, low power means speaker choice critical.

**AUDIO NOTE SORO SE 2000 £1699**

Wonderfully out-of-the-box sounding tube middleweight is all about sweetness and fluidity. Limited power and loose bass, but little the worse for it.

**CYRUS 6** 2003 £600

Cracking do-it-all mid price design, bringing svelte sound, good connectivity and upgrade-ability and stunning style and build.

**CYRUS 8** 2003 £800

Unusually warm and lyrical for a solid-stater, with decent power and punch. PSX-R adds dynamics, detail and dimensionality.

**MERIDIAN 551** 1994 £895

Evergreen middleweight is a serious performer even now. Tonally a tad dry, it's still very smooth and svelte with bags of power, detail and grip. Class act.

**SUGDEN A21A** 1993 £1020

The most musical amplifier at the price, bar none. Delicious Class A sound is smooth, sweet and wonderfully transparent with true tonal colour. Low power, so match carefully.

**AUDIO RESEARCH VSI552003** £2,895

The Naim NAP250's tubular alter ego; oodles of power allied to a strong bass and smooth open midband makes this a brilliant all round amplifier. Lacks the subtlety and finesse of the low powered single-ended brigade but makes up for it with sheer brio.

**CREEK A50IR** 2004 £550

Consummately smooth yet engaging sound makes it a serious player at the price, but don't expect Creek's traditional sumptuousness. Fine value nonetheless.

**MONRIO MC207** 2003 £1,100

Powerful, muscular sound allied to real finesse makes this unusual integrated an essential audition at the price.

**MARANTZ PM-17MKII KI MODIFIED** 2004 £1,500

Gloriously offbeat do-it-all design with a truly warm, smooth and three dimensional sound. Think of this as a latter-day Audiolab 8000a - with a good deal more colour and finesse - and you'll have its measure. Lowish power output at the price, but fine real world speaker driving ability.

**UNISON RESEARCH S6 2002** £1,625

Tremendously musical and lithe sound with real finesse and subtlety too. Very slightly upper mid forward encourages careful partnering with ancillaries (Revolver R45s are ideal), but overall fantastic value for money.

**ORELLE SA100EVO** 2003 £1,200

Fine build, exquisite design and a wonderfully lucid sound make this an essential audition at the price.

**MUSICAL FIDELITY X-150** 2004 £800

Brilliant shoebox-sized powerhouse is sweeter and more mellifluous than Nait 5i, but less taut in the bass. Oodles of power, striking aesthetics, sensible facilities and great build make this a rare bargain.

**NAD C352** 2004 £300

Classic NAD mix of smooth, punchy sound with plenty of watts and sensible, real-world facilities; a great introduction to real hi-fi.

**NAIM NAIT 5I** 2004 £825

The most musically engaging integrated at or near the price; real sophistication in sound allied to grip and power aplenty. Iconic styling and great build complete a very pretty picture.

**NAIM NAC282/NAP200** 2004 £4,000

Wonderfully taut bass, lightening midband and incisive treble makes for an enthralling listen; this cracking combination looks great and is superb value too.

**PRIMA LUNA PROLOGUE I** 2004 £800

Unlike almost every other budget tube integrated we've tested, it's nicely built, decently powerful and engineered well enough to let the benefits of tubes shine out loud; sweet, open, liquid. Cracking value.

**STELLO S200** 2004 £1,495

Oodles of smooth, clean power with plenty of pace and pleasing subtlety too. Factor in exquisite build and a low price and this is true audiophile bargain.

**AV AMPLIFIERS****DENON AVR-2803** 2003 £650

Superb mid-price 7.1 channel extravaganza with nearly all the decoding power you'll ever need. Powerful, open and clean sound (at the price) makes it capable with music, and superb on movies. Fine ergonomics and great build makes this receiver hard to beat as an all-rounder.

**NAIM AV2/NAP 150/NAPV 175** 2002 £4,190

Brilliant audiophile multichannel pre-power amplifier combo; not as good with music as a two-channel Naim set-up at the same price, obviously, but surprisingly close. Elegant control layout plus a strong, clean and brilliantly engaging sound make this a serious crossover product. Ultimately lacks power compared to similarly priced Arcam gear, but is more musically involving.

**PIONEER VSA-AX51** 2004 £1,000

The ability to hook up to Pioneer's DV-868i via i-Link (nee FireWire) means that this multichannel AV amplifier can do all the digital conversion onboard makes the a very special product, which when used with the aforementioned DVD spinner sounds better even than the sum of its parts.

**HEADPHONE AMPLIFIERS****SUGDEN HEADMASTER2003** £600

Unusual combined preamplifier and headphone amplifier, this boasts a surprisingly smooth and open sound which suffers only when compared to preamps at twice the price.

**MUSICAL FIDELITY X-CANSV3** 2003 £249

Mr Michaelson's best headphone amplifier to date, with an extremely open and explicitly detailed sound plus serious bass wallop and the ability to drive any phones to very high levels. Errs towards brightness with some headphones, so match carefully and use smooth cables.

**PREAMPLIFIERS****CREEK OBH-12** 2000 £220

Brilliant value budget passive, giving little away in sonics to far more expensive designs. Connectivity and build aren't great, but what do you expect at this price?

**MF AUDIO PASSIVE PRE2003** £1500

Novel and effective pre with switchable gain via a transformer, and balanced operation. Open and incisive sound, yet makes most active rivals sound edgy by comparison.

**NAIM NAC112** 2002 £660

Affordable admission ticket to the Salisbury high end experience. Detailed and dynamic, if tonally rather lacklustre.

**LINN LK140** 2000 £800

Dry and grey sounding, but decently dynamic and musically engaging all the same. A worthy worker in a budget Linn system.

**MUSICAL FIDELITY A308 CR** 2003 £2400

Superb transistor behemoth, worth partnering with any high end CD player or preamp. Oodles of grunt served up with poise and purpose.

**MARANTZ SM-17** 2001 £700

Useful budget power amp with plenty of clean transistor power. Not the most transparent, but sweet and clean all the same. Fine build completes a great value package.

**NAIM NAP150** 2002 £795

Driven by a decent source and a NAC112, this gives highly enjoyable results - providing you like the Naim sound! Taut, fast and felsty despite its relative lack of power.

**QUAD 909** 2001 £900

The latest current-dumper has a smooth and expansive character with enough wallop to drive most loads. Not the most musical, but super value all the same. Lovely build, finish and Quad's legendary service are nice.

**CROFT TWIN STAR** 2003 £1750

With a taste of the best of both tube and transistor, this latest update of the Croft classic is a truly endearing experience.



**GRAAF GM20 OTL** 2003 £3,300

Awesome output transformer-less valve power amp gives dazzling speed and incision, with an ethereal soundstaging and delicious filigree detail. Tremendous punch belies its humble 20W power rating. Factor in one of the most exquisite finishes this side of an Aston Martin and it's very hard to say no...

**SUGDEN MUSICMASTER2003** £1,300

Quintessential Class A Sugden sound is not warm as many expect, but extremely neutral and open with real tonal colour. By comparison, tubes sound bloated and standard solid-state hazy and brittle. Superb when partnered with efficient loudspeakers like Revolver R45s, but many will find it underpowered.

**LOUDSPEAKERS****B&W CDM1 NT** 2002 £750

Fine clarity and imaging allied to pleasing warmth and great rhythmic cohesion make these standmounters an essential audition.

**CASTLE CONWAY 3** 2003 £930

Superbly smooth and crisp performers, with a big hearted musical sound. Ultimately coloured though, with a slow, plummy bass.

**CYRUS CLS70** 2001 £800

Charismatic performer with a fast, tight and open midband, but lacks cohesion and scale.

**KEF Q1** 2003 £250

Highly polished and articulate standmounters at the price, but demand good ancillaries for best results.

**KLIPSCH HERESY II** 1997 £1100

An outstanding high sensitivity loudspeaker with midrange and treble horns coupled with infinite baffle 12" bass driver. Effortless, fast and accurate.

**LINN NINKA** 2001 £995

Major on rhythms and dynamics, making them an involving listen. Reasonably refined, too - but tonally disappointing.

**EPOS ELS-3** 2003 £200

Plenty of brio and a decent degree of refinement makes this budget baby a fine value contender.

**MISSION 782SE** 2003 £900

Bright and tight design capable of brilliant speed and grip, at the expense of warmth. Demands high quality, high powered ancillaries.

**MONITOR AUDIO B4** 2003 £350

An unusually smooth and lucid performer at the price, and its 3-way design means it drives rooms well. Fine engineering, but build and finish so-so.

**REVOLVER R45** 2003 £899

Wonderfully easy to drive floorstanders that are a dreamboat for tube amplifiers, and great for party-minded transistor users too. Great attack transients, fluid and musical bass and midband and couth treble make them fine all-rounders.

**W'DALE DIAMOND 8.1** 2001 £120

Still the best baby budget standmounters around. Tight and grippy thanks to Kevlar drivers, but invariably limited in the frequency extremes.

**MORDAUNT SHORT 9142002** £300

Warm, detailed and articulate performer, but a touch loose in the bass and veiled up top. Fine partner for budget valve amps.

**NAIM ALLAE** 2002 £1990

Taut and grippy like few others, this speaker majors on transient speed. Surprisingly smooth for a Naim box, with nicely etched treble. As always, tonally dry.

**QUAD ESL-988** 2001 £3400

Wonderfully neutral and self-effacing with sublime imaging and projection. Treble lacks extension, bass lacks weight - although the pricier 989 answers the latter resoundingly.

**PERIGEE FK-1L** 2002 £5000

Charismatic Aussie ribbon design with deliciously open mid and treble, allied to fine bass weight. The right room and ancillaries essential. Engaging, musical and powerful sound. Superb.

**TDK S-80** 2002 £90

Ingenious NXT multimedia sub/sat system has a wonderfully even and open sound - like baby electrostatics.

**MARTIN LOGAN CLARITY** 2003 £2,895

Supremely transparent and open with brilliant depth perspective and image projection. The midband is up there with the very best at any price, while the bass and treble integrate well but don't especially shine. Dynamically limited, with middling bass punch, but that's not the point - that deliciously fluid and intricate midband wins great respect.

**TANNOY EYRIS DC1** 2003 £699

The combination of dual concentric treble/midband drivers plus supertweeters make for a very spacious and expansive sounding loudspeaker, albeit one that's a little bright and loose in the bass. An excellent mid-price design well worth auditioning.

**MONITOR AUDIO GR60** 2002 £2,295

In some ways, these come close to Yamaha's legendary NS1000Ms, thanks to their tremendous clarity, great transients and 'full-fat' wide bandwidth performance. Bright and clean, but never fatiguing or uncouth. A truly accomplished all rounder that gives a real taste of 'super-fi' at a reasonably affordable price.

**TOWNSHEND MAXIMUM** 2003 £800

Another brilliant niche product from Max, these ribbon aspirated supertweeters add space and atmosphere to any good high end loudspeaker, and more surprisingly perhaps make things more fluid and musical too. Superb affordable esoterica.

**KEF Q4** 2004 £400

Hard to argue with the value of this small footprint floorstander; very couth, even, dimensional and detailed sound works well in confined spaces and large rooms alike.

**ELAC FS207.2** 2004 £1,000

Deeply capable mid-price floorstanders, distinguished by superb JET ribbon tweeter which is unmatched by class rivals; engaging, slightly warm nature needs serious transistor power to sing.

**EPOS M22** 2004 £950

Classic Epos blend of speed, attack, power and punch will delight rock and techno fans alike, but classical and jazz buffs will crave more colour and textuality.

**MONITOR AUDIO S8** 2003 £800

Very few can rival this floorstander's all round ability; highly smooth, warm and three dimensional sound allied to an easy load and good sensitivity makes this hard to overlook.

**REVOLVER RW16** 2004 £400

Outstanding standmounter with tonal accuracy and speed that totally belies its price; good sensitivity for a small box makes it great with valve amps too. A budget audiophile classic.

**SPENDOR S3/5E** 2004 £950

A natural successor to the BBC LS3/5a, whose impressive neutrality, imaging and evenhandedness makes this a superior, if less charismatic, loudspeaker.

**TOWNSHEND MAXIMUM** 2003 £800

The best affordable supertweeter we've heard - you'd be amazed at the difference it makes! Classy ribbon design, flexible level settings, cool styling...

**HEADPHONES****JECKLIN FLOAT TWO** 1998 £99

Wonderful panel-like sound from these esoteric-looking headclamps.

**SENNHEISER MX-500** 1999 £19

Our unqualified recommendation for those seeking a serious sounding pair of in-ear phones. Smooth, detailed and musical.

**SENNHEISER PX-100** 2002 £29

Cracking pair of lightweight open back cans ideal for personals, but good enough for real hi-fi use. Superb build allied to a smooth and engaging performance make them the spiritual successor to the HD400s.

**SENNHEISER HD-650** 2004 £250

Not the best headphone in the world, but a superb all round reference all the same. Very crisp, detailed and even sound allied to superlative build and fine comfort makes all most people will ever want. Cable upgrade yields great results.



**SENNHEISER HD-590 1998 £199**

The company's best real-world cans to date. Open and smooth with plenty of detail. Brightly lit midband makes them an ideal partner for a valve headphone amp.

**INTERCONNECTS****WIREWORLD OASIS 5 2003 £99/M**

Excellent mid-price design with a very neutral, silky and self-effacing sound. Superb value for money.

**CHORD CO. CHAMELEON 2 £90/M**

One of our favourites, these are musical performers with a smooth yet open sound.

**VDH ULTIMATE THE FIRST £260/0.6M**

Carbon interconnects that help you forget the electronics and concentrate on the music. Miraculous transparency. Tight and tuneful bass mixed with air and space results in a cracking cable for the money.

**DNM RESON £40/M**

Neutral and transparent - a steal!

**TCI CONSTRICTOR****13A-6 BLOCK 2003 £120**

Top quality 'affordable' mains outlet block, with fine build and good sonics. Well worth the extra over standard high street specials, which sound coarse and two-dimensional by comparison.

**NORDOST BLUE HEAVEN £150/M**

Some of the fastest and most transparent cable around.

**TUNERS****ARCAM T61 2002 £250**

This sleek looking and refined sounding FM/AM tuner isn't the last word in musical involvement, but is fine value, nonetheless.

**ARCAM DT81 2003 £650**

A fine radio, hampered only by its seriously compromised DAB medium. Probably the best DAB tuner ever, but one for Digital Radio enthusiasts only...

**CAMBRIDGE AUDIO DAB300 2003 £150**

Fine ergonomics allied to great ease of use and respectable DAB sound makes this superb value.

**DENON TU-260L MK II 1998 £130**

If you want the best FM sound at the lowest possible price, then this ancient tuner remains peerless after all these years. There are better analogue designs around, but are either near-impossible to find or are now long-deleted.

**CYRUS FM X £500**

Great for Cyrus users, but its dry and precise sound can't match the best of the rest at the price. Worthy, nonetheless.

**MYRYAD MT 100 1999 £600**

One of hi-fi's nice surprises, this is a beautifully designed and built bit of kit with a deliciously sweet and svelte sound which really does justify its high price.

**NAD S400 2003 £600**

Highly accomplished specialist high end analogue tuner with a deliciously open and lucid sound, but it can't quite match the Myryad all the same.

**PRIMARE T21 2002 £600**

Seriously accomplished design with mature sonics, great styling and fine build.

**PURE DIGITAL DRX-702ES 2003 £249**

Great with Digital Radio, but thin a tad sounding on FM at times. It's a top hybrid, nonetheless...

**SYSTEMS****DENON D-M31 2003 £250**

Excellent CD receiver package with surprising sonics and a brilliant tuner as a bonus, although its amplifier section doesn't quite match the Onkyo. Optional speakers are mediocre.

**ONKYO CS-210 2003 £300**

Superb value thanks to excellent sound, great build and ease of use, but the bundled 'speakers' rather let the side down.

**LINN CLASSIK MOVIE SYSTEM DI 2002 £2,995**

Superb ergonomics and performance from this one-box beauty, but it's just a tad expensive and in value for money terms, compares poorly to the original Classik Music System.

**PIONEER NS-DV990 2003 £799.95**

Whiz-bang technology fest with DVD universal playback, discrete display and NXT flat panel speakers. Superb for the spare room or study - truly intelligent and elegant design - but don't expect it to match the sonics of AV separates.

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## Letter of the Month

### TIMELESS – PART 1

Just read your October issue, and it's marvellous to come across a magazine that's existing in the real world. Would have to agree with your columnist's sentiments about old gear. One thing I have found when I read 'other' hi-fi magazines is that when I have finished I feel that somehow my system just doesn't cut it simply because it isn't the latest thing out. I think that these 'other' mags come across more like glorified product brochures rather than helpful guides to enjoying music replay. I encounter this 'latest and greatest' phenomena when I visit most hi-fi dealers. Their approach seems to miss a very important point - that most people improve components within their systems incrementally, rather than moving to a higher spec total new system in one hit. Some parts may be older, but still perform well. When I describe my system to sales people they get this look of disdain on their face, as if to say - "these bits are good but this old stuff is rubbish".

These 'old' bits (A&R Cambridge C150 preamp) still work fine. They are still there because I can't afford to completely revamp the whole system in one hit. One sales person wants me to ditch twenty years of gradual improvements and spend \$25,000 on all Naim gear. I enjoy my system. I like its sound (personality). I've gotten used to it. I created it to some extent. There's probably nobody else with exactly the same system as mine. Each time I upgrade a component I feel a sense of gratitude towards the old piece of equipment that has given me many hours of musical enjoyment. Enjoying the music is what it's really about after all.

**Tony Willans  
New Zealand**

Of course, magazine publishing is a business, and new products sell magazines - and advertising. This much is obvious - can you imagine mags full of two year old hi-fi,

fashions or cars? The trouble is that this commercial imperative is accepted uncritically by most publishing companies and/or editors, which logically means that classic stuff is simply ignored or at best given token presence (i.e. tolerated to keep readers happy). As you point out however, we're all using 'old' hi-fi all the time - few of us, even me, get (or want) to run brand new kit 24/7. So your point about writing for 'real world' hi-fi is almost a no-brainer - we're all running a(n often) weird and (occasionally) wonderful mix of classic, old and new - and that's precisely who we write this magazine for. Audio Publishing Ltd. doesn't have a stable of 'titles', from car magazines to mobile phone buying guides - it's a small independent company set up purely to publish Hi-Fi World, which I think speaks volumes...DP

I know how you feel Tony. I've reluctantly parted with a lot of good kit in the past, improving the sound whilst at the same time mourning the loss of an old friend that faithfully provided me with years of great entertainment. In the end I gained far more than I ever paid.

Quad in particular come to mind here. Some time I swear I'll buy a 33/303 once more, perhaps rebuild it, and then relax with an elegant classic. That's if I can find room for it.

I think it was Farad Azima, founder of Mission, who once remarked to me that the UK hi-fi business makes products that are too good. They last so long there's no need to replace an item for ten years or more. The Japanese learned long ago that this is no way to sustain sales in the long term, hence their fast model turnover. But there are some interesting consequences. Brand value and loyalty is built over decades through quality and reliability; British hi-fi has it virtually like no other.

So stick with what you have bought and upgrade incrementally. I have listened to the latest Naim and Arcam amplifiers and am completely impressed by both. Stay cool, don't let yourself be intimidated by over-eager sales staff and have a long listen at leisure if possible. What you have is good, but I feel confident better awaits you, from the brands you mention.

**NK**



**Every generation has its classics, and Hi-Fi World is interested in them all!**

## TIMELESS – PART II

*I read and enjoy Hi-Fi World every month and have done since the very first one hit the news stands. Indeed I read Hi-Fi Review before that and really enjoyed it too. Though I enjoy other monthly magazines, I find myself habitually drawn back to my favourite read. I have based major purchases on advice born of magazine reviews, and been bitterly disappointed at the results. An interesting note is that I always cross-reference reviews by other magazines with Hi-Fi World. I do find myself in a period of adjustment lately with new contributors, etc., though I do respect change. As with most middle-aged people, I have settled into a time warp. I have now begun to collect vintage hi-fi. With the aid of Hi-Fi World I am tracking down and also reading about all the fabulous things that I loved in the 70s, 80s and early 90s, though could not then afford.*

*I am computer literate and have a Sony surround-sound system connected to my telly (Theatre in a Box) for watching movies and music DVDs. I enjoy both genres very much. Like life itself, the ways of listening to music are in a transitional period and, just as I am growing hair in places best not mentioned and feeling the first twinges of arthritis, the phrase audiophile is a word synonymous with those of a hobbyist nature, striving to get the best from their selected devices. My present philosophy is enjoy the old and embrace the new. We are very lucky to be the in-between generation. We are able to enjoy the memories of early innovation that is shaping today's transducers, whilst we reap the benefits of new technologies. Sometimes things evolve differently, though not better. In the case of hi-fi I believe things to be evolving differently and better.*

**Dr Clinton J Westridge**

Lucky man to enjoy surround-sound and vintage hi-fi! The two are poles apart in most situations. I'm impressed by modern surround-sound through even a modest hi-fi system, but I had to rearrange my lounge quite substantially to shoehorn everything in and still have some free carpet space. Personally I'm looking forward to easier disc access than we get from DVD, especially DVD-Audio, and hope Blu-Ray provides it. It looks like Sony and Philips are pedalling hard on this one. Fingers crossed they will succeed... **NK**

## THE DRUGS DON'T WORK

*Over the past few years I have been trying to put together a system that I*

*like. Sounds simple, but it has been hell. I'd find a pair of speakers that I really liked and then think, yes, but if I changed my amp to X it would improve things, etc., etc. Add into that, moving house and having to change to smaller, bookshelf type speakers and I don't even want to start talking about eBay. Anyway, I thought if I put the problem to you guys you might be able to help so here goes.*

*I loved my KEF Reference Fours, didn't mind the Epos 22, hated the B&W CDM INT too bright, found the ATC 20SL active just not right and now have a pair of Ruark Spectres which seem okay. But then I sold my Sonic Frontiers CD1, which replaced a Shanling which replaced a Naim CD1 which replaced a Rega Planet, and am using my Sony 940 SACD player and things seem harsh again. No wonder, you are probably saying... I was using a Musical Fidelity E300 pre with two E series power amps but have changed to a Myriad M120. I had one of these a few years ago and liked it. Also I have a pair of valve mono amps, small 4.5w jobs which I've tried using the Myriad as a pre. As you can see, I'm in a mess and need help. I think the amp is up for the job, as well as the speakers, but could you recommend a CD player that would give me a smooth sound? I need therapy!*

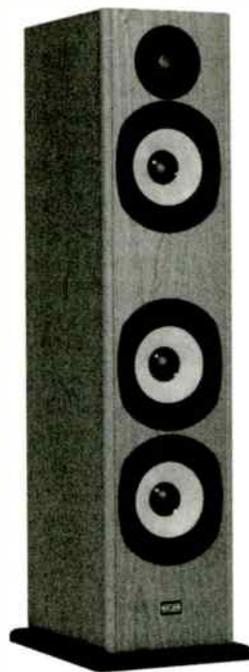
**Alex Medhurst**

Your Myriad M120 is a thoroughly good solid-stater, hard hitting yet clean, with deep, firm bass. Myryads are well engineered too, by designer Chris Evans, ex. Arcam and NAD. So I'd confirm your feeling that the M120 is a good start. Pity about the KEF Reference 4s. Loudspeakers like this are rare. KEF's coupled-cavity bass system sure does work and their Uni-Q unit has great focus; can you get them back? I'd rate these a good match with the M120. Otherwise, current Kef Reference 203, 205 or 207 loudspeakers may suit, but listen first as Kef opt for a brighter balance these days. As I remember it, Reference 4s were very well integrated and cohesive, as well as 'large' in their sonic presentation.

Older Sony CD players weren't the softest and smoothest on the market, although the 940 does a good job with SACD - and SACD is, for the most part, easier on the ear than DVD-A. I would have rated the Shanling a good enough match but you've got rid of this too! You've got rid of some gems Alex. As finding something that suits your tastes and expectations is difficult and is,

ultimately, a very personal decision, I'd strongly suggest you either try and re-purchase the good items or look for modern equivalents. My suggestion is you try and settle down first with amp and 'speakers, meaning you need to find loudspeakers to suit the Myriad. Can you visit a KEF dealer for a listen to their latest? After that, look for a source you like. Arcam may well suit, since they lean toward a smooth, easy but expansive sound. **NK**

Hi Alex - you seem to be chopping and changing for its own sake. Hi-fi dealers don't exist solely to take people's money - they do actually offer the most important thing a hi-fi buyer needs, namely the chance to try before you buy. If you simply buy things more or less at random, basically because they seem a good bargain, then it's a false economy. You then spend most of your time trying to find buyers for bits you don't want, instead of listening to music - which kind of defeats the purpose, if you ask me... So, if I were you I'd knuckle down and build a system around a source you like. Given that you obviously like smooth and sweet sound, then I reckon Musical Fidelity's new A5 CD would be a great start point. You could retain your valve amps and then invest in a pair of Revolver R45s (and a REL Strata 5 subwoofer to add weight) - result: capacious, expansive, musical sound with real sweetness and light; something you might not want to change in a hurry... **DP**



**Revolver R45 loudspeakers - great partners for low power amps.**

## DISC-OGRAPHY

As a regular reader I always look forward to reading *Hi-Fi World*, and wish to add my voice to those of your readers arguing for some form of comparative testing of new hi-fi products against older renowned equipment. The reason for this is quite simply that as a music enthusiast I, like most of your readers, dream about achieving audio nirvana and in the search for the next upgrade I take opportunities to listen to and consider potential purchases, whenever possible within my existing system.

However, I seem to reach a recurring conclusion, namely that much of what is the latest wonder product, when compared with older equipment, either is different, but not necessarily better; or if it is better, it is so expensive as to make the possibility of upgrading not easily achievable.

Recent experiences searching for a new DAC have borne this out and whilst I can accept that my system overall might be restricting the performance of any potential new addition, the whole system cannot be upgraded every time one tries to accommodate a new piece of kit.

Now to the main point of the letter. Because I have not been able to justify the expense involved in making a major improvement to my system via new hardware additions I have been considering the issue of making the best of what I have already got. In order to achieve this your magazine's recent articles on computer audio, particularly high resolution sound via computer developments in sound cards and editing/authoring software seem to me a viable way forward.

An article by Noel Keywood on Archiving Analogue (Sept 2003) prompted me to attempt the archiving of my vinyl collection to DVD-Audio disc. After months of agonising I decided to take the plunge and for an outlay of around £230 purchased M-Audio's Audiophile soundcard and Steinberg's WaveLab Essential and Minnetonka's Discwelder Bronze editing and authoring packages.

Whilst I am not claiming to have got everything right I would seriously recommend this to anyone with a suitable computer and owning a vinyl collection. Especially, if like me they may not have used their record deck very much in recent years whilst trying to pursue acceptable sound (at sensible cost) from CD, in the process building up a large collection of (mostly poorly produced) silver discs, leaving black discs in a cupboard.

I almost gave up on CD, but did not want to go back to vinyl as the main source of listening, because of having to

admit to costly errors in purchasing various items of equipment. Additionally, the costs involved in upgrading record playing equipment and the inconvenience factor associated with using and caring for vinyl weighed against this action. Noel's advice to get on with archiving and not to wait for the next development was therefore dutifully followed and I am now producing some very interesting results, sonically and in terms of listening variety by making up compilations and collections, which I often find more interesting to listen to than a complete album by a single artist.

Now for the rub! I have become so interested in the process of producing my own DVD-Audio discs and striving for the very best sound possible that I have found myself stepping back onto the upgrade ladder. But it is worse than before because now I want to maximise the potential results from this archiving process I find myself wanting to upgrade my vinyl front end as well as my computer hard and software. And to make matters worse, I am now searching record stores and fairs for suitable vinyl material to put onto DVD-Audio disc.

So, for anyone considering the same route that I have followed, be warned, the hi-fi virus which affects so many of us - and in my case was fading away - can strike yet again and in a more virulent form. At least there is the satisfaction of finding a cost effective way forward in developing my hi-fi interest, in trying to learn about audio editing processes and the creation of various kinds of music compilations. I would be happy to share my experiences with interested readers and to learn from others who have done something similar, especially if they have mastered the editing and restoration processes involved. My e-mail address is **Hugh Duff**

Yep, know what you are suffering from, Hugh! Transcribing vinyl to DVD Audio can get to be an affliction, a rare disease little known to human beings. Neither hi-fi magazines nor computer mags. have got their heads around this one yet, but perhaps we shouldn't be surprised! The ideal is to use 24/192 conversion from a serious vinyl front-end. You then end up with an archived record of highest quality, that is easily stored, accessed and played, and which will (should) survive indefinitely. You can also edit and de-pop, click and what have you, or even tonally re-balance an original. It's far better than curtailing the resolution of vinyl by using the

inadequate 1970s coding scheme devised for CD. **NK**

## GOING TO GROUND

About a year ago I bought a pair of mint, ex-demo Tannoy TD8 loudspeakers to partner my Quad CD-P1909 set up. The Tannoys have a 5-way terminal block to allow for bi-wiring plus a separate earth terminal. For the last 12 months I have run the speakers in bi-wire mode, tinkering with speaker placement and isolation of the CD and amp until I achieved what I felt was a pretty good sound (other people agreed). At the back of my mind was the unused earth terminal on the speakers and recently, having a couple of hours to myself, I dug out some spare cable and connected the earth terminal to two of the feet-securing screws of the 909, by way of an experiment (there is no separate earth on the 909 and this was the most expedient way of earthing to the case-work). The result of this (I admit!) lash-up was an immediate improvement in the overall sound - more space around instruments, greater clarity and an overall 'something' that is very beguiling. I hadn't expected such an improvement to what was already a great sounding system (alright, it is just CD, but I like it!) but I have a few questions I'm hoping you can answer:

- 1) am I just deluding myself or am I really hearing an improvement?
- 2) if there is an improvement, what's causing it?
- 3) how do I go about making the set-up more 'professional'? I believe Tannoy make a 5-core cable but have a feeling it is ruinously expensive - what other options do I have?
- 4) if earthing your speakers does lead to an overall improvement in sound quality, why don't other manufacturers provide the option?

**Shaun Sheppard**

Hi Shaun. I had a conversation with Tannoy about this, during which they put forward some interesting views that rarely get aired. I asked them to reply to your query about loudspeaker earthing - better from the horse's mouth! Obviously, there's plenty of room for experiment here, since it is relatively easy for a reasonably competent DIYer to earth loudspeaker driver units. On the matter of using screened cable, I know from experience that it is essential in many setups close to a powerful transmitter like Crystal Palace, in South London, to prevent RF pickup, so this problem is real. However, you do have to watch out for cable capacitance, since solid-state amps don't like driving

capacitive loads. I presume Tannoy's own cables are low capacitance.

"Several of the loudspeakers in Tannoy's range are now provided with an earthing terminal, to enable the drive unit chassis to be connected to the amplifier chassis or ground. Using standard loudspeaker cables, listening tests revealed a reduction in hardness to the sound and a more transparent midrange, with the driver chassis grounded. Objective measurements, such as sensitive distortion analysis, failed to find any difference to the loudspeaker performance between earthed and unearthed drive units.

Our attention then turned to other mechanisms that could explain the subjective differences found. It was discovered that despite the presence of the magnet system, the voice coil was quite effectively picking up radio interference, experiments with an RF generator and transmitting antenna demonstrated. Between 100 kHz and 100 MHz, a reduction of between 6 and 25 dB was found in the picked-up signal, as measured at the amplifier terminals.

At high frequencies, the power amplifier output impedance increases substantially, as the negative feedback becomes less effective. Thus any radio interference appearing at the output terminals will enter the amplifier forward path via the negative feedback loop. This will cause intermodulation distortion with the main audio signal, and is likely to blur fine detail, due to effectively the broad band noise like nature of the signal.

Thus, to obtain the maximum benefit of drive unit earthing, it is logical that a screened loudspeaker cable is used, to prevent radio interference entering the system between amplifier and loudspeaker. We investigated this, using two sets of high quality loudspeaker cables, one with an outer screen, connected to the amplifier earth at one end, and the driver chassis connection at the other. It was found that with the screened cable and earthed driver, the effect was similar to earthing the driver with an unscreened cable. The sound became smoother, with improvements in detail and transparency.

The magnitude of these effects will vary greatly between amplifiers. We would expect a high feedback transistor amplifier, with non-linear open loop performance to exhibit a greater benefit from driver and cable

screening than a low feedback valve amplifier, with good open loop linearity. In addition, with such an amplifier, the high output transformer inductance is likely to provide good isolation from radio interference.

Improvements to the system result by reducing the amount of radio frequency interference picked up by the voice coil, and allowed into the amplifier, causing noise and distortion. So, driver chassis earthing gives you a better amplifier. To reap the full benefits of the technique, it is necessary to use screened loudspeaker cables of the type we have specially developed, otherwise interference will get into the system between amplifier and loudspeaker, lessening the potential improvements in smoothness and transparency that can be attained."

#### TANNOY

#### WELL ARMED

*I read with interest the letter in December's issue from Kostas Agath and would like to give my methods of cartridge alignment to your readers. I am in no way connected to the hi-fi trade, just an enthusiast who has used an LP12 for 25 years. I apologise in advance if most of this is old hat to many of your readers, but it may be of help to some.*

*I got involved because dealers rarely have the time to get the best out of their customer's turntables or cannot be bothered. I've realised that setting up a phono cartridge is a task that has to be taken seriously if one is to be elevated to the audio Nirvana that ensues from a proper set-up.*

*It does help if the arm/cartridge combo is known to synergise well together, as the results can exceed the costs of the individual items. An example of a poor combo is the Linn Ittok/ Audio Technica AT-OC9. Both items are reasonable but just don't gel. An example of a good combo is the Ittok/ Denon DL304, and an even better one is the Naim ARO/ Dynavector DV17D2 which is the combo that I presently use. (The Naim/ Denon is one of the few combos that will track the TELARC 1812 Overture at 1.3g!). Down to basics:*

*[1] set tracking weight in accordance with manufacturers recommendations. Don't try to be clever on this one as the makers know their products.*

*[2] set bias to suit tracking weight. Listen to a known record for mistracking, usually on the right channel, and increase if necessary. A*

*test disc i.e. HFN 001 (Len Gregory) using test tones i.e. 300Hz tone L&R +14dB will tell you a lot. One thing to remember is that, for me anyway, my ears are my main measuring tool. If the cartridge will track at the aforementioned test tone, then all is well. If it doesn't, don't use excessive bias and tracking weight. Back the bias off till it obviously mistracks at the test tone, then increase it to the correct bias for tracking weight, and then go up one, which should be as good as you are going to achieve.*

*Remember that not all records have levels as high as test records. Don't fall into the trap that I did some time ago of readjusting your arm because one disc out of say 100 mistracks. The disc is probably at fault, and also that test records can encourage high tracking forces and bias due to misunderstanding its purpose. A lot of people are happy with their turntable till they use a test record.*

*[3] Vertical Tracking Angle (VTA) can make or break the final performance. We are told to level the tonearm to the record surface and all is well. Impossible! Okay do it, then lower the arm by 1mm. The result is that the arm still looks level! VTA always baffled me until I read an article on the subject some years ago. Basically, the essence of it is that every cartridge has a sweet spot when VTA is set correctly by raising/ lowering the tone arm. When it is reached, the sound stage snaps into focus.*

*Set the arm slightly low. (If you are able to measure the existing height with a ruler, it makes it less hit and miss - i.e. on the ARO, if the arm top is removed, the pillar height can be recorded. On other arms, pencil lines at 1mm intervals on base may do). Listen to the effect of this using a suitable disc. Some discs are just a mix i.e. electronic and possess little sound stage, which is how I assess VTA. I use 'The World Of Ted Heath' as it sounds like a live recording and has a wide sound stage. Others could be 'Tango In The Night' by Fleetwood Mac, or 'Graceland' by Paul Simon, which boogie along nicely.*

*We are listening for a sound stage that spreads evenly between the loudspeakers, and individual instruments can be picked out easily. With the arm low, the sound stage will be narrow. Raising the arm 1mm at a time will widen the sound stage until it snaps into focus and sounds alive. The effect can be amazing when this happens. If you raise the arm past this point, the sound stage extends past the speakers creating a hole in the middle*

affect. In the case of the ARO, I can then record the measurement of the arm pillar. There are other benefits of correct VTA: -

*Arm low* - Bass is soggy and the general sound uninteresting (same as worn-out cart!).

*Correct* - Tight, tuneful bass, vibrant, very magical sound. Low surface noise. Also, there is less debris dragged out of the groove. *Too high* - Bass light, harsh treble and a general fatiguing sound. More emphasis on surface noise.

Being an engineer, experience is a great teacher. Some things I've learnt the hard way. Unless your headshell is detachable, remove the arm before loosening head shell screws for securing cartridge. Otherwise, arm bearings will be damaged by forces through the arm. Wear reading glasses to remove arm/cable tags.

One manufacturer uses a tag that opens up to suit larger pins. If only others did! Linn pins are smaller than others, be warned!

Certain cartridges e.g. Ortofon, use very strong magnets. Allen keys can fly out of your fingers into the stylus, with fatal results. I wiped out an MC30 this way, and it was a lovely unit.

When using a stylus balance (e.g. Shure), the unit sits on the platter with the mat removed. The gauge should be at record height. Placing it on a record will under read. The instructions make this clear, but the illustration on the box shows the gauge on the record confusing!

It goes without saying that altering the tracking weight e.g. from 1.8 g to 1.9g will alter the VTA if it is done after setting VTA.

Also, varying record thickness and warps, as NK mentions, all change the VTA and azimuth settings. Hence, using one's ears is the simplest way. None of the methods mentioned are rocket science, just basic adjustments. You just have to know what to listen for.

I hope that these hints are useful to some readers. No doubt other readers have maybe even better ones, but they've helped me achieve a lot of pleasure from my records.

Now, maybe Noel can help me? I'm using a KLP1, Leak Stereo 20 and Leak TL12 + s (Bi-Amping Ruark Talisman IIs). Plus a Linn LP12, Naim ARO arm, Dynavector 17D2 cartridge and Michell ISO HR phono stage. Would your phono stage be an upgrade? You don't plug your own products. I believe them to be superior to anything else. When my main lounge is ready (20 x 30 ft), I intend to purchase your 300B SE and maybe ESL 57s.

**John Oates**

Thanks for your detailed set-up instructions John. I can confirm that it is best to get the arm pillar as low as possible and then raise it slowly. Measurement shows quite clearly that this is the best way to optimise performance.

I tend not to mention World Audio Design too enthusiastically because it upsets some manufacturers. They shout "foul!" if I do so. Readers may think "well, you would say that wouldn't you" and since my surname isn't Profumo I'd rather they didn't! In my view though, a good valve phono stage is the ultimate upgrade for vinyl. Ours is one of the best and a great way to get from LP what is really on there, without the dead hand of solid-state intervening!

By all means upgrade to 300B SE as the ultimate amplifier. Go to the World Audio Design Bulletin Board ([www.worldaudiodesign.co.uk](http://www.worldaudiodesign.co.uk)) for views, tuning information and much else. Ultimately, as BB'ers succinctly note, there's no way to improve upon well designed and finely tuned DIY hi-fi. These days amazing specialised components are available for audio use, from advanced modern valves coming out of East European, Russian and Chinese factories, to special capacitors from America, Europe and Japan. Never in the past have such components been made specifically for audio. They're expensive, but used in a World Audio kit will give results beyond comparison.

As I've said though, don't take my word for it, peruse the World Audio Bulletin Board, which is a mine of great information. Just be aware though that 300B has a modern

presentation faster and more dynamic than TL12s. Have fun! **NK**

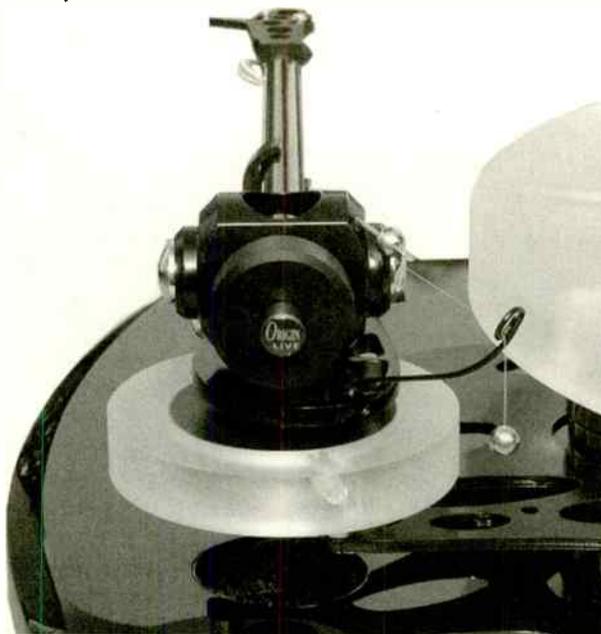
## PIVOTAL POSITIONS

*Now I know why my mother always told me not to read when eating. I was happily chewing my cheese sandwich, with Branston of course, when I came across Stewart Wennen's remarks about SME arms, and their inferiority compared with Haddock and Roksan unipivots. Now come on chaps, life is confusing enough without you rocking the boat. The essential rightness of SME arms is as much an article of faith as the Church of England's belief in the sanctity of marriage..(err....!). I hope you are not becoming the audiophile versions of dissenting clergy. If not full of charity I might have been tempted to make some unkind remarks about the quality of the reviewing system. But such cheap jibes will not pass my lips. Instead I will accept that my sandwich now tastes like cardboard, and no doubt Mr Wennen is contemplating a life of sackcloth and ashes. For such is the fate of the unbeliever...*

*I too lost the faith, but after exalting in such temptations as Graham and VPI unipivots I returned to the SME fold, my faith renewed. Why? Because I discovered that the big SME arms need proper mounting and better quality wiring. Thus properly worshipped they will reward the faithful. A small bet, Mr Wennen will eventually return to his SME V with a feeling of relief. And he too will experience the delight of the sinner who repents. Now, where are the digestives....McVitties of course (or do you doubt them too? Is there no end to this moral collapse...)*

**Peter Skinner**

**to get serious sound from vinyl, tonearm set up is crucial.**



Yes, that observation made my eyeballs rotate a few times and the hand reach for the phone, but I stopped myself since witch hunts and inquisitions were given up as a bad idea a long time ago - even by the Church. I guessed a reader of experience was likely to say what I was thinking too - sorry it cost a cheese sandwich! I've never got much satisfaction from Unipivots, from the intriguing Decca International to the Hadcock. I'm not at all convinced there's any great need for a single point bearing - and certainly not one that rocks. I was always structural ringing and its sonic signature was more of an issue. And the place on which an arm sits is just an extension of the structure. So suitably mounted and wired I'm sure an SME is still as close to heaven as it gets. But then, hi-fi is a broad church and the Unipivot is worshipped by a small hard core. **NK**

Excellent - now we've had the CD vs. SACD, vinyl vs. CD, vinyl vs. SACD/ DVD-A and solid-state vs. transistor debates, I feel the time is due for the mother of all dogfights - unipivots vs. multipivots. This will make all the aforementioned look like mere asides. As for me, I'm running an SME IV on my GyroDec and an Origin Live Conqueror on my Orbe (multis, both) so I guess that makes me 'soft-core' according to NK's measure, but I have a Hadcock 242 and Naim ARO poised to replace both SME and OL, so we'll soon see... Bring on the letters! **DP**

*multi-pivots vs. unipivots, seconds out round one!*



## FILLING A VOYD

*I was hoping you might be able to provide me with contact details for Guy Adams, the designer of the Voyd range of turntables. I have a Voyd Valdi turntable which requires a repair to its split-phase power supply and I was hoping that Mr. Adams might be able to effect the repair (I don't want to entrust it to some local incompetent!). If you don't have details for Mr. Adams can you suggest a competent repairer for such an item? I stay in the Glasgow area. Any help you can offer would be much appreciated.*

**Alasdair McNicoll**

Hi Alasdair - Voyd's Guy Adams is no longer in the hi-fi industry - he now works for a major computer manufacturer, I believe. The only people in the country who can effect repairs are Audionote (01273 220511, info@audionote.co.uk), and Mark Baker whose Origin Live DC motor replacement works very well. Indeed, OL has modified a number of Voyd decks, and the response is extremely favourable; the t/t sounds magnificent with the advanced kit. The cost of the Audionote repair will be approximately £500; alternatively the OL mod costs £339 inc. one motor, but an extra motor costs another £79. Hope this helps. **SW**

## TWEAK TIME

*I recently purchased a Michell GyroDec with a RB300 rewired arm to which I fitted the Goldring 1042. After I got home and set it up I was very disappointed. Previously I had been using a Goldring GL75 with the 1042 onboard. Although the GyroDec offered*

*more definition and detail I had lost some of the musicality and sound stage that I previously had with the old Goldring purchased for £30. My dealer was most accommodating and helpful and we compared both decks on their showroom using same amp and speakers but the difference was minimal. I took the decision to have a refund for my GyroDec and buy a TecnoArm to fit to another old Goldring, a GL 89, to see if this would be a suitable upgrade from my original sound.*

*It was a sunny day and I decided to have a little experiment and investigated whether I could fit the TecnoArm onto my GL 75. I found it was possible by making a small thin plate to obtain the correct arm height. Although the arm hole was not in the recommended place for the template supplied with the techno arm I fitted it anyway. After a bit of tweaking using an old record for cartridge setup, I know this is not much spoken about these days or recommend it worked extremely well, the sound is fabulous. Everything I ever wanted and a little more; clean and crisp fast and open with enough bass too.*

*The problem I have is with my recently purchased speakers the Mordant Short MS908s - same as those reviewed by yourselves, but with the extra bass speaker. These offer a very clean sound and bass too. However, the midrange can be a bit squeaky and I was wondering what I can do to improve the sound? Will adding sand into the units make them worse? Can you suggest some suitable speaker cable I might try to warm up the midrange? Or do you have any other suggestions? Will a separate spur rather than using ring main help to improve the overall sound or make it more harsh? The other equipment I have is not very impressive as I have been limited to a small budget but my heart is in the right place: Goldring GL75 deck, Michell TecnoArm, Goldring G1042 cartridge, Project SE phono box, Sony TA-F940 Amplifier, Mordant Short 908 speakers, Sound Organisation rack Z540.*

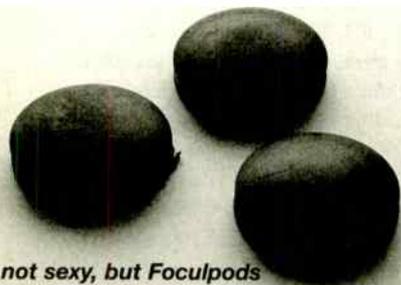
*I hope that you can offer me some suggestions no matter how small. Will any of the hi-fi tweaks you suggested in your article assist like a Michell record clamp? If so can you recommend a rubber mat that I might use as the original Goldring mat has a grooved pattern in it. Is it better to use Foculpods and will these be good as a replacement to the rubber feet on the base of my GL75? Finally, is there a reasonably priced pad I can place my turntable on to improve its sound even further?*

**Bob**

Hi Bob – well, I suspect that your Gyro wasn't properly set up. Before he died, John Michell confided to me that he sometimes despaired about dealers (and reviewers) not knowing how to get the Gyro working properly. Correctly levelled, with the springs bouncing equally and perfectly, it blows a GL75 off the map. But still, your Goldring is a fine bit of kit and easily good enough to respond to all number of tweaks:

Mount the deck on an Audiophile Furniture Base SP01 isolation platform, with Foculpods supporting it for good measure. Run the Goldring 1042 at 1.75g, and back the bias off a tad (1.5g I find best). Use the Michell clamp in conjunction with a Rega P3 felt mat (call Rega, they're about £15). Clean the connections on the cartridge pins with Kontak, and the armlead phono plugs, the Project Phonobox sockets, etc. Your Sony integrated amp isn't the best by a long way (I suspect an Audio Analogue Pucinni Setanta (£975) would be just the job), but in the meantime you could invest in a few metres of the superb Chord Odyssey 2 loudspeaker cable to tame it, and pull some of that midband grain out. Let me know how you get along...?

DP



not sexy, but Foculpods are easily the best value for money hi-fi tweak around.

## COPY RIGHTS?

Just reading the latest issue and thought I'd drop you a line/ labour the point/ bore you to tears...

Firstly, this issue around (il)legal downloading has me alternating between scratching my head and laughing out loud! Having all but exhausted the CD reissue cash cow with countless remastering and re-packaging jobs (and let's not forget just how appalling the original issues of the Elvis, Queen, Beatles and Kiss (to name but four) back catalogues really were), it strikes me that instead of even trying to find a sensible solution, the record industry at large is adopting the Robert Maxwell approach of lawsuits before and over anything else. iTunes and e-

Music are pointing in the right direction, but all this 'stream but nothing else' nonsense is laughable. Has no-one thought of running a lead from the soundcard of their PC to a CD/DAT/MD/tape recorder to record those streams??

A case in point: I own around 15,000 records, of which about 95% are in storage as I've currently nowhere else to put them. If I want to hear a song that is on one of those records, what do I do? Go to the storage unit and spend a couple of hours trying to find what I want and give myself a hernia in the process, or click on Kazaa or Bearshare? Doesn't the 1988 Copyright Act cover 'fair use'? Hey, under that Act purchasing a single copy of a bootleg CD is legal so long as it is for your own private and personal use! I pity the poor prosecutor at that trial!

Given that many of the court cases and judgments in bootlegging cases in the UK have been far from sensible, justifiable or astute (I recall one case where a tape seller was fined £10k and the chap after him who had knocked

out his wife's teeth got fined £120 - yep, the case did get thrown out on appeal) doesn't really fill me with hope on achieving a sensible and workable solution. The words 'tape', 'blank' and 'levy', 'horse', 'door' and 'bolton' spring to mind...

Finally, what's with the "oh my gawd" line on My Bloody Valentine? Some of the most fascinating music of the past twenty years in my humble opinion. Still, John May is right, 'tis one album definitely suited to vinyl replay (Warner US surprisingly reissued both MBV LPs on vinyl last year - gorgeous pressings!). Speaking of which, have you tried out any of the Earmark reissues? I usually have a chronic aversion to Czech-pressed vinyl, but the ones I've heard of these things sound incredibly good!

Guy

In Britain Copyright law more stringently limits consumer's rights than elsewhere. Having recently held lengthy conversations with both the BPI and IFPI Press Offices about all this, in connection with Apple Computer's iTunes music download service, I think I began to see where the real problem lies. I also sense that the issues will only be satisfactorily dealt with when everyone agrees on the balance of rights to be struck between artists and consumers, and this will only be achieved when an outside Legislative body intervenes to impose a set of rules. In light of the argument that

exists on all this it isn't surprising perhaps that the European Commission has been calling for views to be submitted to aid their own investigation on the subject, preparatory to introduction of Europe-wide legislation.

In Britain, the view has been that vendors are free to attach any rights they wish to the sale of their goods, which seems fair enough. Trouble is, this makes for a situation so complex it is impossible for consumers to understand, without a degree of effort that is simply unrealistic. Do we all want to read a tortuously long list of rights as set out in an agreement every time we purchase music? Such a situation already exists with computer software, with agreements in legalese that are absurdly long.

Trying to bamboozle consumers, or face them with unrealistically difficult terms and conditions of sale isn't something that will remain forever acceptable, I believe. These days consumers have rights too, and the big failing of the music business is, in my view, their inability to understand this and offer a reasonable set of rights that is fair and understandable to consumers as well as artists. No matter how hard I pressed them on this matter, the IFPI in particular defensively refused to acknowledge this, saying only that they existed to represent artists, not consumers.

As national legislative bodies can't agree on what constitutes fair rights either, it is hardly surprising the EU should get involved. You can find more on all this at [www.bmr.org](http://www.bmr.org). The only depressing thing here is that the U.S.A. will undoubtedly go its own way, so the confusion will continue. You will not, for example, be able to buy music from i-tunes USA (as I have tried to do) which, last time I looked, had a better back catalogue of British artists than i-tunes UK! But as Apple explained to me, the U.S. music companies handling British artists are restricted by contract to selling within their own territories - fine until the internet came about. In truth Apple do negotiate and offer consistent rights through i-tunes, so perhaps they will, in future, be able to overcome this hurdle too. If they do it will be a unique achievement.

You can at present record from an analogue feed to overcome anti-copy mechanisms, but Philips and others have demonstrated analogue watermarking schemes able to prevent even this. **NK**

Hi Guy – 'Loveless' is one of my favourite albums of all time, so there was no criticism of MBV there – I was merely alluding to the fact that it's a fairly 'rigorous' sonic workout for any hi-fi system, and you're right, it's almost unlistenable on CD! **DP**

### DEAR JANE (AGAIN)

I have to respond to Jayne Lee Wilson's letter in the July 2004 issue. While many classical music lovers prefer CDs there are also many who still listen to vinyl. They attend concerts too and some play in orchestras as well - I believe this possibly includes Setright.

I've just listened to three superb performances on disc. The Concerto for Orchestra by Lutoslawski, played by the Chicago Symphony Orchestra under Seiji Ozawa, is on a well played single-sided EMI test pressing from 1971 and has everything: attack, delicacy, rhythm, ground-bursting timpani, emotion and a scratch in the quiet passage at the start of the third movement. The Sonata Representativa by Biber, played by Romanesca, is on a digitally recorded CD; it's vibrant, warm and intimate but if I could get it on vinyl I would. The most involving is Hungarian Rhapsody No. 10 by Liszt on a Columbia 78 from the mid-thirties; this direct-cut disc is still able to convey Ania Dorfmann's passion and drive seventy years on despite wear caused by steel needles.

Is this preference for analogue because my Arcam Alpha CD player is now thirteen years old? The LP source is a Garrard 301, Michell TecnoArm a, Ortofon MC 10; the 78 source a Garrard 401, SME3009/III, Shure M44 with Expert Stylus Company 78rpm styli. They feed a nineteen year-old Rotel RA840BX amplifier and Monitor Audio R352 speakers. EQ for 78s is provided by a graphic equaliser. I don't know if this system qualifies as well balanced but it plays a lot of music.

Or is my preference because of compromises inherent in CDs? Some of our newer local buses have digital multiplex control systems, you can tell when ringing the bell. Press the button and nothing happens so you press it again. By then the first signal has reached the bell, so it rings twice. I think this is true of CD, the quantisation rates are not fast enough for us. I'm now upstairs listening to a lunchtime concert of Mahler songs on BBC Radio 3. 1950s TSL valve FM tuner, Leak mono Varislope III and TL 12 plus amplifier, AR4xa speaker, bliss. After Mahler some Franz Ferdinand on CD or maybe Art Hodes on a Blue Note 78 or Marta Sebestyen on LP. My daily bread is good music and it is delicious. **Richard Zarywacz**

### STATIC DYNAMIC

I am a regular reader of your mag and appreciate the views of your reviewers - even LJKS who it has to be said is a difficult, if not an oddball, read. I have a Naim Nait 5 integrated amp paired with an Arcam CD72 player and a Naim NAT 5 tuner (an excellent tuner which shares the shelf with another favourite - Leak Troughline 3 Stereo tuner and Quad tuners from the FM1 to FM4 and Quad AM tuners 2 and 3).

I listen mainly to jazz, smooth jazz, blues and some pop mainly on FM radio. My room is approx 19'x13' (5.9m x 4m). I use Naim cable and interconnects with Quad 21L floorstander loudspeakers (which I don't think you have reviewed). Incidentally, I have paired the Naims with my (properly serviced) Quad ESL57s and was disappointed. Before I did so I e-mailed the Naim factory and got this response: "We would not recommend this combination for sound quality but do not see a technical reason why it should not work." They were right. While the Naim Nait 5 is to my liking it does seem to lack depth or soundstage (because it is underpowered?) and I was wondering about potential upgrades while staying with Naim. Given my budget, as I see it I have three options:

- 1) buy a Naim Nait 5i integrated and get rid of my Nait 5;
- 2) buy a Naim NAC 112X pre-amp (paired with my Nait 5 as a power amp)
- 3) buy a Naim NAP 150X power amp (paired with my Nait 5 as a pre amp). I am leaning towards option 3 as the extra power from the NAP150X will hopefully resolve my concerns. I would appreciate your views. **JBK (from Sydney)**

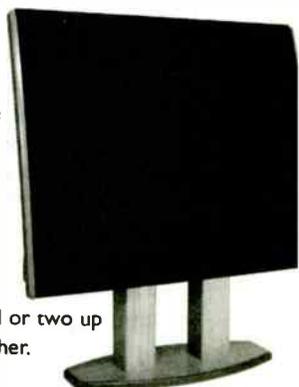
In my experience Quad electrostatics don't sing with solid-state amps. This has to be a generalisation, as I haven't heard every combination on the market, and many - perhaps most - people are happy enough with such a partnership. But having put a good valve amp in front I find it difficult to recommend the transistor route. The sound is often disappointingly flat and bland, as you've found. I believe electrostatics rather brutally expose the limitations of solid-state amps, in a way that dynamic speakers do not, mainly because the boom of a box (tech speak: time delayed returns!) provides artificial ambience cues that disguises the intrinsically flat sound of solid-state. So two expensive items that can work brilliantly in other circumstances fail to gel, as

you've discovered.

I suspect the picture is slowly changing, as the latest Naim amps are smoother and more dimensional than ever before. You could well try a NAP150X, but whether you feel it is satisfactory with an ESL-57 is your decision. Don't forget that a small subwoofer can help by adding in low bass, since the ESL-57 gets down to 90Hz before rolling away and this limits its delivery of low end dynamics. A subwoofer subjectively strengthens the sense of dimensionality that's otherwise lacking.

Your room is dimensionally suited to the ESL-57s and will get the most from them, assuming its walls are solid brick or breeze block. Peter Walker, founder of Quad, told me he preferred long rooms, placing the 57s at either side, against the wall and at right angles to it to increase apparent panel area, so reducing low frequency cancellation, to improve bass output. The usual rule was to position each panel well away from the rear wall to 'lose' rear radiation from the speaker. Best to put bookshelves or sound absorbing curtains behind if possible. **NK**

I'm currently using my lightly tweaked World Audio K5881 with the ESL-989s, and am getting preferable results even to the mighty Musical Fidelity kV500. There's a real sense of space and ease with the tube amp, which the MF lacks – and this is about as powerful as transistors get! Still, it wouldn't hurt to get more grunt for your system, so I'd counsel the NAP150X as your next obvious step. You should also check out my feature on p37 for more electrostatic set up tips. As an aside, don't think that – as a rule – updated 'i' or 'SE' versions of amplifiers (or anything else for that matter) are actually worth selling your existing non 'i' or 'SE' version for. Generally speaking, they're more about sales and marketing than dramatic sonic improvements, and simply don't warrant all the time and trouble of selling your existing kit, let alone the expense. If you really want to upgrade, then at least for a model or two up the range, or higher. **DP**



Quad Electrostatics – too good for transistors?

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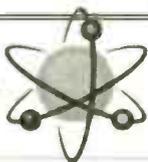
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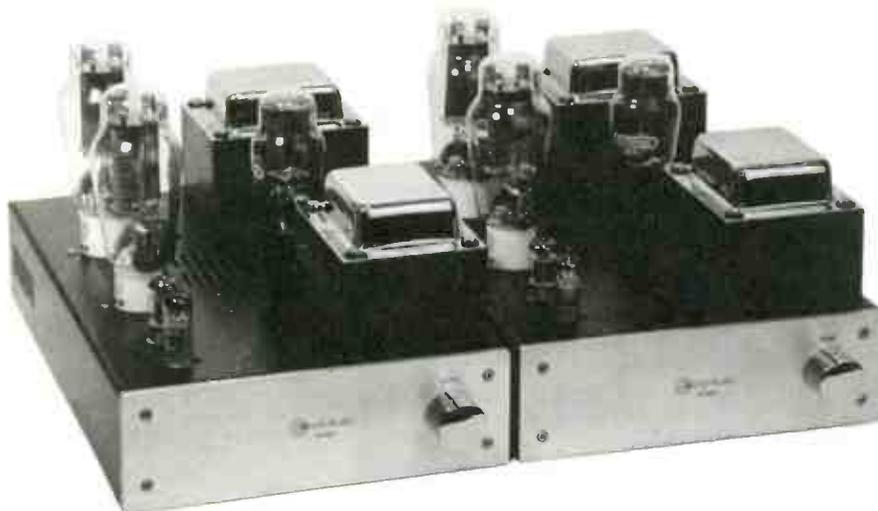
## SINGLE-ENDED PURITY

Our Parallel Single Ended (PSE) power amplifiers offer ultimate sound quality. Each monobloc has two beautifully linear 300B directly heated triodes in its output stage, producing 20 watts into an 8 ohm load. At the front of the circuit we there is a 6AU6 pentode, followed by an ECC82 as the driver valve. This design uses a 5U4 rectifier valve in the power supply, in combination with a 10H choke, giving an extremely quiet supply. Both mains and output transformers are built on high quality E/I pattern cores.

Feedback can be switched in or out whilst running, using a rear panel switch. Complex layered and sectioned output transformers give full output and low distortion across the audio band even without feedback, making such an option possible.

This is one of the few amplifiers in the world so good it will work without feedback - and no feedback is the preference of most buyers. It gives a spacious, relaxed and fluid sound quite unlike that of solid-state amps, all of which use feedback to correct deficiencies.

By operating linearly in feedbackless, pure Class A, single-ended mode these



300B monoblocs are as pure as it gets - and sound quality reflects the fact. Fast, clean and clear in their presentation, at the same time their purity of sound is easy on the ear.

The kit is totally hard-wired; it does not use circuit boards. We can supply without valves, or with the superb Tesla 300Bs, Russian 5U4s and European 6AU6s & ECC82. Our 300B PSE kit bears an affordable price of £895.00 (UK price) excluding valves. Each monobloc weighs 23kgs (50lbs). External dimensions with valves: 25cm(w) x 38cm(d) x 22cm(h) per monobloc.

## PUSH-PULL POWER

For more power, we also offer 300B in Push-Pull (PP) form. The 300B PP monobloc shares the same look and chassis as the 300B PSE monobloc. The 300B PP kit has been created for those who prefer a bit more power. With a pair of 300Bs in push-pull configuration providing 26 watts output, they will drive most modern loudspeakers to perfection. Andy Grove's design is totally feedbackless, using a 6AU6 pentode as the input valve and a 5687 as the phase splitter. The power supply uses a Russian 5U4 for rectification. The kit is constructed by hard wiring, so some experience is required. 300B PSE owners do have the option to buy the conversion kit for £250.00 to turn their monoblocs to push-pull status. Each monobloc weighs 23kg.

**300B PSE MONOBLOC KIT**

**£1197** per pair

**300B PP MONOBLOC KIT**

**£1197** per pair

The PRE-II is a high quality valve pre-amplifier that will drive any power amplifier. It has a gain of x5 which, with CD, enables it to deliver a large 10V output swing. To keep the amount of active amplification low, this pre-amp uniquely uses a line drive transformer to deliver a pure signal to the power amplifier. There are six inputs, a tape monitor and two sets of output sockets. It is powered by the external PSU-II power supply. The volume control uses high quality Alps Blue potentiometer which, with our solid, turned brass, chromed knob, gives a quality feel rarely encountered these days.

**PHONO-II** is a dedicated valve phono stage for MM cartridges, with MC input transformers an option. By using all-d.c. supplies from PSU-II and a case in which there is no power supply, PHONO II is hum free, something that is difficult to achieve with valves. With accurate RIAA equalisation right down to 10Hz (-3dB) PHONO II gives a wonderfully pure, dimensional sound from LP, possessing a sense of life and dynamism quite different to solid-state preamps.

Finally, PSU-II is a power supply unit that feeds both the PRE-II and PHONO-II. Keeping the power supply separate removes hum, often the bane of valves.

Power Supply Unit (PSU-II)	£205.00
Pre-amplifier (PRE-II)	£215.00
Phono Stage (PHONO-II)	£110.00
Moving coil step-up transformer	£77.00



## SERIES II MODULAR PRE-AMP KIT

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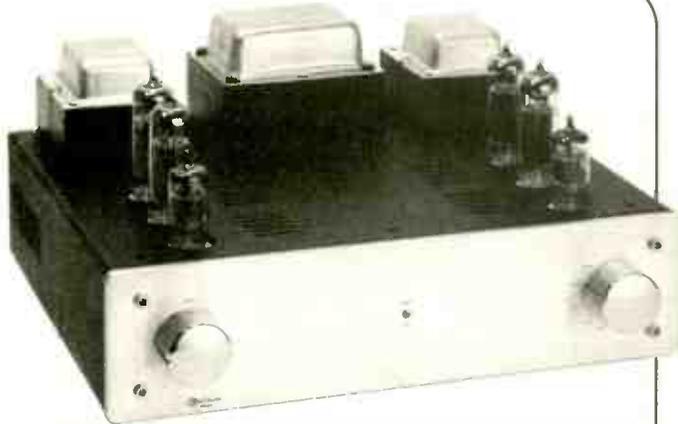
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Kel84 is an affordable, integrated valve amplifier for those who want to enjoy the valve sound, but from a simple, easy to build kit. It uses inexpensive EL84 output valves, known for their sweet sound, in conventional push-pull arrangement to provide 15 watts into an 8 ohm load. The output transformers are our own quality Ultra Linear design. Up front, the circuit employs an ECF80 input/phase splitter valve, which contributes to Kel84's extremely smooth sound.

The amplifier has very low hum and for simplicity it is built on a printed circuit board. A strong steel chassis is fronted by a 3mm anodised front panel and attractive brushed aluminium effect knobs. There are five line level inputs, plus one monitor input, with a tape output included, all controlled from the front panel.

At the rear is a mains switch/IEC power input, earth post, phono sockets, and 4mm banana sockets for loudspeakers. The Kel84 will highlight all the intricacies and depth of detail in your favourite recordings whilst retaining a warmth and fullness that is almost exclusive to pure valve amps and is rare at this price point.

Kel84 weighs 10kg. External dimensions with valves are 300mm(w) x 270mm(d) x 150mm(h). Single input version also available at £285.



**KEL84 VALVE INTEGRATED AMPLIFIER KIT**

**£335**



Our 6550 series amplifiers are built around the rugged 6550 beam tetrode that's popular in America. This valve is widely available at a good price. Producing no less than 40 watts into an 8 ohm load, (available in a 4 ohm version if required) our 6550 is a power house, since valve watts always sound louder than transistor watts!

The difference between our 6550 and most others is that we use valve rectification (5U4) and a choke pi filter, for a power supply that is quiet and free from solid-state hardness. This is a true high-end design from Andy Grove, hard wired. It is a cut above the many other 6550s, with enough power to drive most loudspeakers, including insensitive electrostatics for example. 6550 combines high

power with a top-end smoothness of sound, yet doesn't cost the earth to run, as the valves are inexpensive and have a long life.

The amplifier weighs 19kg. Dimensions are 390mm(w) x 330mm(d) x 190mm(h) with valves, or 220mm(h) with cage.

**KIT6550** - An integrated amplifier with line inputs and volume control. Accepts CD, tuner, tape etc., but not LP.

**KAT6550** - A power amplifier for use with a separate pre-amp. Paired with PRE II and PHONO II (+PSU II), can provide LP reproduction

**KIT6550 VALVE INTEGRATED AMPLIFIER KIT**

**£615**

**KAT6550 VALVE POWER AMPLIFIER KIT**

**£580**

The Headphone II amplifier is a beautifully simple design using Mullard ECL83 valves, a triode and power pentode housed in the same envelope. It works directly from any source, be it CD, tape, tuner etc., or from an amplifier's tape out or pre-amp out sockets. The circuit uses high specification E/I output transformers that will drive any headphone load from 16 ohms to over 300 ohms depending on how the secondaries are wired up.

The Headphone II is a pure Class A single-ended design with the power pentode wired up in triode configuration for added sonic purity, and it is as quiet as a mouse. Treble has the crispness of the best solid-state, but with the tonal resolution and delicacy associated with valves. Bass is punchy and controlled without becoming artificial.

External dimensions 270mm wide, 275mm deep and 85mm high



**HEADPHONE II**

**£285**



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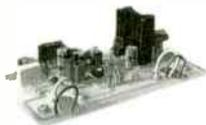


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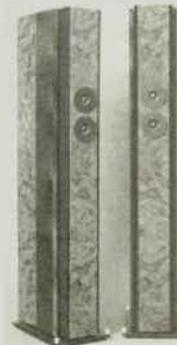


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Primare V10 CD/DVD Player x-demo	795	499	Rega ELA Cherry X-demo	749	579
Theta Generation V Balanced S/H	6290	2299	Roksan Ojan3X Rosewood S/H	1299	449
Theta Pro Basic II DAC with Oscom/Balanced S/H	2990	1195	Verity Fidelios Black Lacquer x-demo	8000	4499
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Clearaudio Accurate MC x-demo	2800	1699	BCD 1000 3 tier stand S/H	1299	699
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Quad 44 pre amplifier. Boxed in good condition. £ 249	Quad 405/1. Boxed and in good condition. £ 225
John Bowers (Musical Fidelity) pre amplifier. Special edition. MM & MC + aux and CD.Excellent. Boxed.Rare £ 175	Arcam Alpha 3 amplifier. Mint.Boxed/ Instructions £ 100
Marantz PM66SE KI signature integrated amplifier £ 199	Tube Technology Unis valve pwr amp. Mint bnd £ 995
Naim NAC 92 pre amp. S/NO 161840. Mint. Boxed £ 299	Rogers Cadet integrated tube amplifier. 10W £ 175
CR Developments Carmenta Line valve pre-amp. £ 450	Harmon Kardon HK1400 line amplifier.Mint/boxed £ 199
Sumo Athena 11 pre amplifier. Line level. Superb. £ 399	Kenwood KA660D integrated amplifier. Black. £ 60
Quad 77 integrated amplifier. Mint. Boxed. Instr. £ 399	Crimson Elek.rik 510/520 pre/power amplifier.Boxd. £ 249
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Quad 303 power amplifiers from ..... £ 125	Arcam Alpha 2 amplifier. Mint. Boxed/instr £ 95
Nakamichi CA5 pre-amplifier. Ex cond. Cost £750 £ 375	Nakamichi PA5 100W CH power amp. Cost £1300 £ 650
Arcam Zeta 1 Pro logic Cinema amp. Cost £999.00 £ 450	Quad 33 pre amplifiers. From ..... £ 75

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Pair Quad EL563 speakers. Serviced by One Thing Audio and with original boxes and packing. Ex condition. £ 1399	
Quad ESL57 speakers in black. Excellent condition.£ 699	Single Tannoy speaker with 10 inch monitor gold £ 150
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Pair Quad ESL57 spks. Fully rebuilt by One Thing Audio. Black cloth fronts 5 star review in Hifi World. Mint. £1699	Quad ESL57 speakers. All fully serviced with full 3 months warranty.Hear what ESL57s should sound like From £900 pr
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Quad FM1 Valve tuners. Various prices from only £ 20	Quad FM2 Valve tuner. Good condition. £ 175
Quad FM4 tuner. 5 pin din version. Good condition. £ 200	Quad MC phono module for Quad 34 pre amplifier £ 40
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Trio KT800L synthesiser tuner. AM/FM. Black. £ 75	SME 3009 tonearms from ..... £ 125
Decca London international tone arm. New. Boxed. £ 175	Marantz CD52 Cd player. Ex condition. £ 79
Quad 77 RDS FM tuner. Mint. Boxed. Instructions £ 399	Nakamichi CDP 2E CD player. Ex condition. £ 250
Marantz SD275 twin cassette deck. Dolby B/C £ 49	Aiwa AD-S750 Dolby B-C-SHX pro cassette deck £ 75
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Tannoy 15" HPD Drivers with cross overs	£395
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Sonus Faber Grand Piano Speakers (piano black finish)	£995
Genesis 350SE Speakers 10mmth old (retails £36000)	£16995
Audio Physics tempo Speakers	£995
Tannoy Monitor Gold 12" in Lancaster size cabinets	£795
Acoustic Research 338 Stand Mount Speakers	£275
Eltax Floor Standing Liberty 5+ Speakers	£140
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Audio Research LS9 Pre-amp with remote (mint)	£1095
Conrad Johnson 16LS Pre-amp	£3995
Audio Research SP14 Pre-Amp	£1495
Naim Mac 92 Pre Amp	£350
Exposure 11 & 12 Pre Amp & Power Supply	£650
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<b>AMPLIFIERS</b>	
Mark Levinson ML432 (400 watt) Power Amp (ex demo, full warranty)	£5495
Audio Note Neiro Mono Amps	£5995
Naim NAP 90/3 Power Amp with MF3A Pre Amp & PSU	£350
Mark Levinson ML33 Reference Power Amps (mint)	£16495
Krell KST 100 Amp	£1495
Meridian 605 Mono Blocks	£895
Incartek DIRK Integrated Amp	£40
Advantage Integrated Amp	£1495
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Musical Fidelity P180 Power Amps With MF3a Pre Amp & Psu	£695
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Mark Levinson Reference CD System ML30.6 & ML31.5 Transport (ex demo, full warranty)	£17995
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Accuphase DP55V CD Player (as new)	£2095

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Audio Note AN-S2 Moving coil cartridge Step-up transformer, copper wired (new) (retails £499)	£450
AKG K340 Electrostatic Headphones	£50
Transparent Music Wave + 3m Speaker Cable	£250
Project Phono Box S/E (as new) (retails £125)	£90
Stax 40/40 Headphones (as new) (retails £1195)	£850
Shunyata Aries Interconnects 2m RCA (ex demo) (retails £1275)	775
Shunyata Aries 1m RCA (ex demo) (retails £850)	£495
Kondo digital 1m RCA (as new) (retails £1200)	£495
Yamaha DVD Player S795	£145

<b>TURNABLES, CARTRIDGES &amp; TONEARMS</b>	
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Pink Triangle Turntable with Superb Zeta Tone Arm	£625
Dynavektor DV20X (as new) (retails £395)	£285
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Arcam Alpha 8 amp	£215
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Meridian 201 pre	£345
Meridian 605 power monobloc [Boxed]	£375
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Musical Fidelity B1	£145
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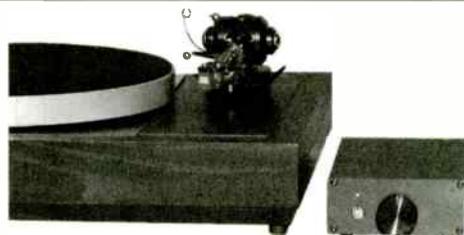
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Cambridge Audio	Dismagic/Domagica - ex, nice combo for peanuts	199
Cyrus	DAD3Q24 - nr mint, boxed, remote	429
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Kenwood	DF1100 - ex, v. underrated	149
Krell	CD DSP - ex, clear and smoked lids, remote, stunning	1499
Marantz	CD80 - ex, boxed fantastic 80s heavyweight	199
Marantz	CD60 - ex, remote	69
Marantz	CD46 - ex, remote	49
Marantz	DV4100 OSE - nr mint, remote, boxed	129
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Meridian	208 - ex, with built in preamp stage and 209 remote	399
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Musical Fidelity	X 100 - nr mint, boxed	119
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Naim	CD5 - nr mint, boxed, remote	699
NVA	The Transparent Statement - vgc, crated, ultimate NVA	1749
Power	PDS703 - nr mint, stable platter machine	149
Primare	D20 - nr mint, remote, stunning (amp available too)	399
Quad	77 - ex, remote	329
Quad	Planet - ex, black, well reviewed	499
Rega	Caspian - nr mint, silver, boxed, remote	449
Roksan	MDP9500 - nr mint, keypad, CD, PAL, NTC	149
Sony	CDPX3000ES - nr mint, boxed, well reviewed toploader	299

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Arcom	C200 - ex, boxed pre	149
Arcom	SA200 - ex, boxed stereo power	199
Arcom	SA200 - ex, boxed pair monos	399
Arcom	Alpha 10 integrated - ex, boxed	299
Arcom	Alpha 10 integrated DAVE - nr mint	379
Arcom	A654 - ex, display, boxed, remote, silver	199
Arcom	P75 - ex, display, remote, silver	199
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Audiolab	8000S - nr mint	329
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Harman Kardon	Citation 17 and 19 - vgc, boxed	399
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Herbrook	and P2 Flywheel control, better than a Brio or Mira	179
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Magnum	MP300/MP125 x2 - ex, pre and mono blocks	599
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Shearane	Phase 2 Reference - ex, above, black, stage etc	379
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Acoustic Energy	AE2 - ex, piano black c/w fluted stands	999
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Epos	ES14 - nr mint, boxed 80s classic c/w dedicated stands	325
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Herbrook	Quvort - c/w matching openframe stands, due in	Call
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Impulse	H2 - ex, very efficient horn loaded monsters	799
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Linn	Kan - ex, black, c/w matching stands	249
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Mission	70 centre - ex, display, boxed	69
Mission	77C - ex, display, boxed	99
Mission	77E - ex, black, larger bookshelf	99
Mission	781 - ex, black, larger bookshelf	99
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Monitor Audio	Studio Centre - ex, display, boxed	299
Monitor Audio	8703AD - nr mint, black	149
Monitor Audio	Bronze B2 - nr mint, cherry, boxed	129
Monitor Audio	Silver S2 - nr mint, mahogany, boxed	199
Monitor Audio	912 - ex, display, boxed	199
Mordant Short	914 - ex, display, boxed	199
QED	Aria - ex, display, boxed mini surrounds	39
QUAD	ESL63 - due in	Call
Rega	Ayla - ex, boxed, pretty little cherry floorstander	199
REL	G50 - ex, black	199
Rogers	Studio Monitor - Original vgc, with stands - suit valve amps	199
Sequence	200 - ex, cherry and grey, c/w dedicated stands	149
Spendor	SP1 - ex, stone stands	299
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Tanberg	Studio Monitor - Ex, large standmount	449
TDK	Studio 1 - vgc, wood finish transmission line	249
TDK	RTL2 - ex, black	119
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Quad	CR4E - vgc, black	149
Quad	FM4 - ex	79
Quad	FM3 - ex	79
Quad	FM4 - nr mint, grey, boxed	299
Rotel	RT02 - ex, display, boxed, silver	199
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Beyer	DT231 galactic - new	30
Loos	1014 - new 1m interconnect	13
Loos	1014 - new 5m interconnect	20
Mission	Slance - ex, display, silver	69
Pure	Feeke - ex, display	69
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Sennheiser	IS380 - new, infrared	40

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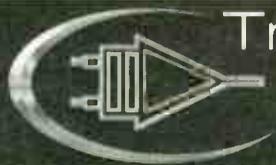
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Alphason	Sonata - good, light ash	299
Audiolab	8000PPA phono stage - vgc, flexible stage, rare	449
Audion	Sterling - ex, valve phono stage	299
EAR	834P - fair, mm/mc switchable version	549
Chord	Phono stage - ex, stunning	999
Creek	OBH8 - ex, mm stage	79
Garrard	301/SME 3009 - ex, black sandwich plinth	699
Garrard	401 - vgc motor unit	179
Linn	Traika - vgc, boxed	299
Linn	LP12/Lingo/mokVIII/Asaka - nr mint, rosenut, boxed	1199
Linn	LP12/Armageddon/Aro - nr mint, black, boxed	1599
Linn	LP12/Valhalla/LVX - vgc, black	479
Linn	LP12/Armageddon/RB300 - vgc, black	979
Linn	Basik, LVX - vgc, black	199
Linn	Axis, Basik plus - vgc, black	249
Linn	Ittok 12* - ex, black, apparently one of only 20 made	999
Logic	DM101/Datum - ex, bargain LP12 challenger	249
Michell	(Transcriptors) reference hydraulic - ex, fluid arm	649
Michell	Gyrodec/QC - ex, boxed, armless	899
Michell	Gyrodec/RB300 - ex, brand new arm	799
Michell	Orbe/RB300 - ex, ex, boxed	1399
Michell	Orbe/Wilson Benesch Act 2 - ex, smoked	1949
Michell	Orbe/SMEIV - ex, ex, boxed	1999
Michell	Tecnoarm - nr mint original version	229
Michell	QC power supply - nr mint, boxed	269
Monorio	ANDN - mm/mc phono stage	179
Mission	774 - ex, lab 80s tonearm	159
Musical Fidelity	XLP - nr mint	99
Musical Fidelity	XLPS - nr mint	119
NAM	The Source - ex, mahogany	599
NAD	533/OEMRB250 - ex, with Goldring cart	129
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Rega	Planar 2/RB250 - vgc, ex	149
Rega	Planar 3/RB300 - vgc, ex	179
Rega	Planar 7B/RB250/Mono Cart - ex, ex	75
Rotel	RC970 - ex, black, mm stage	179
Roksan	Xerxes/Talritz - ex, ex, black	449
Thorens	TD160b - ex, c/w Mission 774	249
Townshend	Elite Rock Mk2/Excaltur - ex, no optional extras	379
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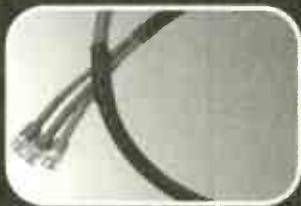
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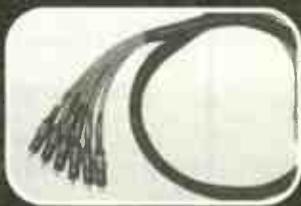


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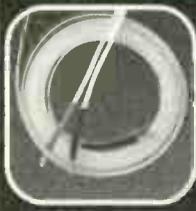
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Quad 44 pre amplifier. Boxed in good condition. £ 249	Quad 405/1. Boxed and in good condition. £ 225
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Musical Fidelity B1 integrated amplifier. Good cond £ 125	Marantz PM66SE Kl signature integrated amplifier £ 199
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Rogers Cadet integrated tube amplifier. 10W £ 175	CR Developments Carmenta Line valve pre-amp. £ 450
Hannon Kardon HK1400 line amplifier.Mint/boxed £ 199	Sumo Athena 11 pre amplifier. Line level. Superb. £ 399
Kenwood KA660D integrated amplifier. Black. £ 60	Quad 77 integrated amplifier. Mint. Boxed. Instr. £ 399
Crimson Elektrik 510/520 pre/power amplifier.Boxd. £ 249	Linn LK1 pre-amp and remote. Good condition. £ 249
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### TURNTABLES

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Thorens TD126 MK11 C/W Dynavector MC&arm £ 249	Rega planer 3 with RB300 tone arm and AT cart. £ 200

### SPEAKERS

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Heybrook Heylios. Black. Boxed. Ex condition £ 199	Rogers LS55 speakers. Rosewood. Boxed. Exc cond £ 199
Tannoy Chasworth with 12 inch monitor golds. £ 700	Mordant Short MS201 pearl. Brand new. Black £ 169
Kef C20 Bookshelf monitor speakers in black £ 60	Magneplanner MG 1.4 .Boxed with £400 oak stands £ 999

### OTHER ITEMS

Musical Fidelity XLPS MM&MC phono stage.Mint £ 100	Cyrus DAD3 Cd player with remote. Ex condition. £ 275
Quad FM1 Valve tuners. Various prices from only £ 20	Quad FM2 Valve tuner. Good condition. £ 175
Quad FM4 tuner. 5 pin din version. Good condition £ 200	Quad MC phono module for Quad 34 pre amplifier £ 40
Marantz CD63 top loader cd player. Collectable. £ 125	Phillips 101 top loading cd player. Collectable. £ 125
Trio KT880L synthesiser tuner AM/FM. Black. £ 75	SME 3009 tonearms from ..... £ 125
Decca London international tone arm. New. Boxed. £ 175	Marantz CD52 Cd player. Ex condition. £ 79
Quad 77 RDS FM tuner. Mint. Boxed. Instructions £ 399	Nakamichi CDP 2E CD player. Ex condition. £ 250
Marantz SD275 twin cassette deck. Dolby B/C £ 49	Aiwa AD-S750 Dolby B-C-S/HX pro cassette deck £ 75
Lanx Tuner. Mint.Boxed. Very unusual. Cost £549 £ 249	Quad FM3 tuner in excellent condition. £ 99

### QUAD ESL57 & ELS63 PANELS/SERVICING ETC

Full rebuild including latest Otec panels/ bass panels & cosmetics 57's £1175

Reconditioned Quad ESL57 speakers from only £999.00.pr.Why spend £4000+?

**ESL57 SPEAKERS STANDARD SERVICE £465.PR.** Ring for info.

Exchange/ recon ESL57 bass panel £150.Treble £105. ESL63 panels £ 125 refurbished.

ELS63/ESL57 speaker stands, available in black or woodgrain @ £210.00 a pair.

New socks for ELS63s £45 pr. Many other spare parts available. Please ring.

"Classique Sounds servicing restores the Quads to a position where they can hold their head high", Jon Marks. HIFI WORLD. April 1999.Full servicing facilities available.

Troughline 3 tuner service & realignment £150.00. (excludes valves. Rarely needed).  
One thing stereo decoder (back in stock ) £205.00 Ex review Hifi world.

TRANSLUCENT (somewhat of a bargain) Hifi World. Jan 1999

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New Translucent **ULTRA + Heavy duty. 99.99% pure silver (4N).**

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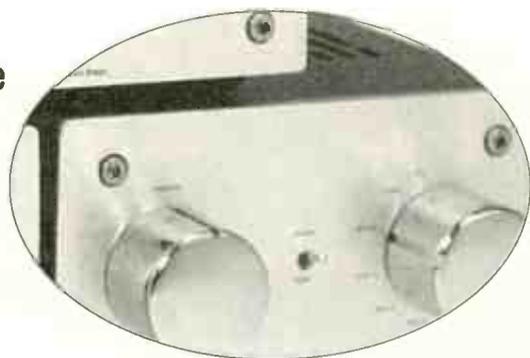
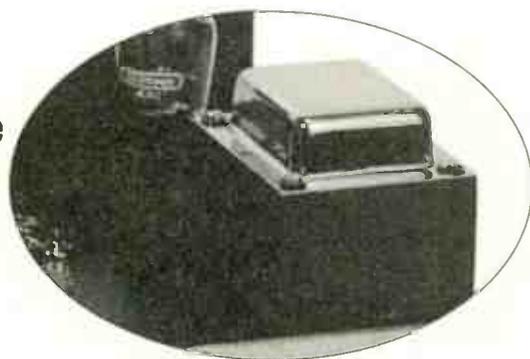
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Enter our prize draw in  
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As usual Hi-Fi World will be out in force at the annual Bristol Hi-Fi & Home Theatre extravaganza. We will have our own show booth where you'll be able to meet the staff, peruse the latest issue or simply pop in for a chat!

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# AUDUSA

## AUDUSA EUPEN CSA 2.5 AUDIO AC POWER CORD

**GNLM 05/04 and GNLM 05/2.5 ( CSA 2.5) Cable with FERRITE TECHNOLOGY** - A polymer material mixed with a considerable quantity of homogeneously fine high quality ferrite powder is extruded around the copper conductors. GNLM cables are further protected with a foil shield and a drain wire, specifically manufactured for High End audio use.

**NEW for 2004 CSM Analog, Digital and Video Interconnects, with extruded ferrite - £75 for 1m pair. RCA or XLR**

Power cables are fitted with IEC (Martin Kayser) and MK Tough plug. Cable is also available with our all steel 4, 6 and 8 way distribution blocks. We can internally rewire the distribution blocks with Eupen cable as an extra cost option. Refer to our web site for details.

**AUDUSA - OOM Silverlink OCC balanced speaker cable** stranded, silver on OFHC plus three strands of OCC for improved bass performance. Mylar infill and with designed in protection against RF and EMI.

### GNLM 05/2.5 (CSA2.5)

£48 for 1.0m, £58 for 1.5m, £68 for 2.0m.

### GNLM 05/04

£58 for 1.0m, £72 for 1.5m, £86 for 2.0m. Both GNLM cables are available off the reel and for export.

### LAT INTERNATIONAL - USA - Analogue, Digital and Video interconnects and Speaker cable better than most at double the price.

We have developed a cabling (weaving) pattern along with an unusual shielding/filtering system that gets rid of the garbage that contaminates your components. The difference you hear with our cord is astounding. Our power cord takes advantage of silver in its design through use of our proprietary Silverfuse conductors. The conductors are 10 gauge and with PTFE; the best insulation available. Fitted as standard with IEC / MK Toughplug. . 60cm £62, 90cm £75, 1.2m £88, 1.5m £101, 1.8m £112 etc Other lengths available and off the reel. **4, 6 and 8 way all steel mains distribution blocks** fitted with **UK, Schuko or USA sockets**. CE tested & approved mains distribution units manufactured of heavy gauge steel, finished in black and fitted with highest quality 13amp sockets. It has no filters, circuit breakers, surge protection, transformers, resistors, capacitors, LED's, on/off switches, chokes, regulators, just fitted with 1m of AC-2 mains cable. From £166 for 4 way, £198, 6 way, £229 for 8 way. Interconnects IC-200, IC-100, IC80, IC50, Video Vi-6, VI-6 Component, Digital -DI-20, Speaker SS800 and SS1000



LAT AC-2 Power cord compare with products costing ten times as much, then decide



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Small Royal, 60cm aluminium platter, topped with a 6mm acrylic platter and leather mat. Nylon thread belt - weight 25kg, rrp £1280 without tone-arm



Solid Machine Small with 50 cm aluminium platter and leather mat weight 20kg RRP £1095 without tonearm

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**BORDER PATROL** Amplifier just recently upgraded to S10 specification. Dual mono power supplies Weston Electric 300B valves absolutely mint condition. £6000+ new, £4000 ono. Lowther Acousta cabinets without drivers all current Lowther drivers will fit, reasonable offer accepted buyer collects. Tel: 01208 872316 (Cornwall) (Mar)

**MARK LEVINSON 32** Reference Preamp with Phono Modules £9,000. Price negotiable, consider Partex. for 28 or 280. Comes with Manual Cartons Warranty. Collection/Delivery negotiable. Tel: 01709 532 839 (Apr)

**MARK LEVINSON 37 CD** Transport and 360S DAC £5,500. Price Includes JPS SC2 AES Cable And JPS Mains Cables. Manuals, Gloves Collection/Delivery negotiable. Tel: 01709 532 839 (Apr)

**KEF REFERENCE 104-2** floorstanders £425. Fisher 400 valve receiver (spare valves) £365. Garrard 401 turntable with plinth £125. Origin Live Silver 250 tonearm. Upgraded Assemblage DAC2 £225. Tel: 01483 838 102 (Guildford) (Mar)

**REGA P3** turntable, silver, Elys cartridge, excellent condition, £200 (£390 new). Tannoy Revolution 3 floorstanding speakers, superb condition £200 (£550 new). QED Silver Anniversary bi-wire cables (2x5m) £40 (£85 new) Tel: 01296 484 029 (Bucks) (Mar)

**RAYMOND LUMLEY M150** valve amps Meridian 208 pre amp CD player Acousta Spectra II 6' floor speakers £1600. Tel: 01730 810 779 evenings. (West Sussex) (Mar)

**LINN LK100** power amplifier £200. Linn Karik I CD player £300. Linn Numerik DAC £300. Tel: 07889 840 724 (Bromley, Kent area) (Mar)

**REVOX B261** tuner mint boxed instructions £295. Pink Triangle Ordinal DAC 1307 DeCapo mint boxed instructions £275. Monarchy Audio D.I.P. mint instructions £125. Tel: Mike 01246 209 578 or 01246 570 556 (Chesterfield) (Mar)

**FOR SALE:** Unwanted competition prize. Opus top of the range four room multi room music system Value £4,200. Wanted £2,100 ono. Tel: 0121 454 1893 or Mobile 07791749921 (Mar)

**QUAD 99 CD-Pre**, boxed, 7 months, remote (£1000) £699. Arcam P75+ power amp, silver, boxed, 7 months, (£370) £220. B&W 602 S2 standmount speakers, black, £120. Tel: 0115 960 3934 or 07785 772 973 (Mar)

**PAIR LOWTHER** corner Acoustas £330. PM7 drivers, upgraded from original PM6 Excellent condition. Domestic reasons for sale. Buyer collects (Hants). Tel: 0117 902 0964 (Mar)

**LINN KARIK III** £750. Numerik £650. Kairn £650 (all latest spec), Chord 1200C £2600, Proac Response 2.5 rosewood £1800. All boxed. Mint. Buy all for £6000. Bargain high-end system. Tel: 0161 962 6319 (Mar)

**LIVING VOICE** Auditorium speakers, beech, £699. Linn LP12, Ittok LVII, Roksan Corus black Linn K9 £360. L.F.D. Mistrel phono amp black £150. Arcam Alpha 3, £50. Garrard SP25 Mk3 £10. Tel: 0161 291 9331 (Mar)

**A.V.I. SERIES 21 M.C.4.** Reference CD player, boxed, in mint condition, 3 years old, very little use, cost £1000, £325 ono. Tel: 01502 518 938 (Mar)

**PAIR OFF Dynaudio** Contour 3.0, black ash, as new, only few hours run. Cost over £3000, accept £1500 ono. Tel: 07977 115 446 (Mar)

**REL Q200E** Subwoofer. 200W, black, 11 months old, immaculate condition. 2 years warranty, only £470 (£650). No offers. Tel: 01223 511 209 (Cambridge) (Mar)

**QUAD 66** Control, 66 Pre, 306 power, 66 FM, 66 CD, instructions, £1500 (£3000+). Teac X300 tape machine, accessories, instructions, immaculate, original packaging, £250. Tel: 07710 828 286 (Brighton) (Mar)

**QUAD ESL63** speakers, brown, perfect working order. Must part with them reluctantly as moving abroad. £1300. Tel: 01903 505 868 (Mar)

**MF TRIVISTA SACD** £2250. REL Strata III £425. Ruark Equinox speakers £750. Stands Unique extended tower plus isolation shelf and support upgrade £425 ono. Tel: 01932 886 663 (Midxx) (Mar)

**MICHELL ORCA** pre-amp and Tricord Alecto monoblock power amps in excellent condition. £1550. Tel: Martin (home) 01268 764 542, (work) 01702 373 514 (Essex) (Mar)

**AUDIOLAB 8000Q** preamplifier, black £400 ono and Shure VST V cartridge £75 ono. Both with manuals and packaging. Tel: 01642 559 078 (Mar)

**B&W Nautilus 802** speakers, natural cherry finish, 18 months old, as new, £4250. Can deliver. Tel: 01795 530 326 (Kent) (Mar)

**CROFT TRANSVALVE TS1** amplifier with Vita preamp. Five months old and boxed. (£2750) £1950 ono for quick sale. Tel: 01547 550 309 (Powys) (Mar)

**COINCIDENT SPEAKER** Technology TRS-I speaker cables. 10ft (3m) single-wire pair. 9/10 condition. Recommended component 2004 by Audio.Com £390 (£780). Tel: 07815 819 318 or Email: saifulkassim@hotmail.com True Reference cable. (Mar)

**CLASSIC POWER** amplifier, crown DC300A early silver front model in superb condition, no silly offers please! £400.00 plus carriage. Tel: 07932 664480 (Mar)








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**PATHOS LOGOS £1500.**  
Densen Beat XS CD. Including Gizmo. £1500. Zingali Overture3 £1500. Zingali Prelude centre speaker £400. Audiosource Powerstation £200. Siltech London 1mtr £50 almost half price. Offers. Tel: Chris 0114 258 6946 (Sheffield) (Mar)

**AVANTGARDE UNO** horn speakers, 6 months old, clour red, perfect condition £3000. T+AV10 amplifier, new, unused, £3000. Tel: 020 8531 5979 (Mar)

**CHORD SPM 1200 (1994) & CPA 1800 (2001) Power/Pre amplifiers.** Both unmarked, black, mint with instructions. Pre still under warranty. Cost £6250, accept £1250 each. Tel: 01909 518131 (Mar)

**QUAD 989 speakers, vintage finish, 3 years old, boxed, £2750 o.v.n.o.** World Audio Design valve amp kit 6550 including Alps Blue and Jensen paper in oil coupling capacitors £475 ono. Tel: 01492 516 875 (Mar)

**QUAD II monoblocs, good condition, original valves and un-modified. Serviced and working well. £450.** Tel: 01487 824 418 daytime only. (Mar)

**WANTED: OLD Hadcock ton-earm for spares or repair.** Call 07834 737865 or Email: gyrodec1999@yahoo.co.uk (Mar)

**AUDIO RESEARCH LS9 pre-amp, boxed, remote, mint, £850 ono.** Tel: 01782 397 971 (Staffs) (Apr)

**RARE OPPORTUNITY** to purchase the superb vintage Quad II/Garrard 301 system, complete with the two stunning ESL-57 speakers. This is the actual system, as featured and reviewed in the February (last month's) edition of Hi-Fi World. Tel: Greg Thompson 01267 267 910 or Email: transinduction@aol.com (Mar)

**VINTAGE QUAD II/Garrard 301 system** as featured and reviewed in February (last month's) edition of Hi-Fi World. I have various components available to maintain total originality and superb sound quality of Quad II amplifiers. Tel: Greg Thompson 01267 267 910 or Email: transinduction@aol.com (Mar)

**SPENDOR BC1 speakers, teak with Foundation stands. Mint condition £345.** Exposure XX amplifier. Black mint condition boxed £195. Pioneer 656A DVD player, black boxed £95. Tel: 01483 855 603 (Mar)

**AUDIO RESEARCH SP9 Mk2, mint condition, original box, spare valves £800.** Kleanpower mains line conditioner, ideal for power amps £150 (£600 new). Sony RCD-W100, boxed, new £150. Tel: Jim 01733 760 688 (Mar)

**CYRUS FM7.5 tuner, purchased February 2002. Genuine, hardly used mint condition with box and manual, £225 ono.** Tel: 01332 559 626 (Mar)

**NAIM NAIT 3 with MC phono stage, Thorens TD160, Logic Datum II arm, Denon DL304 cartridge, Celestion DL8 speakers, £450 or split.** Rogers Cadet III £80. Tel: 01766 771 466 (North Wales) (Mar)

**WANTED: SHARP GF-777 4 band stereo radio cassette recorder, double cassette deck GhettoBlaster from the 1980's.** Must be in excellent/mint condition, not damaged, unmarked and fully operational. Offering £550. Telephone evenings 01865 378 578 or Email: fiskallen@aol.com (Apr)

**AUDIOVALVE PPP45 monoblocs, Eklipse pre-amp, Pioneer PD91 CD, Monarchy Audio 18B Delux DAC.** All mint condition £1200 ovno. Audiovalve Assistant Int. amp 30 watt PP mint condition £600 ovno. Tel: 01252 659 058 after 6pm (Mar)

**WANTED: OLD British valve amplifiers working or not.** Output valves, old arms and cartridges or anything interesting or unusual from the 1950's or 1960's. Large pair of speakers or drivers. Tel: 01726 812 966 (May)

**UNISON RESEARCH 'Unico' amplifier.** Hybrid design using Valve & Mosfet compenents. Less than 3 months old. RRP £900. Boxed. £625. Tel: 01628 666 526/07904 309 202 (Mar)

**AUDIOLAB 8000Q preamplifier, black £400 ono and Shure VSTV cartridge £75 ono.** Both with manuals and packaging. Tel: 01642 559 078 (Mar)

## GUIDELINES FOR BUYING AND SELLING SECOND-HAND EQUIPMENT

### FOR THE BUYER

1. Not everyone is honest  
Buyer Beware!
2. **Don't send cash!**
3. Accept no verbal guarantees.
4. Have you heard the item or something similar? If not, why do you want it?
5. Don't pretend to have knowledge - it's your fingers that will get burnt!
6. Is it working? If not, why not?
7. Has it been modified and, if so, have notes been kept?
8. Was it any good in the first place!
9. **Don't send cash!**
10. If you are in the slightest doubt, arrange an audition (see point 5). If it's too far, wait for another time.
11. Either buy it or don't: vendors are excusably impatient with 'consultation' exercises.
12. **Don't send cash!**

### FOR THE SELLER

1. Not everyone is honest  
Seller Beware!
2. Make no verbal guarantees.
3. Even 'nearly new' is still second-hand. If the manufacturer's guarantee is no longer in force, your price should reflect this.
4. There is very little intrinsic value in second-hand hi-fi: it's only worth what someone will pay for it.
5. The best guide to pricing is last month's Classifieds: that a 'classic' was worth £xxx a year or two ago is no guide. Values fall as well as rise.
6. Amateur second-hand dealing is not a big money game: you win some, you lose some.
7. Be prompt with despatch. If in doubt about buyer's bona-fides, either wash out the deal or send C.O.D.
8. There will always be time-wasters; be tolerant within reason!



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*Hi-Fi World* writers have extensive audio industry experience - from designing the best valve amplifiers, engineering bespoke pro audio installations and mastering digital discs to classic and modern hi-fi retailing. No other magazine has such a diverse wealth of editorial talent. No other magazine is able to combine the new and the old, the classic and the modern, the affordable and the expensive, the raw and the cooked, with such authority:

**DAVID PRICE**

A passion for music from an early age got DP hooked on hi-fi. His writing career began in 1990 with *New Musical Express*, and after writing for *Hi-Fi World* he joined the Doors team at *The Sunday Times*, and now edits the Home Entertainment section of *The Month* alongside this magazine. A compulsive record collector, vinyl is David's favourite tittle, and he's crazy about classic audio too - as his encyclopaedic knowledge of Japanese high end artists.



**NOEL KEYWOOD**

A leading technical journalist, his rigorous reviewing - informed by empirical measurements - has made an indelible impression on the UK hi-fi scene. After editing *Hi-Fi Answers* in the 1970s and contributing to *The Flat Response* and *Hi-Fi Review* in the 1980s, Noel went on to launch *Hi-Fi World* in 1990. His challenging approach has famously seen him expose digital audio's technical failings, and champion the cause of his beloved valve amplifiers and high sensitivity loudspeakers.



**DOMINIC TODD**

Working in hi-fi retailing since 1991 - at all levels including sales, management, purchasing, training and marketing - has given DT a forensic knowledge of modern audio and video equipment. Living at the 'coal-face' makes him brilliantly placed to comment on what kit works best and why, and to explain the politics behind it.



**HADEN BOARDMAN**

His knowledge of classic kit is almost unmatched - doubtless helped by him getting bitten by the hi-fi bug at the tender age of 9! Haden's tastes are very much of the 'valves and vinyl' ilk, his system displaying a welter of British names from the 1960s to go with his 1980s Marantz CD spinner. He's also a keen kit builder, and is not afraid to wield a soldering iron in the noble cause of superior sound.



**PATRICK CLEASBY**

After a stellar career in IT, Patrick's love of music drew him to the field of multichannel music mastering, which is now his vocation. His exhaustive knowledge of digital audio and surround sound theory and practice makes him perfectly placed to assess the latest DVD-Audio and SACD hardware and software alike.



**STEWART WENNEN**

A professional audio engineer since the 1970s, SW is still constantly amazed by the poor quality of kit that some manufacturers foist upon the buying public - but is also delighted when he finds a bargain. His redoubtable experience of designing and building his own turntables, electronics and loudspeakers through the years makes him an ideal *HFW* scribe, along with his obsession with music.



**LJK SETRIGHT**

A man whose reputation precedes him, LJKS has had a long and brilliantly distinguished writing career. Most famous for his quarter century of contributions to *CAR* magazine, he has also had over one hundred books published. A gifted, classically trained musician, his passion for hi-fi comes from an enduring love of music. A keen Radio 3 listener, LJKS's Linn Sonek turntable comes second only to his beloved Krenlenn tuner in his affections.



**WHAT IS HI-FI WORLD?**

An independent hi-fi magazine of fourteen years standing, founded by Noel Keywood - one of the UK's leading technical hi-fi writers.

**WHY IS HI-FI WORLD SPECIAL?**

Almost all hi-fi and home entertainment magazines are owned by large media corporations that publish anything that makes money, be it caravan, computer or mobile phone titles. But we're different! As the only magazine published by Audio Publishing Ltd., a small independent specialist publisher, hi-fi isn't just a business for us, it's a way of life.

**WHAT IS HI-FI WORLD'S PHILOSOPHY?**

We are the only real world audiophile magazine you can buy. No matter whether something costs 20p or £20,000, we'll tell you if it's worth having - and why. Being independent, we can write what we like, and we do. If it's recommended in these pages, it's because we've lived with it - and rate it. If we don't, then we'll not gloss over the fact for reasons of commercial gain.

We don't print reviews of bad equipment - what's the point? So everything inside these pages is interesting or excellent, and usually both. Yet still we don't pretend everything is fantastic. Not even the best equipment is right for everyone - which is why go to great lengths to explain the respective strengths and weaknesses of each bit of kit. We don't knock stuff, we say why it will work in some systems and why it won't in others - so you can make your own mind up.

Unlike some titles, we don't delude ourselves that we're the ultimate authority on everything, but the huge experience of our team ensures that we're invariably pretty close to the mark. Importantly, we back our subjective findings with technical measurements - which ensures that everything we review is a representative sample, and that we know what ancillaries are best.

We don't pretend that every new product is better than its predecessor. We're happy to recommend classic hi-fi when it's better than modern stuff. This doesn't help our advertising revenues, but it gets you closer to getting a superb sounding system for the lowest possible price.

**WHAT'S THE HI-FI WORLD SOUND?**

Go into your local high street electronics emporium, and you'll hear no end of cheap, forward, hard and showy sound bits of audio kit. As we listen to music hour after hour every day, we're not into this. We go for hi-fi - at any price - that has the ability to communicate what the musicians are trying to say. This means it must be rhythmically engaging and dynamically expressive - but must also be able to recreate a believable soundstage and a wide and varied range of tonal colours. We don't like a hard sound, nor do we enjoy the soft. It's got to be open and organic. Interestingly, there is kit at all price levels that offers this quality - although it often takes some finding. So we're happy to recommend anything from an old, long-discontinued £30 amplifier to a brand new pair of £6,000 loudspeakers - if they sound right!

# trade ads

Dealers must not advertise in the Private Classified section. Monthly consecutive insertions will be considered Trade advertising. The Publisher reserves the right to judge submissions.

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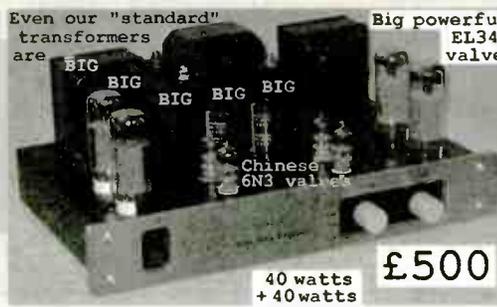
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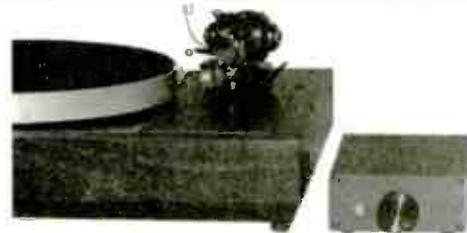
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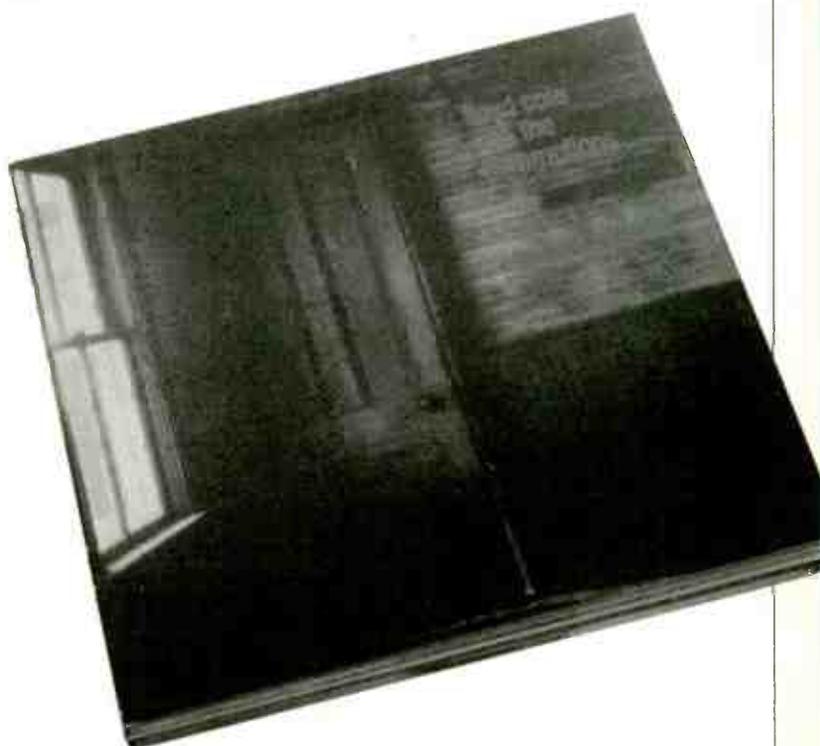
**(Remastered 2004)**

**H**ard though it is for those of us of a certain age (mid eighties students) to credit, but it really has been twenty years since the release of probably the most timeless of all the albums from that era of paisley shirts and jangling guitars. 'The Smiths' may have been more of a landmark at the time, 'High Land Hard Rain' an even more precocious debut, but the one which followed in their wake gets far more regular plays from this indie boy...

You can always tell the important musical discoveries of your life by the ability to clearly recall the moment when your ears were first beguiled by that distinctive sound. Unfortunately for me, debut Commotions single 'Perfect Skin' brings back recollections of driving past Tesco in Worksop, but that's my problem. It was then that I knew that my college days were more likely to be soundtracked by this earnest young Englishman and his Scottish band than by my erstwhile metal, prog or jazz-rock faves.

The man responsible for many of Universal Catalogue's finest reissue projects, Joe Black, initiated the anniversary re-release of 'Rattlesnakes', and despite all the necessary bits and pieces being as good as lost he and his colleagues have done their customary fine job in assembling this package – a welcome addition to the ever-expanding collection of excellent double pack 'Deluxe Editions' from the largest record label in the world. Who says the biggest can't be the best?

One of the most welcome by-products of the twentieth anniversary celebrations is that the booking of a short UK tour enabled the faithful to revisit their youth in venues such as the Hammersmith Odeon (I'm not calling it the Labatts Apollo or whatever it's known as now, for love or money). I was lucky



enough to occupy the centre of the front row in the cleared stalls of that venue, and much like the band I had the most enjoyable time as they went through the entirety of this album; the best bits of its follow up 'Easy Pieces'; and a good half of their swansong 'Mainstream'. Excellent though the later albums were there is a solid reason that the band decided to rest on 'Rattlesnakes' – one senses that they knew twenty years ago, and they know now, that they had produced a classic album.

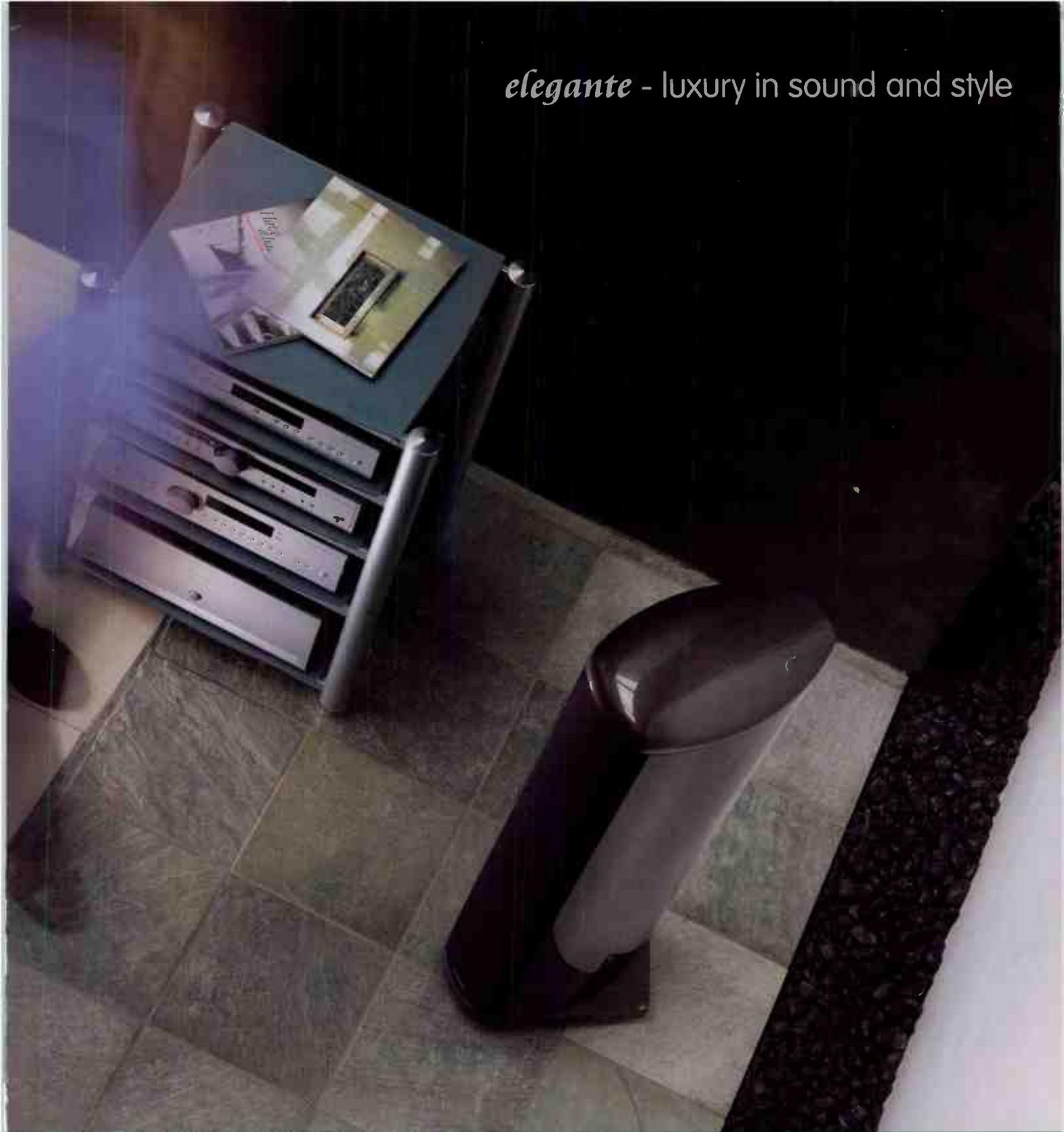
Musically the sixties influences which gave 'Rattlesnakes' much of its voguish, elitist cachet at the time of release now mean that it has achieved a similar imperviousness to the threat of being dated as many of its classic forebears. It will only be music tech geeks who will pinpoint the date of recording due to the giveaway use of the Yamaha DX7 – for the rest of us we can wallow in some of the best songs, the most musical guitar solos and the most playful lyricism of late twentieth century rock. I would be lying if I were to say that Cole's artsy reference drops didn't clang a bit with me at the time (and I was younger and more sophomoric than him!), but the passage of time enables us to be kinder to his youthful conceits, and to just enjoy the sound

of a confident young band playing fresh material with an extremely sympathetic production from Paul Hardiman.

It's hard to fault this great reissue. Despite the difficulty of reassembling graphical elements from a pre-digital time long, long ago, the double digipak looks spiffing, and there is an exhaustive selection of sleeve notes and band reflections on specific tracks, which will keep even the most ardent anorak happy for some time. The original CD issue (I think it was the seventh one I ever bought) followed roughly a year after the vinyl LP, and had four of the contemporaneous B-sides tacked onto the end. Here the first disc is reserved for the album proper, and those marvellous B-sides are joined by others, including their version of Television's 'Glory'. There are also demo, live and session tracks, each grouping tastefully separated by seven second gaps. Both discs were mastered in-house at Universal by Gary Moore, and the album sonics come across as much improved compared to that original CD from twenty years ago.

Everything is here, everything sounds great – if you want to know why so many forty year olds still cherish the memory of this record, check this definitive edition out. **PC**

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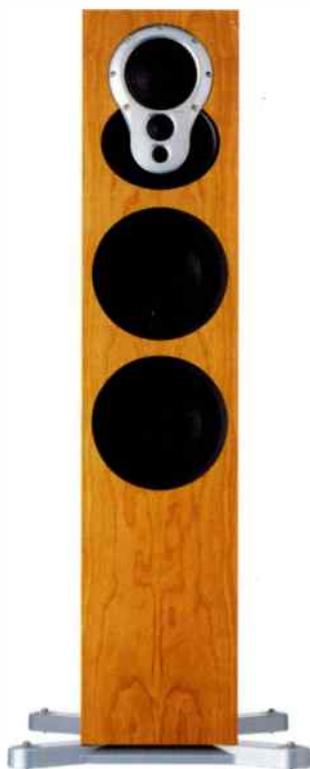
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