

hi-fi

P 20740

WORLD

JULY 2004

UK £3.40

CONTROL POWER

Michell's new Orbe Controller NC mains business!



why Tannoy's F4 is
big audio dynamite

COOL FUSION

PASSIVE PERFECTION

Creek's new OBH-22 preamp makes the grade

TANNOY

SYSTEMS SPECIAL:

three systems - and how to supercharge them!
five page guide to tuning and tweaking
the black art of record cleaning
stunning DIY system support
room acoustics explained
Whest DAP10 - snake oil or CD saviour?



JULY 2004



MORDAUNT SHORT 906 AVANT • NAD 320BEE • GRADO RS-1 •
MARANTZ PM7200KI • SONY TA-DA9000ES • MONITOR AUDIO GR20

COMPUTER AUDIO - THOMSON LYRA PDP2860 JUKEBOX

MARKET PLACE - 100s OF BARGAIN CLASSIFIEDS INSIDE!

COMPETITION - WIN AN ANATEK AUDIO A50 AMPLIFIER

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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World Radio History

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david price

This month's *Hi-Fi World* doesn't have page after page of assorted equipment reviews, confidently pronouncing on the worth (or otherwise) of what we've listened to in *isolation*. Rather, it's all about system building - hi-fi components making music *together*...

'Synergy' is a much-maligned word, but if you want the best possible sound-per-pound, then it's the beginning and the end. Spending £300 on a well matched

system of classic hi-fi separates will give you more music than that a few grand thrown in the wrong direction. Which is why this issue is all about mixing, matching, tuning and tweaking.

You can read the other magazines for whizz-bang equipment reviews - 'this is great, that sucks' - but if you want to know the key to getting the best performance from whatever equipment you have now, or intend to buy in future, then look no further...

To wit, we start the issue with three case studies. Our reviewers were given the chance to come up with an interesting assemblage of gear on fixed budgets. So we have an entry level two channel set-up from Dominic Todd, a madcap vinyl combo from Stewart Wennen, and a multichannel marvel from Patrick Cleasby. Now, you may not desire any of these, but read the reports for an insight into how - and why - they work so well together!

We've got no less than six pages devoted to showing you how to fettle your existing system to give of its best - there's advice on placement, alignment, interconnects, cabling, mains and supports, and even a look at how you can transform your system with a few hours work and even less cash by building a sand box. Then there's an in-depth feature on optimising your listening room's acoustics for the best possible sound, and an interview with Noel Lee, the name behind Monster Cable and arguably the first man to make interconnects respectable. Finally, Whest Audio's brand new DAPI0.R audio processor promises to transform CD sound, but does it deliver? Find out inside!

Elsewhere, this issue has lots of cool new kit - from the Marantz PM7200KI amplifier (complete with switchable Class A operation) and Mordaunt Short MS906 Avant floorstanding loudspeakers, to the brilliant value new Perception Digital HD jukebox and Michell Orbe Controller NC.

Factor in five pages of interesting and erudite comment, plus the most comprehensive buying guide to classic and modern hi-fi you'll find, and there are countless reasons to upgrade to *Hi-Fi World* magazine!

David Price

how we test the products:

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

WORLD VERDICTS:

As a rule we only review products we find interesting, so don't expect too many low scores. Likewise, five globe awards will be few and far between because there's only one superlative product of its type. The £ sign denotes great value for money.

● ● ● ● ●	OUTSTANDING	- Simply the best.
● ● ● ● ●	EXCELLENT	- Extremely capable.
● ● ● ● ●	GOOD	- Worth auditioning.
● ● ● ● ●	MEDIOCRE	- Unremarkable.
● ● ● ● ●	POOR	- Seriously flawed.
£	VALUE	- Keenly priced.

www.hi-fiworld.co.uk

HI-FI WORLD

SUITE G4, ARGO HOUSE
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A definitive guide into getting the very best out of your existing equipment, this six-page odyssey encompasses cleaning, cabling and interconnects, supports and positioning. Along the way, there are dozens of recommended products ranging in price from £5 to £300. David Price is your host...

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visit our website for a comprehensive list of all the products we have reviewed over the past 11 years

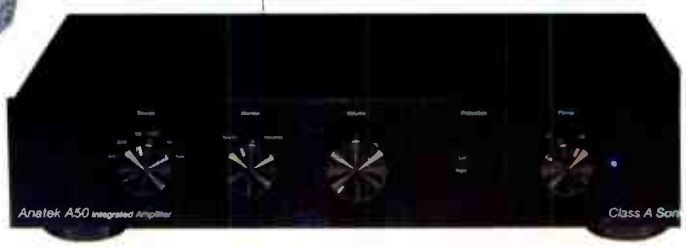
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Your chance to acquire the superb Anatek Audio A50 integrated amplifier for the price of a postage stamp!
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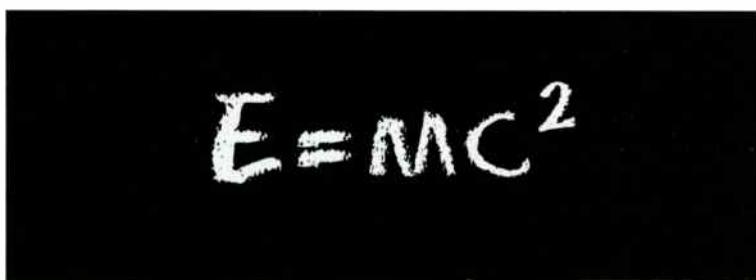


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Pure Gold



Pure Genius



Pure Sound

Linn's first combined stereo and multi-channel audio pre-amplifier, the EXOTIK, is designed for the music lover who wants the most accurate, involving sound.

EXOTIK offers access to a new generation of multi-channel music formats without compromise.

If your interest is purely 2-channel performance, EXOTIK will consistently exceed expectations.

If you've moved (or might consider moving) into multi-channel audio, EXOTIK is also the perfect partner for your multi-format source product. Combined with a universal disc player such as Linn's UNIDISK 1.1 you will be able to extract the maximum performance possible from the latest multi-channel formats including SACD and DVD-Audio.

A digital audio module is also planned and will be made available separately to enable EXOTIK owners to experience multi-channel audio with surround sound decoding without having to upgrade their stereo source product. This means movies or music available only in stereo can be enjoyed in the latest multi-channel surround formats including Dolby Pro Logic II for an authentic cinematic sound experience.

So whatever your interest, the EXOTIK offers purist audio performance and will improve any high-performance audio system.

Linn Products Limited.

For more information or a demonstration

call 0500 888 909 or email helpline@linn.co.uk

www.linn.co.uk

email:news@hi-fiworld.co.uk

news



AV-ING FUN!

Arcam's new (£1299.99) AVR300 AV receiver is an interesting synthesis of traditional hi-fi best practice and feature-packed surround sound design. Described as "a lot more than crash and boom", it's said to be a very high performance 7.1 audiophile component that makes use of the experience gained designing Arcam's £5500.00 FMJ AV8/P7 combo, to deliver both superb quality on music and dramatic dynamics from movies, without compromising the advanced videophile feature set required by today's AV marketplace. It boasts the new Crystal CS49400, with 24-bit and 32-bit processing, at its heart, with the 24bit audio DACs, ADCs and volume controls from Wolfson Microelectronics. Support is included for all current audio decoding, including DTS 96/24, DTS-ES, Dolby Digital EX, Dolby Pro Logic IIx and more. Video supports both component, RGB and S-video, and includes upconversion from composite or S-video to component or RGB to help minimise the number of cable runs to a display. Three component / RGB video inputs are available, all with sufficient bandwidth for HDTV. A programmable master audio delay of up to 220 milliseconds permits use of digital displays without loss of lip sync. Its huge toroidal power transformer and seven identical ultra low distortion power amplifiers are designed to audiophile standards. There is a direct signal path for both stereo signals and the 7.1 multi-channel input. Power output is 120 Watts per channel into 4 or 8 ohms (two channels driven) and 100 Watts per channel with all seven channels driven. Available in silver or black finishes, it's surprisingly compact at 430x145x450mm. For details, click on www.arcam.co.uk.



HI, PERFORMANCE

This year's Munich High End hi-fi show saw the launch of Mordaunt Short's new Performance high end loudspeaker range. The four-strong line-up sports proprietary polymer resin cabinet construction, which makes possible radical sculpting and has inherent mechanical strength, significantly improving sound quality, it is claimed. Its Aspirated Tweeter Technology sees an elongated metal diffuser floating freely from the rest of the cabinet. Along its length are strategically positioned contoured vents eliminating coloration which plagues traditional, closed-back cabinets. ATTTM means the Performance tweeter literally 'breathes', says Mordaunt Short. We also see the latest evolution of the company's anodised aluminium CPCTM (Continuous Profile Cone) driver technology, mounted on unique SDS (Sound Deadening Steel) chassis, while bespoke silver-plated wiring is used throughout. The four-strong range comprises a three-way floorstander with a £3,500 price, plus dedicated rear and centre channels, along with a high power subwoofer with digital amplifier. For more details, click on www.mordauntshort.co.uk

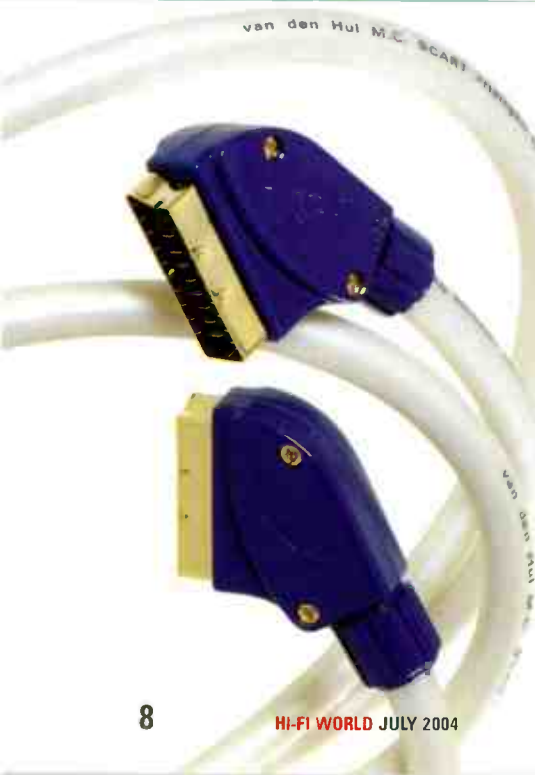
IDRIVE MY IPOD

Belkin's new iPod Mobile Cassette Adapter plugs into your iPod and slots into your car's in-dash cassette player to connect to your car stereo. Claimed to provide "outstanding audio performance", it costs £14.98. The iPod Tunedock Car Holder does what it says on the tin, so to speak - place your iPod into the Tunedock and the suction cup will hold it in position. The iPod Auto Kit and Dock Connector completes the package, charging the iPod from your car's cigarette lighter. With an adjustable amplifier and a 3.5mm audio-out jack, the Audio Kit can be used in conjunction with the Cassette Adapter to play your iPod through your car stereo. An LED lights to show it's properly connected, and there's a replaceable safety fuse to protect from short circuits. Price is £32.99 from www.dabs.com.



MARKS THE SPOT

After a period of apparent inactivity, Cyrus is back with two brand new products which, the company points out, feature 'vastly different technologies whose roots lie separated by sixty years'. The new Phono X is a response to the lack of a phono stage in the line up. It claims to be 'one of the most advanced turntable pickup amplifiers'. Compatible with both moving coil and moving magnet cartridges, there are inputs for both, along with a front mounted selector, meaning the Phono X effectively offers two swappable phono inputs. Price is £750. DAC X is a new digital to audio converter, featuring '192kHz DAC technology'. Interestingly, it can be ordered (or upgraded) with dual mono, fully balanced preamplifier cards built in, whereupon it becomes the 'DAC XP'. Prices are £1,000 and £2,000 respectively. For more information, click on: www.cyrusaudio.com



LEAD-ING EDGE DESIGN

van den Hul's The SCART boasts exotic materials and high-end performance for the "very sensible price" of £80/m. This new high quality wide-bandwidth 21 pin SCART cable is said to deliver a clear and sharp image, superb colour definition, vivid contrast and lots of fine detail, even on long runs. High-purity dense Silver-Coated Matched Crystal Oxygen Free Copper (MCOFC) cores & shields, special internal cell-PE insulation and extensive extra external shielding are featured, along with a pearl white Hülliflex 4 jacket for protection against mechanical and environmental damage. For details, point your web browser at www.vandenhul.com

ON THE WAY TO WEMBLEY

Wembley Loudspeaker has over thirty two years experience in repairing a wide range of hi-fi classic speakers, and returning them to their original sound when they begin to lose their clarity and strength. For more information, click on: www.wembleyloudspeaker.com.



PEAK PRACTICE

The Sound Practice is new audio dealership in St Albans, Herts., specialising in two channel music systems from Living Voice, Border Patrol, Neat Acoustics, Tom Evans Audio Design, Resolution Audio, LFD Audio, Audio Physic and DNMI/ Reson. Simplicity is the key, just pure two channel music systems presented in an informal environment where they can speak for themselves and clients can get to know them intimately. The approach is highly system lead, blending components that in some cases have been designed around each other in order to build solutions that deliver musical performance that is far greater than the sum of their parts. Amen to that, so say us! Contact James Almey on 01727 893 928, or click on www.thesoundpractice.com

WORTH THE WEIGHT

Musical Fidelity's new kW 500 integrated amplifier is the latest in an extremely interesting and original product line-up. This £3,995 is stunningly styled - far more successful than the last range of high end separates, in our humble opinion - and some interesting engineering. The promise is of superb sound at high end hi-fi prices. The new kW 500 hopes to continue Musical Fidelity's tradition of making superb monster integrated amps, from the A1000 of the early 1990s through to the Nu-Vista M3 and Tri-Vista 300 of late. The amplifier is claimed to offer 'similar performance' to the original kW set-up, with the same kind of unburstable power delivery, but in a more compact case. It sports a new-to-the-marque military specification tube dubbed mu-vista (better known as 6112), claimed to be quieter, more linear and with far better low frequency noise than the triode. "No sonic footprint" is the claim, along with massive power and current delivery, virtually limitless stability margins, almost no distortion from virtually DC to in excess of 100kHz, with minimal feedback, and super-quiet mechanical and electrical performance. For more details, contact Musical Fidelity on 020 8900 2866.



BRIM FULL OF CHAKRA

Linn's new Klimax Chakra 500 Twin power amplifier is claimed to be, "simply the finest stereo power amplifier Linn has ever made", no less. Its audio circuit topology is the result of more than five years continuous development, using a patent-pending array of large bi-polar transistors as boosters, around a single monolithic. Linn says that when output current is less than a few amps, all power output comes from the monolithic, maximising the speed and linearity properties, but at higher output currents the bi-polars provide the majority of the output current, leaving the monolithic to operate well within its capability, able to correct any error instantaneously. Even under extreme overload conditions, like short circuit, the monolithic never delivers more than a fraction of its safe output, while separate circuitry protects the bi-polars, and so with safe current output virtually unlimited. It is highly efficient, running cooler than any previous Linn amplifier design. The machined-from-solid clamshell construction of the KLIMAX casework remains unchanged except for the incorporation of the discrete CHAKRA symbol denoting the upgrade on the front panel. The compact aluminium case protects, screens and stabilises the internal electronics and performs as the heat exchanger to cool the amplifier circuitry, with backup fan-assisted cooling. For more information, click on www.linn.co.uk

ISOTEK TALK

Isotek's new Full System Enhancer CD is claimed to be able to burn-in, demagnetise and rejuvenate an entire audio system allowing it to function at its best. It features three tracks, which are a series of complex composite-algorithm signals designed to both thoroughly burn-in the system and break down magnetic fields leading to complete demagnetisation, suitable for all systems. Click on www.isoteksystems.com for more information.



next issue

August's *Hi-Fi World* is all about loudspeakers. Our supertest puts a variety of standmounters and floor-standers against one another, and throws in a classic to boot! (Look out for the brand new Epos M22 and Tannoy Fusion 2 in the mix.) We show you how speakers work, what to look for when buying and how to best set them up - including a feature on room acoustics, plus how to tune your speakers to your home. Factor in affordable amplifier esoterica from Audio Analogue and Sonneteer, plus digital greatness from Musical Fidelity and Marantz, and next month's issue should be another essential purchase!

next issue

Walrus Systems

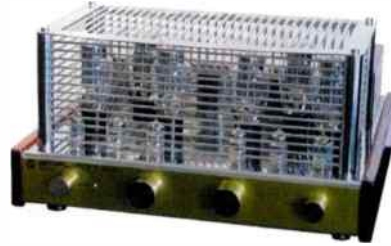
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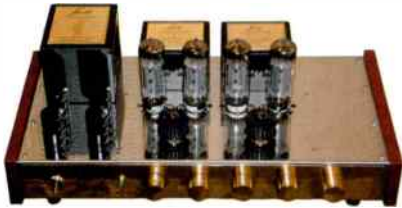
email: mail@walrus.co.uk

web: www.walrus.co.uk



Amplifon WL25 (left): 28W/channel using 6P3, £795
 Amplifon WT40 (centre): 40W/channel using 6C33, £1995
 Amplifon WT30 II (right): 31W/channel using 6H13, £1395

Amplifon is proving to be a huge success both with reviewers and customers alike - we are delighted! Now made in the EC (a warm welcome to our Polish neighbours is in order), this range of three models, all superbly built, all featuring automatic biasing, and all with large, wide bandwidth toroidal output transformers suitable for 4 or 8 Ohms, offer superb value for money. Sound quality is reminiscent of the best classic designs of the past, but modern circuit techniques and transformers give an authority of presentation and power reserve often lacking in older designs. Truly modern classics!



The Jadis Orchestra Reference (left) from France, at £1699. Output of 40W/ch using KT90s, and even featuring that long missed attribute, tone controls - my, takes me back!



The Consonance M100S (right), £1595, is proving to be a reviewer's favourite, offering a delicacy which is a speciality of the 300B output valve, giving here 25W/channel.



For people who prefer the authentic Star Trek look, the Shanling STP80 (left) fits the bill perfectly! With superb build quality, remote control, digital level indicator, 35W/ch output, all for a mere £1295. Oh, it sounds good too, by the way.



The Audiovalve Assistant 20 (yes, it is spelt like that) is a little gem from Germany, with a very musical performance - sweet as a nut, we say. 30W/ch output, in a neat chassis, for £1600.



The Musical Fidelity Trivista DAC: We have secured some of the last remaining UK stock of this brilliant device. An utter bargain for £1200 - and, as they say, once it's gone, it's gone! Don't delay - pick up the phone now.



Cawsey may not be the best known cable (others spend more on advertising) but it's quite possibly the best sounding. We have been selling these Australian made silver interconnects for several years and can recommend them without reservation. From £250 to £900 per metre set.



Slinkylinks are solid silver air dielectric cables with the latest bullet plugs, fantastic sound at an amazingly low price: £195 for a 1.2m set!



air tangent amazon amphon amplifon apollo furniture argento audible illusions audio physic audiovalve breuer dynamic brinkmann cabasse cartridge man cawsey chord electronics clearaudio clearcover consonance decca london dnm duevel dynavector ear yoshino ecosse final lab graham slee hadcock heart incognito infinity isolda jadis jbl k2 klimo koetsu korato lavardin loricraft lyra michell engineering morch musical fidelity nordost nottingham analogue opus 3 origin live ortofon papworth pro-ject rega revolver ringmat roksan shun mook shanling shelter slinkylinks sme sonneteer spendor stax sugden sumiko tannoy tci cables tivoli audio tom evans townshend audio transfiguration trichord trigon van den hul voodoo wireworld xlo

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 attests.



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 Sondek turntable comes second only to his beloved Kremlinn 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!

assemblage

There's more to life than reviews, you know. While we hi-fi hacks do our best to predict how whatever bit of kit we're testing will perform in the real world, there's no substitute for 'sucking and seeing'. To wit, rather than doing our usual 'supertest' this month, we asked three writers to put together systems and then explain how they got the best from them. David Price takes up the story...



Hi-fi magazine readers frighten me even more than hi-fi magazine writers. It never ceases to amaze that a rave review - complete with that extra, all important, fifth star or globe - pushes people into shops with wallets akimbo, credit cards ready.

Are audio buyers really that trusting of hi-fi hacks? Why do they show such blind faith in the ability of one reviewer on one day in one system with one particular room acoustic, one music taste, one set of prejudices and preconceptions, to deliver a definitive verdict on a product that may actually make or break it in the marketplace?

Frankly, it's daft. But I suppose we're all lazy consumers at heart, and many of us simply can't be bothered to go into great detail as to the relative merits of one product against another. Hence the simple appeal of a 'World Winner'-type tag (well, we don't do that sort of thing, but other mags do, if you get my drift)... It's a sort of shortcut, I guess.

This of course completely misses the point - as this supposed shortcut can actually lead you a merry dance three times around the block as you try to get back on track. You see, there are millions of permutations of sources, amplifiers and loudspeakers - and that's before you factor in the cables, interconnects and supports! If you're really going to be definitive as a magazine, surely the best approach is to review specific systems - detailed right down to the make of mains plugs?

Well, that's the idea behind this month's supertest. We've lined up three very different systems, employing varying philosophies, formats and budgets. First, Dominic Todd takes an eminently 'sensible shoes' approach for his £1,000

starter system. He's played it straight-down-the-line, showing his knack for assembling a consummately well balanced combination. He's cut his cloth very much in the modern way - 25% for each of the three components, and the final quarter for the stands, supports and cabling.

Second, we enter the wacky world of Stewart Wennen. He's shown some very interesting thinking, allied to some good old fashioned practice too. He's allocated nearly 60% of the budget to his source. This is rare in these days of digital, but was practically the norm some twenty years ago when vinyl was the only serious front end - which it is in his system too. He's also opted to use a 'pro audio' product in an attempt to give him serious wallop at a low price (which is what pro stuff does, along with not blowing up when you turn the volume past one o'clock...) Pro gear has a stigma (poor sound quality, lack of sophistication) in the hi-fi arena, but like all stigmas, it's just prejudice and therefore well worth ignoring. Then, he's gone for a pretty inexpensive pair of speakers - costing one ninth of the source! - which he's spent weeks tuning and fettling.

Third is Patrick Cleasby's set-up. He's gone off in another direction. This time it's a largely one-make, high end multichannel system. He's chosen a digital linking SACD player and processor/amplifier combo for maximum signal integrity, and then piped it out to a brace of excellent mid-price floorstanders. Many hours were taken setting it up, with the aid of its elaborate digital self-calibration system and amazing acoustic configurability, and the whole lot was sealed with some choice interconnects. Although multichannel surround, it's music only - and it shows. Enjoy!

SYSTEM TUNING SPECIAL	
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NAME: DOMINIC TODD
BUDGET: £1,000
SOURCE: Cambridge Audio Azur 640C CD player
AMPLIFICATION: NAD 320BEE integrated amplifier
LOUDSPEAKERS: KEF Coda 70 loudspeakers



Several months ago I reviewed a complete NAD system. Although it performed well, it was frustrating to think that, were I able to tweak it a little, it could have sounded so much better. Well, now's my chance to do just that and, in the time honoured tradition of separates, cherry-pick my favourite budget system!

In this set-up, audio nirvana has hopefully been achieved by seeking out three manufacturers each with a rich heritage in their particular field and strong contenders in today's market place. This is important as no matter how worthy a manufacturer's past; it's no guarantee of a decent present day product.

No one could accuse the Cambridge Audio Azur 640C of not having the mettle to uphold the honour of its forbears. With classics such as the CDI and CD4SE, Cambridge really knows how to produce a decent CD player. I've chosen the 640 over the 540 model, as the gains in sound quality are really quite significant for your extra £50. The Wolfson DAC is upgraded from the WM8716 to the posher WM8740, and it even has its own power supply. Combined with updated filters this pushes the quoted signal to noise ratio up from 100dB to 117dB. It's a difference you really can hear, with superior separation and greatly improved dynamics making the 640C one of the finest CD players under £500.

When it comes to budget amplification NAD, of course, has an equally envious reputation. The 3020

was a legend in its time and, with the prices it still fetches second-hand today, has proven it's still a force to be reckoned with. You can't actually buy a new 3020 today but you can buy its descendant, the C320BEE. The BEE part of the name references Bjorn Erik Edvardson, NAD's Scandinavian audio director, who as well as designing the 3020, has breathed life into the already decent C320.

Like the Cambridge, it features top quality audio components for the money. The Holmgren Toroidal power supply provides a useful 50wpc, and is matched by a Class-A modular preamp stage and discrete circuitry. Typical of NAD, you'll find the power rating conservative. When we

select. Whilst there is little competition for NAD and Cambridge at the budget end of the market, the £200 'speaker sector is heavily fought. Mission, Mordaunt Short, Acoustic Energy, Epos, Tannoy and B&W all deserve a look in here, yet I settled on the KEF Coda 70s as they are simply the finest all rounder at £200 in my opinion. Of course, as with NAD and Cambridge, KEF too has a rich heritage that goes way back when with Cresta and Coda models. Equally, though, their current model is still top of the pile. When I reviewed the Coda 70 back in October 2002 I felt the model to be, "one of the best at the price". That hasn't changed, and just one look at them should convince you why. The

"the system offers first-rate rhythm, timing and sheer cohesion"

measured the amp' in October 2002, we found the actual power output to be more like 80wpc! As you'd imagine from an integrated with such a generous power output, the sound quality is solid and weighty. Yet it's also unusually subtle and textured for a product of this price. It's these qualities that lead me to it over the Cambridge Azur 640A amp that, good though it is, sounds a little mechanical in comparison. Feature-wise the NAD is fully loaded, with only the lack of a second set of 'speaker outlets being a potential hindrance.

Of all the three components, the 'speakers proved the hardest to

Meditate cabinet is immaculately finished in a real wood veneer good enough to grace a 'speaker of twice the price. Although the paper cone and aluminium tweeter may not look much, it's the way they are mounted in a rigid die-cast chassis that so impresses. However you look at, or indeed measure, this 'speaker it shows signs of being superbly engineered. The smooth yet responsive balance should suit the others perfectly, and the slight lack of real bass should be compensated for to a degree by the NAD's meaty bottom end.

The downsides of splitting the electronics are two separate remote



with

controls and, in comparison to the Cambridge's, the NAD remote does look rather plasticky. With regard to aesthetics, wonder of wonders, both units are now available in silver. This gets over the awkwardness that having a grey NAD in a black system always used to create. There are still design differences, such as the front panel material and colour of screen-printing, yet you'd have to be extremely picky not to be happy with the looks of this budget combo.

SOUND QUALITY

Of course the main reason for going for a budget separate system in the first place is not style, but sound quality. Rigging these three up didn't disappoint. Roysopp's 'So Easy' set the ball rolling with an immediately appealing and involving sound. The solid and expansive bass response suggested that the C320BEE did indeed play its part in filling out the KEF's bottom end. The bass still didn't quite reach the lowest depths of some floorstanders, but then the pay off came in superb timing that no floorstander of this price could match. Short of a full Naim set up it would be hard to think of a combination with such an addictive sense of rhythm and drive. Given this, it's perhaps surprising to find that the soundstage is far from sparse. There was excellent depth of sound and broad staging. It didn't reach quite so far into the room as it might have done; yet the balance struck proved involving without being intrusive. Overall, and despite its timing and pace, the sound was on the warmer side of neutral. Given the modern preference for wooden floors and sparser furniture, though, I don't think that this would be such a bad thing within many people's listening environments. It also makes for a fatigue-free listen over longer periods of time.

The White Stripes' 'Seven Nation Army' provided a sound somewhat

leaner and rawer. Truth be told, the combo was perhaps a tad on the overly refined side here. The electric guitar had fine definition and presence, but didn't rip from the 'speakers quite as it should. I would put this characteristic down to the KEF's rather polite presentation but, as we shall see later, one that's not irredeemable. In other respects, the combo came up trumps. The percussion had the sort of leading edge attack that really drove the song along. Vocals were well separated, textured and pushed forward into the room. The best aspect of all was the fact that nothing sounded overblown. With the exception of the guitar, it was an exciting performance, yet one that could fully recreate the ambience of the recording studio complete with its rather old-fashioned kit.

There was no shortage of realism when it came to Q.T. Quartet's 'Hold That Sucker Down', either.

Many 'speakers struggle with the pulsating upper bass line that can appear to want to move just a little faster than the woofer cone wants to. But there was no such problem with the Coda 70's small paper unit. The system set a cracking and suitably relentless pace that I would challenge anyone not to tap their foot, or at least nod their head, too. In short it did a super job in building the drama and tension of the piece and then letting it rip with an ardent and dynamic intensity. As

Roysopp's 'So Easy', perhaps the lowest bass notes could have been a little lower. This would have further enhanced the dynamic response, yet I doubt that the few 'speakers capable of this would equal the coherent and pacy response of the KEFs.

When I first reviewed the KEFs I was especially impressed by their consistency with a broad range of music, and it was this marvellous quality that came to the fore again when I switched to Classical music and Rimsky-Korsakov's Sheherazade. With 'The Story of the Kalendar Prince', the system was most beguiling. For a metal domed tweeter the KEF's is remarkably sweet with string tones. Yet, unlike some, this sweetness isn't to the detriment of



detail, far from it in fact. Each instrument had plenty of space around it and subtle string strokes could easily be depicted. Where the system really astounded was that whilst strings were smoothly and sweetly portrayed, the percussion and brass section were equally realistic. This time, though, it was vibrant, occasionally brash but always utterly convincing that here was an orchestra of divergent character and not one glossed with the same sonic

brush.

As it stands I feel that the system offers first-rate rhythm, timing and sheer cohesion with a wide range of music. It's the sort of system that you could put any music on, sit back and enjoy without wishing for more bite or refinement. As with any hi-fi it's not perfect, and the lack of truly deep bass and occasional over refinement of sound are its vices, but that's not to say they can't be overcome, at least to some degree.

TWEAKS

Initially I'd set the system up on my usual Custom Design stand, Apollo Olympus 'speaker stands and with standard cables. As with all separate systems a bit of tweaking can make a world of difference, so I set about to improve the bass response without harming the systems already impressive timing and clarity. The first part was easy: system support. It would be daft to spend a disproportionate amount here, but a good quality system support and 'speaker stands will both make a noticeable difference.

Turning to the stands first, I found that the Apollo Olympus stands actually suited the KEFs very well. Essentially they prefer a stand that's 24" in height and with a solid column as opposed to open design, with the extra mass helping to flesh

a problem whereas bass wallop is. This stand combination maximises the bass' potential.

One can pay an awful lot for a system support, but I've found both the Sound Organisation Z545 (£180) and Revolver R105 (£150) to be superb value for money. They both offer glass shelves which tend to offer a slightly brighter sound, and the Revolver is even fully assembled, so it's particularly rigid. Using either should focus the sound stage, improve separation and also provide practical benefits such as component cooling. A neat touch with the Revolver is to fill the chunky support legs with sand, adding further damping isolation.

With any budget system my automatic recommendation would usually be DNM Reson 'speaker cable and interconnect. Having tried this combination it did, as always, perform superbly, bringing out every last ounce of detail whilst really allowing the music to gel. Yet as musical as it was, it wasn't perhaps the most exciting of choices, so I experimented a little. Interconnect wise I settled on the Cambridge Audio Studio Reference. At £40 it's the same price as the DNM, but offers a much more expansive and bolder sound. It's a cable that I have tried before and found to be just too overpowering, but it worked a treat here. The even better news is that a slightly superior sounding half-meter version is available for £5

less. With it, The White Stripes' guitar had just that bit more attack. After trying a variety of 'speaker cables I found nothing that beat the consistency of the £6.95 per metre DNM Reson, so I stuck with it. As it's a solid core it should be kept as short

the bass response out that little bit more. If you can afford them, the Partington Super Dreadnoughts (£140), will do the job better still, but otherwise the £80 Apollo Olympus remain my choice. For best results I filled them with a mixture of sand, lead shot and polystyrene pieces, and attached the 'speakers with Black Tac. Blu-Tac will do but, if you can get hold of it, Black Tac is stickier. I wouldn't use top spikes with these 'speakers, as openness of sound isn't

as possible and I've found that lengths under 2.5m really do sound livelier than longer runs. Sticking a plug on the ends really won't make any difference so I'd save my money towards an extra, bi-wiring length, of cable instead. When I initially reviewed the system I had it bi-wired anyway, but removing it did muddy the sound, especially around the lower treble area.

The final tweak I made was to change the Cambridge's standard



mains lead for a Kemp Elektroniks Lo-Power cord. This £45 main lead is a chunky Dutch affair, and filled out the bass of the Azur 640C nicely; exactly what we were looking for. With all the tweaks completed I found just the sort of improvement in bass and attack that I'd been looking for. No, the response still wasn't as deep as that as some floorstanding rivals, but it was impressive none-the-less and, most importantly, the systems innate sense of timing had been enhanced rather than compromised. For this sort of money, for once, I'd be hard pushed to think of anything better!

PRICES:

Cambridge Azur 640C	£250
NAD C320BEE:	£220
KEF Coda 70	£200
Revolver R105	£150
Apollo Olympus 24	£80pr
Cambridge Audio Studio Ref 0.5m	£35
DNM Reson	£6.95/m
KE Low-Power cord 1.5m	£45

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Aloia PST 11.01i Hi-end 2 box pre-amp - Italian style - slick and snazzy. One lady driver. 12 months old - boxed - perfect. Well reviewed - see HiFi+	£1900	£2800
Audlonet CD player. Six months old	£1700	£2300
Voyd turntable. Black ash - reference bearing & platter - split phase psu - with SME mount	£900	£2000
Pro Ac Studio 200 - yew - nice - vgc	£1000	£2150
Rega RB900 tonearm. Boxed - unused - no offers	£500	£650
Lavardin 15 power amp. As new - 11 months - boxed - as good as new	£850	£1400
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No conversations or chit chat - take 'em away at only	£400	
Musical Fidelity M3 NuVista - 18 months - boxed	£1900	£3000
Musical Fidelity NuVista CD player - 18 months - boxed	£1900	£3000
Ariston RD11 turntable with Signet low mass arm + Living Voice Mystic Mat		
Very good - better than LP12	£350	
Roksann Xerxes Cognescenti. SME cutout. Needs service - take it away	£300	
Hovland Sapphire - unwanted gift - giveaway - no offers	£3000	£7500
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HI FI WORLD

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"Simply stated, the Origin Live Illustrious tonearm / Aurora Gold turntable produce the best musical results of any turntable I've ever heard, regardless of price....It sets a new reference"

STEREO TIMES

NAME: STEWART WENNEN
BUDGET: £5,000
SOURCE: Origin Live Aurora Gold turntable
 Hadcock Integra GH242 tonearm
 Music Maker mk 2 cartridge
AMPLIFICATION: Trichord Dino phono stage
 Creek OBH 22 preamplifier
 Tannoy TA1000 power amplifier
LOUDSPEAKERS: Tannoy Fusion 4

When our esteemed leader asked me to do this review I was very happy, because I could finally get to choose any toys I wanted! My brief was to select some synergistic components and make them work well together. Rather than going for the usual upper mid-price suspects, I decided on an eclectic mix of the weird and the wonderful. Frankly, this isn't a combination that automatically suggests itself. But it really works, and in an interesting way. By combining 'hair-shirt audiophilia' (turntable, arm, cartridge, passive pre) with good old unreconstructed pro audio punch (power amplifier) and state-of-the-art affordable domestic (phono stage, speakers), the result was big audio dynamite!

The front end comprises an Origin Live Aurora Gold turntable coupled with a Hadcock GH 242 Integra pickup arm with Music Maker mk.2 moving magnet cartridge. The turntable was used in my tonearm supertest a few months back - if you want more details, then check it out. It is an innovative suspended sprung subchassis design that's far better than the Michell turntable in my opinion, as it has very little sonic signature [neither does the Gyro! - Ed]. This is of course a very good thing as this turntable does little or no damage to the signal integrity, which is what we're all looking for from a hi-fi component!

The pickup arm I chose is the Hadcock GH 242 Integra (wired with Incognito cable) and of course it's a unipivot design. I experienced absolutely no problems using the cue lever even though the OL turntable is a sprung type of design. This is due to the very smooth operation of the lift mechanism and extremely good engineering practice.

Unipivot design arms are legendary in their stereo image reproduction and their ability to track cartridges with aplomb.

The Cartridge Man (aka Len Gregory) builds (almost entirely by hand) his Music Maker mk 2 cartridge in this country. It is a moving iron type of cartridge and so

does not suffer from the combined effects that moving coil generators have. These are generally shown as a steadily rising frequency response due to the mass of the coils as well as a lump in the response at the bass end. The Music Maker tracks at 1.6 grammes and has to be aligned so

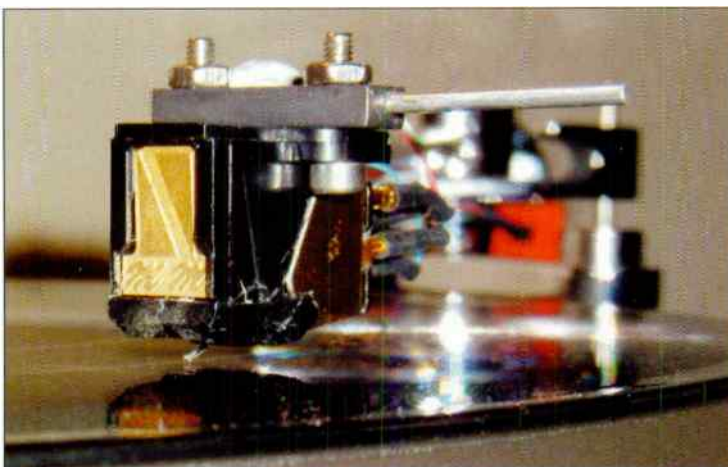
the front of the body is vertical! The output of this cartridge is 4mv and should present no problems for the Trichord Dino RIAA. It also has one of the widest bandwidths available.

This combination had one of the clearest stereo images I have heard for many years, with an almost wall-to-wall stereo image. Bass is

"I decided on an eclectic mix of the weird and the wonderful..."

extremely well reproduced with kick drums retaining their impact - a very rare occurrence - while the listening experience was made richer. The tracking ability of this arm and cartridge combination is beyond question; it even tracked my audio assault course. John Williams' guitar had a great deal of body, even though it was recorded in mono. His breathing became laboured as the pace of the music increased, and his fretwork was carried exactly - not too far forward or too deep in the image. James Brown's music had visceral content that is rarely heard, unless you have the master tape...

Creek's new OBH22 passive preamp is remote controlled, relay protected and includes a mute switch. Inside is an ALPS pot, and the whole unit is powered by a small 'wall wart' PSU. The well-penned manual warns the user against





attaching large cables, as the unit can be dragged off the support due to its very low mass! This unit gave a very good account of itself, sounding extremely crisp with a very wide stereo image. I also used a Creek CD50 Mk 2 compact disc player (reviewed as a stand alone unit some months ago), which displayed a rich, wide and very powerful quality. This turned out to be a natural match for the chosen components!

Amplification is rather unusual in that I chose a professional power amplifier from Tannoy. You may think I am crazy - after all, aren't pro amps noisy and bulky? The answer to both these questions is categorically 'no they are not!' Tannoy produces a

developments of the old Mercury MX series speakers. These, the top floorstanders in the range, stand almost one metre tall with a width of 200mm and a depth of 272mm. Elegant in their apple-effect veneer, they certainly look the business with their two bass drivers and a single treble unit between the bass drivers.

SOUND QUALITY

First, the turntable combination. Vinyl has - as a result of years of research and development - unequalled sound quality. But to extract this the turntable has to be set up correctly with the cartridge in exactly the right attitude in the pick up arm. George Hadcock's data sheet is very good at

no hint of "sizzle" at all. (This was achieved using the Cartridge Man's Digital Stylus Force Gauge, watch this space!)

Image stability from this front end was tremendous, the cartridge sounding better than some moving coils I've heard at almost three times the price. Speed and depth were exemplary. This combination was much more organic than the Music Maker and Hadcock Export. Music took on the characteristics that the producer first intended. Although the Export at £599.25 is almost one hundred pounds cheaper, I'd personally overlook this cheaper variant and go for the Integra. Put it this way, I recently sold my SME Series V as a result of listening to it... I find the imaging and the frequency extremes far better than SME's flagship model. And with the Music Maker installed in this arm, there's a natural synergy. Len Gregory's cartridge is as happy with opera as it is with soul and rock music. UB40's seminal 'Present Arms' LP was so precise that it was almost unbelievable - the trumpets had bite, while the vocals possessed a smoothness I have rarely heard even on my reference system.

As an aside, I have felt for years that a moving magnet cartridge can have a far better sound quality than a moving coil of the same price. Moving magnets are relatively immune to small capacitance differences unlike coils. They seem to get a better grip of the music, which is transferred to the amplifier and then to the listener. The Music Maker is no exception to this rule - just drop it into the groove and listen!

Moving away from the source in isolation to the system as a whole, and it sounded very good indeed - with extremely wide stereo imaging and the greatest height I have heard with commercially available units! However, bass was a little loose on all signal inputs - so this was not a front-end problem, but rather due to speaker positioning and possibly a cabling effect. So the tweaking began! I duly hefted a pair of paving slabs into position under the Fusions, and the effect was immediately obvious. Bass reproduction was noticeably better with the transient content better displayed, but the sound was still not quite right, so it was obvious that the foam reflex bungs had to go. The sound was now a great deal better,



range of affordable amplification in the shape of the TA600, TA1000 and the TA1400. All of these amplifiers are fan driven, but their fans are mounted deep inside the case so have a quiet noise floor, and they are all semiconductor designs. The heart of an amplifier is the power supply and Tannoy have not skimped here; the PSU is gigantic! With an enormous current swing available, these amplifiers show great promise. This amplifier reminded me of my reference Crown DC300a power amplifiers.

The loudspeakers are also Tannoys - this time from their 'domestic hi-fi' division. The new Fusion 4 floorstanders are natural

informing the listener as to the set up regime required for the Integra. Although the arm looks a little unusual fitted with the Music Maker, as the arm pillar seems to be too high. This is due to the shape and position of the generators inside the unit. It is most important to follow Len Gregory's instructions to the letter! As I pointed out earlier this is a high output moving magnet cartridge and does not need a step up transformer (thereby having a much smoother reproduction than a moving coil with all of the problems that coils display) so another component is left out of the listening chain. I found that this cartridge tracked (at 1.56g) very securely with

with the midrange hanging in mid-air across the front of the stereo image. Bass now had impact and seemed to support the music. But still all was not well!

A change of loudspeaker cables was called for so I dug out my reference cables, which are made by Doncaster Cables primarily for three-phase electrical installation! These cables are 25mm in diameter and contain four individual wires, sheathed in PTFE insulant; they are a screened cable with the shield surrounding the four conductors. These cost a lot less than hi-fi loudspeaker cable. Directionality is critical, so the legend on the outer sheath should read from the amplifier to the loudspeakers. Now we are cooking - tight, taut, deep bass with an almost liquid midrange and extremely smooth treble...

The Tannoy TA 1000 was not performing to its utmost so it was placed in my racking system and the signal cables were changed. I substituted the QED Qunex with a length of Musiflex professional cable, which I equipped with Neutrik XLR connectors and some fairly cheap phono connectors. The sound was dramatically different; it had pace and impact whilst still retaining the silky smooth treble and midrange that the Music Maker/ Hadcock is capable of. As a result of this cable change all of the cables were replaced with Connectronics Musiflex interconnects (in a semi-balanced configuration) and the difference was so obviously more realistic that I

started smiling as James Brown thundered into my living room. Beethoven's piano concerto no.2 with Rudolf Serkin at the Bosendorfer sounded astoundingly good, although not as extended in the bass region as with my reference ATC SCM35 loudspeakers - although the 'little' Tannoys cost a quarter of the price of the ATCs. Disc after disc was put on with the same result: sublime enjoyment and total relaxation...

CONCLUSION

Thanks to the obtuse choice of components, this is truly an unusual stereo system, but with a little tweaking, boy did it sing! Its defining characteristic is the stereo imaging and detailing, which are second to none. Its confidence and 'joie de vivre' have to be heard to be believed.

I put its obvious talents down to two things. First, the 'source first' approach, which allocates an unusually large proportion of the budget (60%) to the front end - this ensures the ancillaries have a great signal to work with. Second, the fettling. I identified the problems from the word go and took specific steps to remedy them. Careful choice of interconnects is very important, as is speaker cable. The two types I have described are amongst the best in the world and are relatively inexpensive. The net result is that this system simply plays music.



PRICES:	
Origin Live Aurora Gold	£1,470
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World Radio History

NAME:	PATRICK CLEASBY
BUDGET:	£8,000
SOURCE:	SONY SCD-XA9000ES SACD player
AMPLIFICATION:	SONY TA-DA9000ES AV amplifier
LOUDSPEAKERS:	MONITOR AUDIO GR20/GR-c loudspeakers

After DP reviewed the flagship SACD player of Sony's ES range - the SCD-XA9000ES - in favourable terms last month, I decided to match it with its natural partner, the radical DA-9000ES amp. Add four superbly clean floorstanding Monitor Audio GR-20 loudspeakers and a GR Centre, and the capabilities of the iLinked setup should be laid bare for our auditioning! As we're aiming to create a top-notch multi-channel SACD solution here, I shall concentrate on the Sony digital disc spinner's surround capabilities. One of its notable features is the presence of an iLink output, so it was only natural to try it out in digitally linked surround mode with its ES stable-mate, the DA-9000ES A/V amplifier. My particular interest was to establish if this unique "best of breed" machine, featuring digital amplification, could really cut the mustard when paired with a truly revealing speaker set-up.

Much as last month's player review began with some slight cynicism for the rationale for why SACD should exist as a format, so any consideration of why Sony has seen fit to unleash this huge beast of an amplifier upon us must be tempered with a slight tinge of the political. This amp amounts to Sony saying "look how clever we can be with DSD". It's their prerogative after all - because they invented it!

Indeed, if you're into ostentatious aesthetics and technical *tours de force*, this is an amp into which you really need to invest some time to understand the whys and the wherefores. We lucky journalistic types get to peruse a twenty nine page primer explaining all the revolutionary concepts involved in the new range of Sony ES amplifiers, and very interesting reading it makes too. The Sony badge for their digital amplification process is S-Master Pro, and the key concepts are explained in the box overleaf.

Forgetting the technological novelty of the amplifier for a moment, its positioning in the market is self-evidently at flagship 7.1 AV amplifier level. Its price point puts it slightly below the equivalent Denon and Yamaha big boxes, and accordingly it lacks their THX Ultra 2 certification, and also their Dolby Pro-logic IIx capabilities. However the Sony brand will inevitably persuade many who don't require all the latest faddy spec points to consider it. This review is not primarily intended to assess the amp's ability to render Hollywood special effects - indeed as a two box system, once set up it should be perfectly possible to operate this set-up without a television in sight.

The opportunity to give this combination an evaluation using top of the range Monitor Audio Gold Reference speakers was too good to miss - four GR-20s and a GR Centre make this a roughly £7,500 system at today's prices. If you're dedicated to SACD and aiming to get the best out of 5.1 music the only way you could better this set up would be to have a fifth GR-20 standing in front of you instead of a TV with the GR Centre on it. That having been said, the GR Centre is a substantial speaker which does a great job of matching its four

flour-standing buddies. I intend to continue using this set-up for evaluation of multi-channel software and hardware, as it really is difficult to beat for lifelike clarity and musicality.

Indeed, in a recent conversation with Rob Buckler, erstwhile Managing Director of Strongroom Studios, and therefore a man with very exacting standards when selecting speakers, he revealed to me that he runs a similar set up at home, with the exception that the surround pair are the stand mounted GR-10s. It is no surprise that he is a fan of their magical bottom end and overall tonal balance. The simple fact is that if you wish to reproduce 5.1 music which has (hopefully) been mixed on a monitoring set-up with full-range matching rear speakers the only way to do it properly is to replicate that set-up in your listening room. In this case, as we had a full set of full-range speakers we elected to dispense with a subwoofer and see if we felt its loss.

Before we get onto setting up and sonics, just a short remark on the styling of these machines. As David noted, the SACD player is a very solidly built and nicely finished unit, and the amp is more of the same. However it has to be said that





S-MASTER PRO

There have been three iterations of development of Sony's digital amplification technology, and S-Master Pro is the first to become widely available, featuring in several A/V amps in Sony's current ES range. Many features of the amplifiers' design are drawn from Sony's work on SACD 1-bit technology. Sony aims to replace existing DSP technology with processing done wherever possible on 1-bit streams. Analogue inputs are converted to DSD as soon as they enter the box, and all signals, including PCM inputs are converted to a 1-bit coding scheme called C-PLM, Complementary Pulse Length Modulation, for processing. The return to analogue only happens after amplification. Careful care is taken when dealing with single bit streams at high sampling frequencies. Sony employs a reclocking technology called the Clean Data Cycle to eliminate jitter, as well as using a hand-me-down from the original SCD-1, S-TACT (Synchronous Time Accuracy Controller) to remove pulse generator jitter. Volume adjustments to the C-PLM stream are claimed to be purer as they are done via Pulse Height Volume Control rather than by the multiplying of samples which introduces errors.

With the DC Phase Lineariser, Sony has decided to produce a circuit, the CXD9776Q, to emulate the low frequency deviations from phase linearity which characterise many analogue amps, a characteristic which, says Sony, has affected many speaker designs. Essentially it's ensuring there is flexibility to produce the familiar experience of bass with existing speakers, while hoping that future developments may result in speakers which match the phase characteristics of their new generation amps. There is a range of four settings for the DCPL lower down the ES range, whereas the DA-9000ES has seven settings. Benefits claimed for the S-Master Pro process include; the removal of crossover distortion, the reduction of thermal modulation distortion due to much lower heat generation, with thermal efficiency also meaning that internal amplifier design can be less convoluted as physical arrangement does not have to be dictated by thermal considerations. The whole is claimed to make the listening experience more musical.

the new split-level Sony styling which works well on the SACD player lends the slightly bloated DA-9000ES a disproportionate look as the lower

tier is so much fatter than the upper. Maybe not a look which will be to everyone's taste.

However the ergonomics are pleasing, with the essential audio and DSP mode buttons easily accessible on the ridge, the vital source select and volume knobs feeling satisfying, and the rest of the switchgear needed to set parameters using the unit's large display hidden behind the pull-down flap, with the five main tone and selection knobs pleasingly reminiscent of 1970s Sony Trinitron TV knobs! Disappointingly, when closed, the finish of the flap does not meld seamlessly with the rest of the front of the amp, catching the light differently. On the plus side, the addition of front mounted optical S/PDIF in is a useful addition for those who may have an interest in bringing a games machine in temporarily and enjoying their snowboarding in Dolby Digital or DTS - one for the TV-equipped home cinema crowd rather than the ascetic SACD purists methinks.

Initial set up is relatively simple for the confirmed multi-channel expert. You should find the On Screen Display option the easiest way of manually setting your speaker set-up characteristics - although navigation to all the options is possible using the device display, the operation is not particularly intuitive. Similarly, although the remote is quite a handy unit, it may take a perusal of the manual to avoid that frustrating

"can't get where I want to go" feeling. As far as connecting the XA-9000ES goes not only does the simple iLink connection make it unnecessary to use a clumsy and expensive six-channel set of interconnects, but in theory you can forget about a stereo pair too, as PCM Stereo, DSD Stereo and multi-channel DSD all pass across the iLink cable. The Sony-supplied cable is very cheap and computer looking - I cannot say I have done any comparative testing, but there are those who say they can discern differences between iLink cables, so an upgrade may be worth considering.

SOUND QUALITY

In assessing the subjective performance of this mouth-watering system, I had the benefit of a highly useful comparison with the Denon pairing reviewed last month. As the Monitor Audios were brand new out of the (very impressive, double skinned) box I ran them in for the prescribed 60 hours, using the Denon system. Once run in I was able to audition some old favourites to use as a benchmark for the Sony listening test.

The Gold Reference speakers in this configuration are a revelation, demonstrating a gorgeous level of vocal realism coupled with supremely confident and rich bass tone which says "who needs a sub"? Most impressive (although thoroughly

expected) was their ability to convey those enveloping passages of multi-channel DVD-Audio which defeat almost any set-up with satellite rears. The room-circling bass synth pulse of Foreigner's 'Juke Box Hero' is no problem, and for the first time I can hear the left wall kick drum of Porcupine Tree's 'Gravity Eyelids' as it was intended to be, along with a glorious sense of wonderfully discrete but integrated stereo sound-fields front and rear for the vocal pads. In stereo from CD, the mellifluous vocals and delicate layered orchestrations on Joni Mitchell's 'Amelia' from 'Travelogue' can all be precisely located in the soundstage, as can the tight kick from the difficult-to-render 'Atomic' by 'Blondie'. The bass playing on Snow Patrol's 'Run' in surround DSD just sounded 'for real'.

Running the same tests on the Sony duo revealed that (if I can be permitted to sully this system with some DVD-Audio) the Denon Universal player sounded just as convincing playing the same material connected using 6 interconnects to the DA-9000ES. Yet a flick of the volume control revealed that Sony's claims for lower distortion at high volumes may be very well founded, with the sound gaining immense power but retaining its distinctive clarity. Ten out of ten for successfully handling analogue as DSD.

The concerns started when auditioning the CD and SACD capabilities of the XA-9000ES through the iLink – Joni Mitchell was less convincing, Clem Burke's kick sounded weedy and buried, and Run's bass part became anonymous rather than a magical part of an uplifting whole. None of these tracks sounded anywhere like as musical as they did on the Denons. My findings seem to endorse those of DP last month – the clean and not particularly characterful Sony SACD sound is not being done any favours in partnership with this amp, but its undoubted quality may well shine in a better matched system. Apparently iLink isn't everything after all!

CONCLUSION

It will be highly interesting to see to what extent the new Sony digital amplifier template influences the designs of the other manufacturers in the years to come. Much as Sony is fighting against a huge tidal wave of established PCM-based machinery and software as it tries to advance DSD in the area of studio technology, the long history and orthodoxy of analogue amplifier

design may prove equally difficult to overturn.

The key to what happens next would seem to hang on whether the SACD format survives – why should other manufacturers move to the use of patent Sony 1-bit processes in their amplifiers as well as their universal players when there is no guarantee that DSD technology is going to endure?

In the meantime Sony's brave statement of continuing to make top flight dedicated SACD players may retain some hardcore followers. The majority of people who are interested in multi-channel and prepared to invest the considerable sums necessary in amplification and speakers will find the lure of universal machines difficult resist – unless the SACD community succeed in their attempts to influence the music industry to standardise on their format, which seems unlikely at the present time, and even if that happened the appeal of single box with DVD-Video would still be there.

For the moment, I would predict that these Sony machines and their successors will not be joined by many comparable ones from other manufacturers just yet. Their undoubtedly clean aural performance will appeal to the Sony faithful, and their single-minded technological uniqueness is to be admired, but methinks that many in search of more involvement and excitement may well look elsewhere.



PRICES	
Sony SCD-XA9000ES SACD player	£1,600
Sony TA-DA9000ES AV amplifier	£2,600
Monitor Audio GR20 x 4	£3,000
Monitor Audio GR-C	£500

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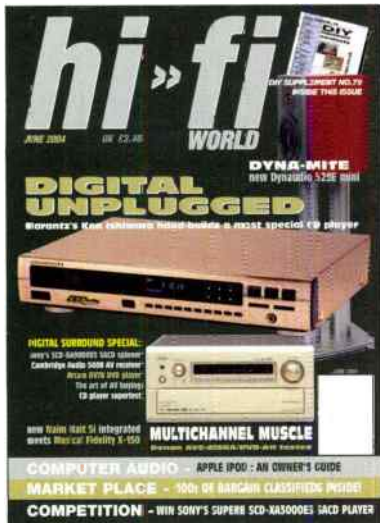
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WIN A SUPERB **ANATEK AUDIO A50 INTEGRATED AMPLIFIER** WORTH £1,000 IN THIS MONTH'S COMPETITION!

Anatek's A50 is an amplifier with a difference, giving Class A performance without the associated issues of hot running. In Hi-Fi World's recent review, David Price wrote:

"Pulling it out of the box, I was magically transported back to the late eighties... Aside from the blue power LED, it was pure 1988-style minimalism. The Anatek is just as amplifiers used to be, with nothing more than a volume control, input selector, tape monitor, power switch and err, that's it. Inside, designer Clive Read has come up with - so Anatek says - patented output topology that 'resolves the performance issues associated with conventional output stages', essentially giving Class A performance without the problem associated with pure Class A output

stages, that of excessive heat. Yet still the amplifier is not biased towards Class AB

operation, which

is cooler but produces sonically deleterious crossover distortion. Still, while it's true that the A50 runs far cooler than classic Class A designs like Musical Fidelity's A1 and Sugden's A21a, it is not true to say that it 'runs cool', for it does not.

The Anatek's output stage is direct coupled, eliminating the need for sound-degrading electrolytic capacitors in the audio path. The circuitry is designed to have low dc drift, so thermal memory effects - the momentary distortion caused by loud transients - are negligible, and the amplifier has a single low frequency time constant, the input coupling capacitor, for fast bass. A non-invasive electronic protection system is also featured, that shuts down the output stage when the output current reaches 12 amps. Finally, the inputs, outputs and mains inlet of the A50 all have RF filtering, while all amplifying stages have minimal gain at RF.

It's not bright, brittle, chrome plated or clanky. Indeed, when you listen at length, it's quite spacious and there's an amazing lack of midband mush... boy doesn't that midband impress! Oh yes. Compared to the big, commanding Roksan (Caspian). It's obviously less muscular... but there's still something very special



about the A50 that - to my ears - makes it win the day, and that is the fine and desirable combination of transparency and fluidity. Put simply, it sounds less 'mushy' than the already admirably open Roksan by a very fair way. You can hear right through the soundstage, to the studio itself. You find a far greater repertoire of 'sounds' with the Anatek.

The most significant advantage of the A50 is its midband fluidity. Although the Roksan is a very musical amp, the Anatek is more so. It has a valve-like lucidity that makes listening to the music a more emotional and less cerebral (or physical) thing. It has a brilliant command of the complex rhythms on 'Out of Here', or the lazy but very infectious groove on 'Love is Alright'... Put simply, it's a hoot to hear - time and time again, you can listen to A50 at either full tilt or as background music and it always seduces, yet never offends."

If you'd like to win this superb amplifier, then all you have to do is answer these four easy questions. Send your entries to: July Competition, Hi-Fi World Magazine, Unit G4, Argo House, The Park Business Centre, Kilburn Park Road, London, NW6 5LF.

Competition Questions

[1] What did the Anatek's styling remind DP of?
[a] 1980s minimalism
[b] 1960s modernism
[c] 18th century classicism
[d] 1990s post-modernism

[2] What is a problem associated with Class A Operation?
[a] silent running
[b] heat dissipation
[c] fast switching
[d] poor styling

[3] Compared to the Roksan, it sounds less what?
[a] "syrupy"
[b] "coloured"
[c] "mushy"
[d] "stark"

[4] What's the most significant advantage of the A50?
[a] midband fluidity
[b] bass speed
[c] treble sweetness
[d] bananas

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Unit G4 Argo House
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Hi-Fi World Competition rules and conditions of entry

1. Only one entry per house hold.
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3. Purchase of the magazine is not a pre-condition of entry.
4. No correspondence will be entered into.
5. The Editor's decision is final.
6. No employees of Audio Publishing Limited, or of any companies associated with the production or distribution of the prizes may enter.

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- SOLIHULL
- SOUTHAMPTON
- SOUTHGATE
- STAINES
- SWINDON
- SWISS COTTAGE
- TUNBRIDGE WELLS
- WATFORD
- WEYBRIDGE
- WITHAM (ESSEX)
- WOLVERHAMPTON

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World Radio History



HI-FI SEPARATES

Michell Gyro SE
Turntable / RB300 Tonearm
£1049.95



WHLAT Hi-Fi 2003
Best Buy 2003

"The Gyrodec SE sounds great, combining the best sonic characteristics of rivals... Quite simply, the Michell Gyrodec SE is terrific. Nothing compares at this price point - it's well deserving another Best Buy."

CLAIM £50 TOWARDS THE GOLDRING CARTRIDGE OF YOUR CHOICE*



Project 1 Xpression
Turntable (Black)
£209.95

WHLAT Hi-Fi 2003
Best Buy 2003

"Compared with a £200 CD player this deck sounds remarkable: dig out your vinyl! and give the Xpression a spin."

Project 1 Debut II
Turntable (Black) **£119.95**

WHLAT Hi-Fi 2002
Best Buy 2002



THE PROJECT RANGE
STARTS AT ONLY **£119.95**

Arcam DiVA CD73T
CD Player
£399.95

WHLAT Hi-Fi 2003
Product of the year 2003



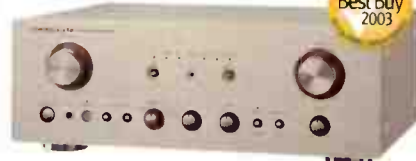
FREE GRADO SR60 HEADPHONES WORTH £90 WHEN YOU PURCHASE AN AMP AND CD TOGETHER FROM ONE OF THE FOLLOWING MANUFACTURERS - ARCAM, CYRUS & ROKSAN*

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Marantz
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Marantz
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£249.95

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WHLAT Hi-Fi 2003
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"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."

"So do you buy a digital tuner? Or an analogue one? Now you don't have to pick: just buy Pure Digital's DRX-702ES! Whether on FM or DAB, 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."



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Yamaha CDR-HD1300
CD-RW/HD Recorder
£449.95

"No more wasted CD-Rs: in a stroke of genius, Yamaha had the idea of combining a CD recorder with a hard drive, enabling you to edit your music before burning it to disc. The result was the excellent CDR-HD1000, and the CDR-HD1300E is its younger, cheaper and vastly superior sibling. It's the best home-recording solution currently available."

Pioneer PDR-609
CD-RW Recorder
£169.95

WHLAT Hi-Fi 2002
Product of the year 2002
Pioneer PDR-609



DAB RADIO

Pure Digital
DRX-702ES Analogue/DAB Tuner
£279.95

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Cyrus
Pre X Pre Amplifier £999.95
Mono X Power Amplifier (Each) £1199.95

"This Cyrus pairing isn't cheap but listen to a well-run-in sample and its array of talents is hard to beat. Load your favourite CD into a capable player, turn up the Pre X and the sonic magic will be worth every penny."



WHAT HI-FI? Aug 03
★★★★★



FREE QED CABLE WORTH £60

NEW

KEF Q4
Speakers £399.95

The Q4 is one of the latest additions to KEF's acclaimed Q Series. At the heart of this floorstander lies the Uni-Q driver array - a 130mm die-cast chassis housing a long throw cone and coincident mounted 19mm aluminium dome HF unit. This driver arrangement makes the speaker much easier to place in the room and alleviates the 'sweet spot' found on 'ordinary' speakers. This has been combined with a dedicated 130mm LF unit for extended bass output which belies the size of its diminutive cabinet.

FREE QED

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WORTH

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£60 WITH SPEAKERS OVER £299
£80 WITH SPEAKERS OVER £499
£120 WITH SPEAKERS OVER £999

Mission
780 SE Speakers £349.95

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

WHAT HI-FI? May 03
★★★★★

FREE QED CABLE WORTH £60



FREE QED CABLE WORTH £60

B&W
DM602 S3 Speakers £299.95

"These solidly made standmounters perform well across the whole range of musical styles... Add these speakers to your hi-fi system and you're guaranteed magnificent integration between the drivers and an even tonal balance."



Best Buy 2002

MJ Acoustics Reference 100
Subwoofer (Black) £349.95

"You get a high level of detail and the kind of impact most sub-£1000 floorstanders would struggle to match. The verdict's simple: buy with confidence."

Best Buy 2003



FREE QED CABLE WORTH £60

Roksan Kandy
KD1/III CD Player £594.95
KA1/III Amplifier £594.95

"Timing and rhythm are excellent. DJ Shadow is delivered with clarity and a tight bass, while at the other extreme the treble is sweet and detailed, getting the most from Wagner's *Ride of the Valkyries*. The result is a breathtaking Best Buy amplifier that betters its competition with ease." KANDY KA1/III AMPLIFIER - AWARDS 2003



Best Buy 2003

"The Kandy KD1/III CD player offers a great array of talents - team it with its amp stablemate and you have something close to the ideal visual and sonic combination."

WHAT HI-FI? Dec 03
★★★★★

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Sevenoaks SOUND & VISION



NEW

MUSICAL FIDELITY



Musical Fidelity has unveiled two integrated amplifiers and a CD player as part of its revamped X-series. The 40 wpc, **X-80 (£599.95)** and the 80wpc **X-150**

(£799.95) amplifiers 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[®]** CD player **(£899.95)**, is the replacement for the legendary X-Ray and uses the same DAC and upsampling principles as the acclaimed Tri-Vista SACD player. From a technical standpoint, the X-Ray[®] is equal of some of the most expensive players on the market.

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."



**FREE
RED CABLE
WORTH £120**



Cyruslink

WIRELESS NETWORKING

MUSIC ALL AROUND THE HOME

You've heard of hi-fi – now welcome to the world of wi-fi! Wi-fi devices allow you to network a range of devices together – from your music system to your PC – without the wires. For example, a multiroom server like Yamaha's MusicCAST can wirelessly send music to up to five 'client' playback systems dotted around your home. That music could be stored on the MusicCAST server device or other sources – existing hi-fi kit, maybe, or an internet radio station or MP3 files from your PC: plug-in adapters make it easy to wi-fi-enable products.



YAMAHA'S MusicCAST
MCX-1000 DIGITAL SERVER & MCX-A10 CLIENT



YAMAHA MusicCAST

MCX A10£599.95
(MusicCAST Client)
MCX 1000£1799.95
(MusicCAST Server)

CYRUSLINK

Linkserver 160£2999.95
(Four Zone HD Server 160Gb Drive)
Linkserver 250£3499.95
(Four Zone HD Server 250Gb Drive)
Linkport£649.95
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Cyruslink

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COMPACT HI-FI SYSTEMS



Linn Classik Music System (Ex Speakers)

£749.95 When purchased with speakers over £299*
When purchased on its own **£799.95**

**SAVE
£100**

"The Classik sounds simply marvellous. Boasting fine grain impact and drive, it retains its grip even as it thumps out rock and dance tracks. Ask it to play quiet acoustic music and its smooth, liquid presentation impresses still further. The Classik offers the performance you'd expect from high quality separates in one lovely package - this is a very superior product."



Denon DM31 UD-M31 CD Receiver

£189.95 When purchased with speakers over £99*
When purchased on its own **£199.95**

**SAVE
£40**

"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."

OPTIONAL RECORDERS:

DMD-M31 MINIDISC RECORDER • DRR-M31 CASSETTE DECK
NB - PRICE EXCLUDES SPEAKERS

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SEPARATE HI-FI SYSTEMS

Rotel
RCD-02 CD Player
RA-02 Amplifier

HI-FI SYSTEM
1

Monitor Audio
Bronze B2 Speakers

For this recommended Hi-Fi System we have combined Rotel's highly rated RCD-02 CD player and RA-02 amplifier with Monitor Audio's beautifully balanced Bronze B2 speakers. This package gives a powerful, fresh and vibrant sound. The compact 'B2' speakers, available in a variety of finishes, were awarded 'Best Buy' by What Hi-Fi? Sound and Vision, with the sound being described as "Superb... Speakers don't get much better than the B2's".



WHAT HI-FI? Best Buy 2003

WHAT HI-FI? Best Buy 2002

The RA-02 amplifier features remote control and a phono input. The RCD-02 (★★★★★ - What Hi-Fi? Sound and Vision - August 2003) is HDCD compatible and includes a digital output for connecting to a digital recorder.

SYSTEM PRICE **£799.95** SAVE **£129**

PRICE EXCLUDES CABLES & STANDS

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



SEPARATE HI-FI SYSTEMS

Arcam
CD73T CD Player
A65 Plus Amplifier

HI-FI SYSTEM
2

KEF
Q4 Speakers



WHAT HI-FI? Product of the year 2003

Arcam
CD73T CD Player
A65 Plus Amplifier

KEF
Q4 Speakers

Arcam and KEF both have an enviable reputation for producing great sounding kit without breaking the bank. This system shows why with a well balanced sound that's both musically involving and enjoyable.

At the front of this package is Arcam's upgradeable CD73T CD player - a What Hi-Fi? Sound and Vision 'Product of the Year 2003'. We've coupled this with Arcam's complementary A65 Plus integrated amplifier and KEF's new Q4 floostanding speakers featuring KEF's unique Uni-Q technology for easier room placement.

SYSTEM PRICE **£999.95** SAVE **£149**

PRICE EXCLUDES CABLES & STANDS

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



SEPARATE HI-FI SYSTEMS

Roksan Kandy
KD1/III CD Player
KA1/III Amplifier

HI-FI SYSTEM
3

Monitor Audio
Silver S6 Speakers



WHAT HI-FI? Best Buy 2003

The combination of Roksan's Kandy MK3 CD and amplifier is, according to What Hi-Fi? Sound and Vision, "Something close to the ideal visual and sonic combination" (December 2003). We have partnered these with the Silver S6 floostanding speakers from British

speaker specialists, Monitor Audio. The combination of Roksan's excellent rhythm and timing, with its tight bass and sweet detailed treble coupled with the 'S6's' ability to stay unruffled even when the music is at its most complex, makes this a remarkable system.

SYSTEM PRICE **£1789.95** FREE SOUNDSTYLE RACK WORTH £300

PRICE EXCLUDES CABLES & STANDS

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

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BRISTOL 92B WHITELADIES ROAD, CLIFTON
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CAMBRIDGE 17 BURLLEIGH STREET
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MAIDSTONE 96 WEEK STREET
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MANCHESTER 69 HIGH ST, CITY CENTRE
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NEWCASTLE 19 NEWGATE STREET
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NORWICH 29-29A ST GILES STREET
• 01603 767605

NOTTINGHAM 597-599 MANSFIELD ROAD
• 0115 911 2121

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WHO ARE SEVENOAKS?

Founded in 1972, Sevenoaks Sound & Vision is one of the largest and most successful hi-fi and home cinema retailers in the country.

Each Sevenoaks Sound & Vision store stocks a wide range of quality products, covering all categories of specialist home entertainment, from Hi-Fi separates and systems to DVD players, widescreen plasma televisions and projection systems, all at highly competitive prices.

Friendly staff are available in all stores to advise, demonstrate and guide you through the home entertainment jungle.

DEMONSTRATION FACILITIES

Our comfortable demonstration rooms are among the finest in the country, many complying with full THX specifications.



CUSTOM INSTALLATION

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

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

FREE 8 Page Custom Installation Brochure available now from your nearest store or via our website.



SEVENOAKS WEBSITE

The Sevenoaks Sound & Vision website has news and information on the Sevenoaks group and its stores.

There are regularly updated special offer and stock clearance lists with hundreds of products available and detailed pages to help you locate your nearest store. To find out more, click on www.sevenoakssoundandvision.co.uk

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Whilst we do not claim always to be the cheapest, we try to ensure our prices are highly competitive. Take into account the expert advice, unrivalled product selection, demonstration facilities and excellent pre, during and after sales service and the lower price might not look such good value.

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'the guide'

'Don't Panic! If your system isn't giving of its best, help is at hand. In this epic six page feature, we show you how to extract the maximum performance possible from your individual components, and how to get them making sweet music together...

THE SOURCE

It was Linn's Ivor Tiefenbrun who famously recycled an old computer industry aphorism, 'garbage in, garbage out' - and he was spot on. If your system's source is compromised in any way, then it simply won't give its best. To wit, you need to buy the best front end you can reasonably afford, and then keep it in tip-top fettle. Also, if the system sounds a little imbalanced, strategic tweaks here can pull it back in the direction you want.

[A] TURNTABLES

Record players are sensitive souls which have always required a 'hands on' approach to keep optimised. The first commandment is always keep your deck well away from speaker vibrations, which are a turntable's number one enemy. Also, try

the ground or air than non-suspended designs, although can display speed fluctuation effects as the belt stretches. This may be very small but can - in extremis - make solo piano sound dreadful. To wit, drive belts should be renewed if excessively loose, or otherwise regularly cleaned with isopropyl alcohol on a lint-free duster. Check the cleanliness of the belt's path (the surfaces it comes into contact with, including the drive pulley and inner platter) and clean it if necessary with isopropyl alcohol, including the pulley, belt and inner platter.

Once the drive belt is as it should be, the suspension should be set up to bounce as freely as possible. With the belt detached and on a completely level surface, adjust the springs so the platter moves up-and-down as cleanly and smoothly as

Mass loaded plinths are designed to deaden resonances without introducing issues of speed stability impairment or ill set up suspension to the mix. However, they have other pitfalls, as mass resonates proportionately with the amount placed into the turntable. To wit, it's not completely successful unless very heavy, and/or some form of isolation is fitted, usually in the form of compliant feet. Two of the most famous examples are the Garrard 301 and the Thorens TD124, although many Japanese direct drive turntables like the Technics SP10, and affordable British decks such as the Rega Planar 3, also use variants of this principle. As a rule, siting the deck on an decent support is even more important than with suspended subchassis decks, and we still haven't found anything better than Townshend Audio's Seismic Sink in this respect. It costs £200, but is worth it even with a Rega Planar 2, providing the rest of your system is decent. It brings depth and detail, along with a stronger but faster bass and smoother treble. A more affordable alternative is Audiophile Furniture's BASE SP01 platform, which does half as well as the aforementioned, for well under half the price. Of course, even suspended subchassis decks benefit, but it's night and day with mass loaded plinths - especially when they're not very massy! Finally, the main bearing housings on either type of deck - providing they're belt drive - can be usefully flushed out with detergent, cleaned with isopropyl alcohol and then refilled to the recommended level with the lightweight fully synthetic motor oil such as Mobil 1 (as used in Michell decks).

Cartridges should be properly aligned and securely fixed to the headshell. Use a good quality alignment protractor such as that from Ortofon/ Henley Designs, or the hard-to-find Mobile Fidelity

"If your system's source is compromised in any way, then it simply won't give its best"

removing the dustcover, which can prove highly adept at transmitting unwanted resonances straight to your stylus. Always make sure the deck is dead level, letting it work with, rather than against, gravity. In truth, there's not so much to setting up a record player - it is not three dimensional chess - although it requires a steady hand and a clear methodological approach.

Turtables come with two types of suspension systems: suspended subchassis and mass loaded plinths. Most, such as the Linn Sondek, Michell GyroDec and Origin Live Aurora, use the former, where the platter and tonearm are physically isolated from the platter and motor by a sprung suspension system, rather like a car isolates its occupants from the road. This 'suspended subchassis' is far less prone to vibrations (resonance) from

possible - and then check it is level. With exo-skeletal decks like Michell's GyroDec, this is relatively easy as the springs are readily accessible, but enclosed plinth designs like the Linn LP12 require the bottom board to be removed and the spring twiddling to be done from underneath. A special jig - made from a turntable table (such as a Target TT1) is ideal, although you can place it between two tables, with the plinth just resting on the edges of either table and blu-tac to secure it. When things get this fiddly, LP12 owners may opt to take their deck to a dealer! Once the bounce is right, reattach the belt, ensure there's still a clean up-and-down motion, and set the tonearm lead clamp so that it doesn't impede this at all. Don't forget, the belt and tonearm lead effectively become part of the suspension - so factor these variables in!

GeoDisc (try the internet!), and secure the cartridge in place with quality Allen bolts (such as those from SME), tightened hard. Not too hard mind, or you'll crack your cartridge body or headshell! When fitting the cartridge, don't touch the bare cartridge pins as the dirt from your fingers will degrade the electrical connection and dull the sound - if possible, always clean them with liberal amounts of isopropyl alcohol before fitting. Don't trust your tracking force to your tonearm - unless you have something of the quality of an SME Series V - so invest in a good stylus balance. Rega RB300 owners - and indeed any users of arms with springs to apply downforce - should try setting the tracking force to zero (effectively disengaging the spring) and balancing the arm via the counterweight and a stylus pressure gauge. The springs in some arms can cause sound degradation.

Stylus cleanliness is all-important. Isopropyl alcohol is the stuff to use, diluted with distilled water and applied on an artist's brush from back to front. Take care not to get fluid onto the upper part of the cantilever, as it can work its way up into the suspension with unfortunate results. An even better answer is vibrating stylus cleaner such as Audio Technica's AT637. Now long deleted, they can still be picked up in the classifieds for under £25.

[B] CD PLAYERS

Vibration can dramatically affect the sound of digital disc players, just as it does turntables. Poorly sited players won't give of their best, so make sure your machine's on a rigid, level surface, away from the speakers' line of fire. Standing it on a separate mediate sub-table - blu-tacked to its support and sitting on tennis balls cut in half - can improve things further, but isn't very easy on the eye. To wit, FoculPods are ideal compromise - they can sit directly under the feet of the player, or under each of the four corners of a subtable. Either approach will yield an obvious improvement in musicality, depth and dimensionality, plus a fuller bass and smoother treble.

Alternatively, a purpose-built isolation platform, such as the aforementioned Townshend Seismic Sink or Audiophile Base will do the same job but better still.

The other critical area for silver disc spinners is the laser lens. Even in the calm atmosphere of the home, they soon fog up with dust and grunge, causing the laser to mistrack.

GOLDRING SUPER EXSTATIC £9

Superb carbon fibre record cleaning brush, that gets even quite deep ingrained scunge out of the groove. If this doesn't shift it, then you'll need to wet clean it on a Keith Monks or Garrard type machine!



MICHELL RECORD CLAMP £23

Good, simple clamp that's light enough not to unbalance turntable suspensions or cause premature bearing wear. Brings grip and focus to almost any turntable.

SHURE SFG-2 £25

A simple, robust and very well made stylus balance, that's about as accurate as anything else on the market - to all intents and purposes. It's easy to use, does what it says on the tin, and is more likely to survive the ravages of time than the cheap and cheerful Ortofon.



HABITAT GRAZIELLA £39

This stylish ancillary light has a flexible neck leading to a bright - but low powered - halogen bulb, and its base clamp attaches easy to most turntable supports. Result: you can see the LP track you're cueing, and the cartridge stays nice and warm, bringing a sweeter sound with more stable tracking.



MILTY ZEROSTAT £37.50

Although regular use of a carbon fibre record brush such as Goldring's Super Exstatic should keep static electricity at bay, if you need to bring in the 'big guns', then this is the one. Works brilliantly.

MICHELL TECNOWEIGHT £68

Brilliant upgrade for owners of Rega RB250, RB300 or Moth derivatives. An elegantly designed counterbalance weight which gets the best out of the arm, and is easy to set up too.



PATHOS

"The Pathos Acoustics Classic One is one of the finest sounding amps I have ever heard, of any era, from anywhere. . ."

Sam Tellig – Stereophile, Nov 2003

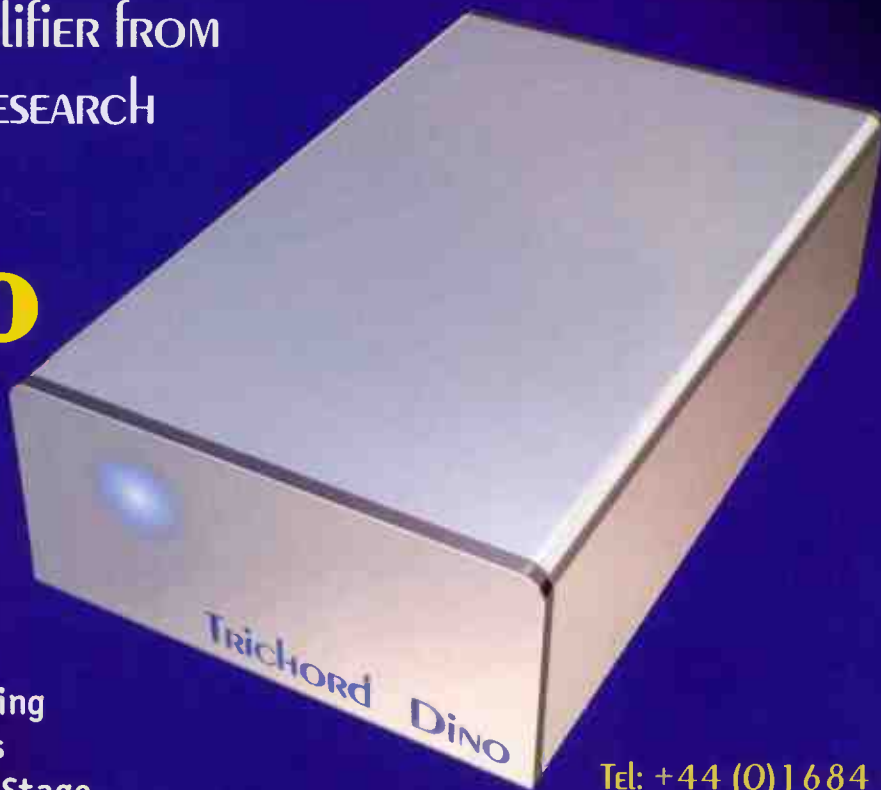


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This gets the player's error correction circuitry in a frenzy, which in turn degrades the sound. So, although it's not the most accessible of things, keeping your player's laser spotlessly clean is a must. There are two ways to do this - if you're of the DIY persuasion, disconnect your player from the mains and remove its casing. Dampen a cotton bud with Isopropyl alcohol and without touching any electronics, clean the laser lens, wipe off the fluid and buff with a micro-fine lens cleaning cloth such as a Pentax cloth (available from opticians or camera shops). However, if your player's still under warranty, you're not sure what you're doing, or you're not the kind of guy to be seen in DIY superstores first thing on a Sunday morning, then an automatic cleaning disc should be more your cup of tea.

THE LOUDSPEAKERS

[a] placement

Wherever you choose to site your speakers, aim for rigidity: the more they wobble around, the more you lose dynamics and clarity. Many speakers also benefit from having their drivers tightened - often the Allen bolts or screws securing them to the front baffle are too loose, making for diffuse imaging and muddy bass. Finally, ported designs with over-full bass can benefit from having their ports blocked or restricted with foam rubber or cork.

[b] supports

All loudspeakers benefit from speaker stands, with the exception of very well designed floorstanders. Late eighties frame-type models, such as Linn's Kan, Heybrook's HBS1 or Linn's Sara (depending on whether you have small, medium or large standmounters) generally offer better support than modern column stands. All can be picked up in the classifieds for under £40. Spike your speakers to your stands and your stands to your floors, although blu-tack can be used to secure standmounters to stand top-plates or bookshelves.

[c] cabling

Agreed wisdom has swung from people denying speaker cables have any effect to people throwing their chequebooks at anyone with a few metres of twin and earth and some banana plugs. Truth be told, massively expensive cables are less of an upgrade than, say, getting a clean mains supply or setting up your front end properly. Still, careful cable choice can be that perfect palliative to dull or shrill components

MILTY CD/DVD LENS CLEANER £13.50

Although not as effective as manual wet cleaning of the laser with a cotton bud, this is a lot easier and works well - a great first port of call if your digital disc spinner starts mistracking, too.



PERFECT SOUND DISCS GOLD £15

A great way to reduce vibration into source components - they look neat, and give a subtle but obvious smoothing of the sound, with deeper bass and sweeter treble. Better looking than Foculpods, but not quite as dramatic in effect.



TCI VIPER BUDGET £50

Robust budget interconnect that's an ideal first step up the tweaking ladder. Adds depth and space to the freebie cables that come with entry-level players, and a degree of subtlety too.



MONSTER M950I £150

Excellent upgrade for bundled CD player interconnects, few of which - Linn notwithstanding - are worth bothering with. Smooth but open and punchy sound with strong bass makes it ideal to mid-price machines.

elsewhere. The general rule is, audition all cables in the context of your own system, and don't splash the cash until you're convinced it couldn't do better elsewhere.

THE ELECTRONICS

Think of your amplifier as an electrical junction box with gain. Of

course, DIY minded folk can start modifying the insides for better sound, but substantial sonic improvements can be made without the need to plug in a soldering iron at all - simply by cleaning all the contacts, getting pure power into the amplifier, sensible placement and synergistic interconnects.

BRASSO £3

When your phono sockets look like they're going rusty, it's time to deploy the heavy stuff. Polish them, or your mains plug pins with this, clean it off with isopropyl alcohol and be amazed.



ISOPROPYL ALCOHOL £5

Available in small quantities from all dispensing chemists, this will clean everything from your LP surfaces to your contacts, although diluting it with distilled water is advisable. Essentially, this is CD or tape 'cleaning fluid' at one hundredth of the price...



KONTAK £15

This works even better than isopropyl, leaving absolutely no residue and pulling hitherto invisible dirt off metal plugs and sockets before your very eyes! Expensive, but worth its weight in gold.



MILTY FOCULPOOS £18

This pack of four sorbothane pads radically transforms anything you place on top of them - it's amazing how even low level resonance spoils the sound. Ideal for pre and power amplifiers alike, but great with everything else too!



IKEA LACK COFFEE TABLE £20

Many readers thought this was an April Fool joke when it was featured in that month's issue, but we're serious. By all means, spend thousands on supports, but you'll be surprised the difference that a good, rigid, light coffee table can make with turntables and electronics alike.



MONSTER INTERLINK 250 £20

Excellent affordable multi-purpose interconnect, ideal for use with DVD players, tuners, digital recorders, etc. Bright, crisp, engaging sound but with finesse too.

MONSTER FIRELINK AV £30

Superbly crafted IEEE 1394 digital interconnect cable, for relevant computer and high speed digital audio/AV applications.

Brilliant build means this should far outlast the hardware it's plugged into!



QED SS30 £40

Neutral sounding speaker switching box for up to 3 pairs of loudspeakers in either series or parallel. If you need multi-room and/or multi-speaker music at an affordable price, this does it.



QED SQART AV2110 £50/M

Fine 'affordable high end' SCART to SCART lead. If you've bought a decent DVD-Audio player, then this will get great video into the TV or plasma.



WIREWORLD OASIS 5 £99/M

A brilliantly self-effacing interconnect that's ideal for use between a pre and power amplifier. It's very neutral and three dimensional, leaving you to tune the rest of your system in the knowledge that nothing strange is happening right at its very heart.



SOUND ORGANISATION 2540 £175

A crisply styled and businesslike four shelf system support, with fine quality metalwork, solid spiking and neat glass shelves.

Sound is stable and open. There are better supports available, but few offer such value.



TCI SUPER CONSTRICTOR £180/1M

One of our fave power cables. Expensive, but still great value if you have a high end system. Ideal for integrated or power amplifier use, although possibly 'overkill' with less current-intensive applications. Brings tremendous depth and articulation to the sound, and sweetness too.



[a] contacts

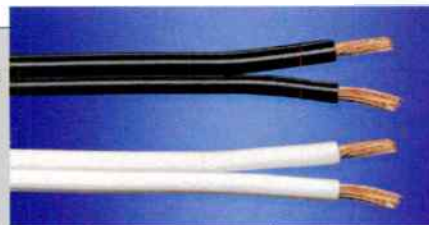
Dirty or tarnished contacts flatten and muddy the sound more than you'd imagine, so it's vital to keep them fresh. And if you think the snazzy gold phono sockets on the back of your amp won't tarnish because they're 'gold', you're wrong. The fact is that all contacts oxidise, because the plating, be it nickel or gold, is invariably impure. The simplest way around this is to polish them with a liberal amount of metal polish, such as Brasso or T-Cut. Put it on a cotton bud and work it around the exposed outsides of your RCA phonos. It should then be buffed off with a duster or cotton bud until it shines, and then cleaned with isopropyl alcohol on a cotton bud and then wiped dry with another - or better still, with Kontak. The insides of phono sockets can be cleaned with pipe cleaners dipped in isopropyl alcohol or Kontak, with the unit's power switched off and disconnected from the mains. This done, you'll have pristine, unplated, pure metal for your interconnects to work with, making the sound obviously cleaner, clearer and more musical. Ensure that all your mains plugs are clean, using the cleaning method detailed above.

[b] cables

The wires in your system have a significant effect on sound quality, although this shouldn't be overstated - as there's no point in spending £500 on an interconnect for a £250 CD player. As a guide, budget 20% of your total system for all your interconnects, mains leads and speaker cables. Start with good basic ones, and use the tremendous choice out there to help you fine tune the sound you want. Essentially, copper wire has a bright, explicit, upfront sound that - if done well - can add a nice propulsive quality. The obverse is that it can make it harsh, crude and thin. With this in mind, many move to silver wire, which has a sweet, smooth and silky sound. However, this can be over-smooth and lacking in musicality, so a hybrid - silver plated copper is a popular budget compromise. The best is generally thought to be carbon, but this is expensive. Although very neutral and three dimensional, some mourn its lack of 'pep', so it's not a universal cure-all. The only option with interconnects and mains cables is to 'suck it and see', upgrading methodically and deliberately - and preferably by auditioning, via your friendly dealer rather than simply after reading rave reviews.

QED 79 STRAND £1.10/M

The original 'bread and butter' cable that does the job if you're on a budget. Doesn't sound so good until you realise you'll have to spend twice as much to better it.

**IXOS XHS606-S £2.49/M**

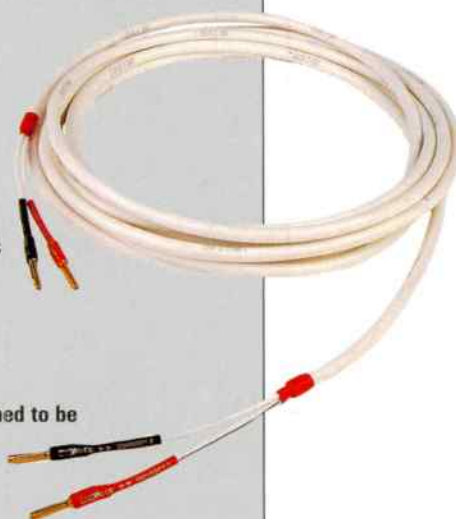
High quality budget speaker cable for those who can afford more than 79 strand. Very impressive for mid-priced wires, with an engaging and powerful sound, yet subtle too.

BLU-TAC £5

Place this stuff between your loudspeakers and supports (i.e. the top plates of speaker stands) and be amazed by how much the sound tightens and opens up. Great for clamping standmount speakers direct to bookshelves and desks, too.

**CHORD COMPANY ODYSSEY 2 £18/M**

One of the very best loudspeaker cables money can buy, but so it should be at this price. Extremely neutral - neither adds nor subtracts - yet musically convincing and wonderfully spacious too. Ideal for long runs.

**PERFECT SOUND SPIKES GOLD £30**

This set of eight small spikes is designed to be place on to speaker stand top plates, to clamp speaker bases firm. An excellent tweak, giving tighter bass and better focus right throughout the audio band.

**MONSTER MSB550SW £100**

Bespoke subwoofer cable with extremely rugged construction and high quality, low noise wire that's ideal for long runs.

**[c] mains**

The quality of your system's AC mains supply can dramatically affect its sound. If getting an electrician to wire a separate spur for your hi-fi isn't on the cards, at least ensure all mains plugs and leads are clean, using the recommended cleaners above on the pins of the plugs and IEC sockets of your equipment - obviously when all AC power is switched off. If possible, avoid multi-socket junction boxes, plugging each component into its own wall socket. If not possible, choose the best junction box you can, such as one of the recommended products below. If

you're really fastidious, you can wire two items into the same plug (i.e. so that your pre and power amplifier share the same mains socket) to remove needless 'layers' of sound degrading connections.

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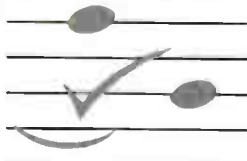
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WA

sand...and deliver

Thanks to bouncy floorboards, LP replay was a nightmare in David Denyer's home - the slightest step saw the stylus skating across the record. The answer was a sandbox, which also vastly improved the sound...

Despite my exquisite and expensive vinyl source, dancing was a CD only thing thanks to footfall problems - my dodgy floor meant the slightest tap of the foot when the needle hit the groove would result in the involuntary changing of tracks, and risk the premature demise of my stylus. Drastic action was called for, and my system's entire foundations had to be changed!

My electronics are supported on three Clearlight Audio Aspekt racks. Apart from the Naim Frain and Audiophile Furniture's Star Base, the Aspekts gave easily the best performance in my situation despite the footfall problem. Footfall still affected the other racks, so this would have still been an issue. The Aspekts gave a very natural, flowing and organic sound to the system with a well defined soundstage, although at high volumes the sound, particularly from LP, became a bit messy. At that stage I was unaware of how much the rest of the system was being held back.

I tried placing a concrete slab beneath the rack with the turntable on it, which helped in both cleaning up the sound and in preventing the stylus from jumping, although it didn't look very pretty and only lessened the problems. I have had good experience of 'small' sandboxes placed on top of an equipment rack when used under some turntables so decided to make a very large sandbox, which would damp a large area of floor and hopefully effectively support the all of the electronics, positioned as they were, on the Aspekts. Although I wanted as large a footprint and mass as possible (to provide the maximum stability) it made sense to me to have three separate top panels to further isolate the racks from each other.

I made my sand box to support the three Clearlight Aspekts, other racks may require different measurements, but the principle is the same. The base of the box is a 200x57cm piece of 18mm MDF and the top panels 3 pieces of 67x56cm

18mm MDF. The surround of the box is made from planed 4x1" timber; this is screwed and glued around the base to form an extremely large and heavy (even when empty) tray. After filling the screw holes sanding I stained the outside of the edges with cherry wood stain to match my Aspekts and painted the inside of the tray and the top panels with black acrylic floor paint, figuring floor paint would be suitably tough.

Now for the fun part: forgetting entirely about the existence of kiln dried sand, I bought 4 sacks of the play pit variety. It was slightly damp so I spread it thinly on the kitchen floor and pointed a fan heater at it. It after a couple of days my kitchen felt like a beach and there was sand everywhere - get dried sand, it's worth it!

After thoroughly clearing up any stray sand and dismantling my system I placed the tray in position, making sure there was a gap between the box and the skirting board, then started shovelling in the sand... By the time it was full to about 3/4" below the lip the tray wasn't going to be moving anywhere. Next, level the sand using a spirit level and a piece of wood to get as flat and level a plain of sand as you can. Now carefully place the first board in position. I started with the middle one and measured carefully to make sure it was exactly in the centre. By tapping the board it is easy to hear where it isn't bedded down firmly into the sand. A bit of wiggling and redistribution of sand is necessary to get the board level and firmly seated. Repeat this with the other two boards and you're almost done. Although this may sound easy, it was actually the longest, most tedious hands-on part of the whole process. All that was left to do was to put the Aspekts back in position and rebuild the system...

I was amazed! Such an improvement dynamic range and bass definition was unexpected, as was a

substantial tidying up of the midrange and treble. What's more this seemed to be so almost irrespective of volume. Also to my surprise CD and FM radio sounded noticeably improved so it was clear that the whole system was working much better. A few days listening definitely confirmed the experiment a resounding success although now that things were much easier to spot I became aware of the slightest trace of thickening, a sound I often associate with the use of MDF. The addition of Clearlight RDC cone cups, stuck with double-sided tape onto the top panels of the sandbox to accept the RDC feet of the Aspekts removed the last trace of this colouration and I was very happy indeed.

The whole system feels like it is working much more easily. Even at high levels the sound is relaxed yet immediate, noticeably more dynamic and focused with improved timing. Tonally it's sweeter, a layer of haze (which I wasn't previously aware of) has been removed from the higher frequencies making everything, records, CDs and the radio clearer and more involving with a huge focused soundstage and improved detail. The whole project cost around £35, plus the cost of the RDC cups, and is one of the most effective upgrades I've made.



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Control Power

Michell's Orbe turntable is now ten years old, and by way of celebration, it has just got a heavily revised power supply using 'Never-Connected' technology. David Price examines the curiously named Orbe Controller NC...

Regular readers may know that I have more than a passing respect for Michell turntables, as they've been my choice of deck for the past twelve years. Back in 1992 I bought an old GyroDec out of curiosity, stuck a worn out old Rega R200 tonearm on it and was amazed that it outperformed by meticulously well set up Linn Sondek, complete with Ekos arm and top Audio Technica moving coil.

The rest, as they say, is history. Three years later I was the proud owner of the new Orbe, complete with SME Series V tonearm. Well, cartridges and arms have come and gone, but the Orbe has stayed the same.

Sadly perhaps, I take absolutely no care of it - it sits there gathering dust with its beautiful Acrylic dustcover in the cupboard (it sounds better that way) and spring covers removed. Unlike my old LP12, it never gets any setting up, servicing or TLC - it doesn't need it. Yet it still sounds unerringly superb, day in, day out. If there's a problem with my system sound, I am always completely confident that it's coming from elsewhere.

With this in mind, I am somewhat averse to tweaking it, but when the new Michell VC power supply and DC motor came out a couple of years back I had to have a listen. Result: even firmer, stronger and more commanding sound, with a smoothing of the upper midband and sweetening of the treble. "It's incredible," said John Michell to me, "the difference that getting that AC mains out of the deck makes..."

Well, the new Orbe Controller NC takes this a step further. It's a direct replacement for the VC, and looks almost identical, name plaque aside. Inside, however, there's Never-Connected circuitry. This is claimed to ensure that, as it says on the tin, the unit is never directly correctly to

the mains - with total isolation from mains noise as the result. Now, I'm not an electronics engineer so can't vouch for the technical voracity of these claims, but do have a perfectly good pair of ears and 12 years experience of Michell Orbe listening on an almost daily basis...

As such, the improvement was obvious. Akin to changing from AC to DC, the NC PSU brought about greater dimensionality in soundstaging. This has always been excellent, but not up to ClearAudio Reference standards (at admittedly twice the price). Well, the new Controller NC brings the Orbe much closer to this superlative standard. Image projection has always been top notch, yet there was a subtle solidifying of this, too. Left to right image location gained better focus, and there was more of sense of instruments hanging in the acoustic, completely disconnected from the loudspeakers.

There were subtle gains in other areas, too. Bass gained additional bite and speed, taking it closer to the very best Japanese direct drives in this respect. The midband had ever so slightly more detail, with a marginally wider palette of colours. It's not as if the Orbe was ever a grainy turntable, but it was even more devoid of hash, mush and general 'pollution' in this region. Treble was both silkier and yet more atmospheric. The latter point is another area where it suffers in comparison to the ClearAudio, but the NC brings it closer.

The result is a £2,300 turntable



whose weaknesses are now hardly discernible compared to the best at the twice the price. And as for its strengths - they're better than ever. It's a brilliant all rounder, the Orbe (always was), and now is more able still. The problem is that Michell says the new Orbe Controller NC is not available as direct replacement for the VC. Essentially you'll have to buy a new Orbe for £2,298 (or £2,015 for the SE) if you want to experience it. I find this a little odd, and wonder if the company might reconsider its position?

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MONSTER, INC.

David Price talks to the man who paved the way for the modern world of audiophile interconnects - Mr Monster Cable himself, Noel Lee...

DP: When did you realise cables made a difference

NL: When I was trying to improve my system back in the early 1970s, being a poor audiophile and not being able to buy the latest amplification, I had to improve the system I had. This comprised Dalquist DH10 loudspeakers, a Phase Linear 400 and Ampzilla amplifier, plus a Dynaco preamplifier. Engineers told me 16 gauge wire was good enough, and so did magazines, and I said "if that's good, then bigger can't hurt!"

I found bigger wire was better, and also that as I wound the wire different gauges made tonality changes and that as I wound the wire the way I wound them, the direction and even the dielectrics all had an effect on tonality - as much effect as a good amp or preamp. So the first Monster speaker cables and interconnects were the result of a lot of experimentation with wires I

had no business experience; I was an engineer and a geeky one at that. Had I known how difficult business really was, I probably would not have done it. Luckily, I did not know! I felt that every audiophile should own this marvellous invention. I wanted them to know that cables aren't just passive devices that don't do anything, but they are the last missing link.

"the audiophile camp instantly heard differences and they wrote about it"

We had a product that I call "a cure with no disease". People did not know that cables were bad or inadequate and that the cheap cable that came with every loudspeaker or turntable or amp was detrimental to the sound. I had to make this case to the audio buying public. I made this by demonstration. You could make all the written arguments you wanted, but not everyone would believe it. I had to do the demo, so I built a series of speaker switchers that allowed me to switch back and forth. I switched between inadequate free giveaway and Monster. The rest is history!

DP: How did the international audiophile scene react?

NL: The consumer was the easiest person to convince because they did not know any better. They only believed their ears and had an open mind. The audiophile press and many audiophile engineers including those from the AES (Audio Engineering Society) knew that cables couldn't make a

difference as they couldn't measure a difference so they refused to believe there was a difference. However, many recording engineers and musicians did hear a difference and they did not care what was

measurable, they only believed what they heard. They told their friends and that's how we grew the Monster branding and reputation for having a legitimate technology.

The first product was the Monster speaker cable. We wrote many technical papers at that time. There were also other manufacturers that came out with their own brand of audio cable. In the UK especially

Hitachi launched their LC-OFC which was well written about. Everyone seemed to have a technical case for cables. It is important to have a technical argument for the geeks and engineering community, but there was no back up that gave validity that was beyond dispute. There were many different arguments but these did not help us to sell cable. It was the subjective arguments that won. No matter what the technical case, audiophiles buy the product that makes the most difference to the sound.

DP: Were the dealers and press hard to persuade?

NL: Some dealers were easy to persuade but they found it difficult to believe they could sell a product that they were otherwise giving away free. They also found it difficult to sell wire for 60cents per foot that cost in simpler form 6cents a foot. So we had to help them with demos.

The press on the other hand were split into two camps. The audiophile camp instantly heard differences and they wrote about it here in the US and abroad. But there was a group of US mags especially that wrote against it saying cables do not make a difference. They also had a heavy measurement background and they were the same folks that could not hear a difference between transistors and tubes and accepted

NOEL LEE - HI-FI AND ME

"I have been a hobbyist ever since I was a teenager, and with no money I had to buy many little kits and make them. That is how I learnt how to build and tune products. My first system was a Dynaco amp, Dual turntable with AKG cartridge and KLH speakers and the like. I have had lots of different items through the years, including Quad electrostatics and many British items like KEF 3/5as - the little guys that were fantastic! I am now a home theatre fan as well. Today my preamp is Lexicon and my power amps - before we made our own - were Krell, and my speakers were Martin Logan Monoliths. The world is going multi-channel. However, truly good multi is difficult to set up and expensive. When mono went to stereo there were a lot of different ideas around such as ping-pong stereo and we are seeing the same things happening now. However, mixing video with audio is the way it is going. For purists including myself, two channel still is where it's at for sound quality. I am glad to see tubes and vinyl having a resurgence though, because there is a resurgence in real listening and enjoyment of music."

hand wound in my garage, before I came up with the formula for a good sounding cable.

As an enthusiastic hobbyist and audiophile, I thought I could make a business out of cables. However, I



that transistors were better. They could not hear a difference between CD players and D/A convertors either. They have all gone out of business or changed names or been bought. So the audiophile camp won!

As for the second part. Audiophiles heard the differences and declared them greater than those from a change of phono cartridge and often bigger than the differences made by an amplifier or preamp. This meant the cables costing 20 dollars to 50 dollars at that time were a very reasonable cost for the improvement in sound they gave.

The two markets between US and UK were dramatically different, especially from the press viewpoint. The UK press is very influential

“I knew the cost benefit was as good as any other product on the market...”

about what the consumer buys, and was very receptive. In fact, the UK consumers were the ones who developed Tiptoes and spikes and filling speaker stands with sand and lead shot and suchlike. The UK is a hotbed for improvements that don't cost a lot of money. However, there were other brands so we had to fight names like QED and some others.

The US press were not quite so receptive and were a little slower because of the nature of the product and because they were somewhat unwilling to accept new ideas and concepts. We had in fact made cables fashionable. Most people had got burned out about turntables and cassette decks and speakers and were looking for something new. I never doubted the worth of what I was doing because I knew it worked and I knew the cost benefit was as good as any other product on the market.

DP: Was it flattering to find yourself in competition with rival cable companies?

NL: At first I was very upset about competition. I would create a market that others did not have to do, but simply had to waltz in and present their version, often at lower prices without all the effort we had made. But in the end I learnt that competition was healthy, because they tend to validate the market. If nobody else entered people might ask if it was legitimate: why were others not in the market? So Hitachi, Van den Hul, QED, Siltech and others took a piece of the market but also grew it for us. Today it is well known that cables do make a difference as a result.

Monster cables are technically different drastically. We did not believe in the benefits of LC-OFC and things that related to the quality of copper. We believed that other factors, like gauge, winding pattern and dielectric had far more effect. Our technologies are now well known and we have over 100 patents, many of which highlight the use of multi-gauges and winding at different pitches, and time aligning

the cable to take time smear distortion out of the wire. This dramatically improves the sound and naturalness more than any other competitor who uses just straight wire. We call this "Bandwidth Balanced".



click on www.monstercable.com for more information on Monster's huge range of interconnects, cables, audio accessories and electronics

Groove, Clean



If there's one thing LPs don't like, it's dirt in the grooves. Carbon fibre brushes are a great solution for dust, but only a professional machine, such as this one from Loricraft, will remove scunge. Francis Tabor does the ablutions...

The original idea for a wet cleaning machine came from Percy Wilson who published his ideas in 'Gramophone' magazine in the 1960s. Rumour has it that gin was initially used and some people still use vodka, which is ideal in many ways.

Since the cupboards at Tabor Towers will not run to a few bottles of these exotic variants on the theme of alcohol (purely for test purposes of course), a cheaper substitute would be isopropyl alcohol, which should be added to about two and a half times its volume of water.

However, there is a possible problem with alcohol interaction with the vinyl that might cause long-term damage. A better solution (sic) was found by Martina Schoener of L'Art du Son, the German importers of the Loricraft cleaner. With the help of a university, Martina researched possible liquids for cleaning that will not harm vinyl and her product is now recommended for use with the machine. The residual, such as it is, produces molecules that are smaller than vinyl molecules, so they effectively vanish as far as the stylus is concerned. This is probably the only liquid that can be used safely on the more fragile 78rpm discs.

An important reason for cleaning new records is that when LPs are

pressed they leave behind a mould release agent, which is similar to cooking oil and not good news for the diamond tip of your expensive stylus. This agent is removed by the special formula cleaning liquid.

The original Loricraft was made ten years ago by Terry O'Sullivan - production is now nearing the one thousand mark. The original machine was the PRC2 and is still made. It has two boxes, one for the pump. The machine reviewed here is the PRC3 and some cost saving has been made by using a smaller pump and putting the entire machine into one box. Needless to say, many of these machines are sold to archivists who wish to transfer valuable collections to CD with the minimum of surface noise.

SET UP

The used fluid jar needs to be attached to the side of the machine and the plastic hoses plugged in. Next you have to draw the thread through the arm and into the jar, which is where the spent thread ends up. The supplied liquid comes in a 100ml bottle, the contents of which need to be added to distilled water and there is enough to make 5 litres. This is a concentration of one part in fifty, so I used a convenient 250ml container from my photographic kit, adding 245ml to just 5ml of the concentrate. Finally, the arm needs to be balanced as you would a pickup arm. To do this, unlock the weight at the end of the arm using the supplied Allen key. Move the weight until the cleaning point has a downward force of about 2.5g - a little heavier than most cartridges. Then tighten the

weight with the Allen key and you are ready to start work.

IN USE

An eye dropper is a convenient tool for use. Switch the motor switch to the on position. Apply about 5ml of fluid to the record while it is rotating. Avoid the paper area in the middle! Work the fluid into the grooves using the supplied nylon brush. Don't apply pressure; the brush is only needed to spread the fluid. The bristles are .007 inch in diameter while a record groove is typically .002 inches. This means that excessive pressure on the brush could damage the record, so be warned. You are not trying to grind it into the grooves. Make sure the grooves are thoroughly covered, but don't use too much fluid as it will be thrown off the edge of the record as it spins. Just in case you do, the switches have splash-proof rubber boots to prevent electrical problems.

Now here's the slightly surprising bit. Place the vacuum arm on the 'wrong' side of the label, just as in the photographs. Now switch on the arm and pump switches. The vacuum arm will traverse the record in about one minute. When it reaches the rim of the record, switch off the arm and pump switches.

It is possible that there will be some slack in the thread as the arm moves towards the rim. This is normal and surplus thread will be sucked into the jar at the side when the arm runs off the record. Turn the record over to clean the other side. You will need to rotate the spool by just a few millimetres to have some slack in the thread before starting to clean each record. It is obviously a



thread



jar

RESULTS

First up I cleaned my most recent purchase. Not brand new, it has been played a few careful times. Norah Jones' 'Feels Like Home' is a very different sound to that of older LPs and I was surprised at the clean CD-like overall quality of the record. But that said, there was some continuous background noise at a low level. After cleaning that background noise all but disappeared. There was still the occasional little click, but there were fewer of them.

Ms Jones' singing seemed to improve after cleaning. Difficult to quantify but I'm sure there was a hint of distortion before the operation. Afterwards, that had gone and Norah sang very sweetly for me. Could there have been a little bit of surplus mould release agent on this pressing? A good start, then.

Moving on to the first LP in my alphabetical list, I took Allegri's Miserere from its sleeve for the first time in at least five years, possibly ten. Yes, the familiar crackles were there, but I have to say that with a 'hi-fi' system, I have always noticed that records do sound quieter than with the cheaper kind of 'record player'. Many times friends have been impressed with

the low background noise that you get from a good front end. Cleaning this budget-price elderly LP was a revelation. There's quite a long lead-in time from the start of the record to the start of the music and it was nigh on impossible to hear anything during this time. This was as near CD as I've heard from the background noise point of view.

Rummaging through the older records in my collection I came across a 'direct cut' album by Laurindo Almeida. Recorded directly to disc, this technique was intended to remove the tape hiss, as no tape recorder was involved. An added advantage was that the entire side of the record needed to be recorded in one take, giving a very 'live broadcast' feel to these records. On this example, the vinyl is white and very thick. It does not bend easily and is heavy. At first, I was puzzled that the cleaning operation only seemed to have a small effect. But then I realised that the music is recorded at a very

low level (as well as being recorded at 45rpm). This



arm



brush

no doubt gives quite an improved dynamic range over conventional LPs, but it does mean that your volume control needs to be set higher and of course this brings up the background noise. No tape hiss, perhaps, but all was not perfect.

Finally, I tried another direct-cut record. This time an old favourite, 'The Missing Linc' by Lincoln Mayorga and Colleagues recorded on the Sheffield Labs label. This is conventional thin black vinyl and played so often that there were finger marks all over it. A little crackling accompanied the music the first time I played it but after cleaning... well watch out CD, this one has been well and truly restored to the sound I remember when I first played it over a quarter of a century ago. The detail in the instruments is superb while the drumming on the Cat Stevens number 'Peace Train' was as exciting as ever. This is the most-played track because of the very last note and deservedly so.

CONCLUSION

This cleaner will not work magic. It cannot remove scratches. Neither does it completely remove all background noise. Remember that in many cases you can hear the tape hiss. What it will do is remove the grease from finger marks, the mould release agent from brand new recordings and, with the addition of a new inner sleeve, keep your records free of static build-up for years to come. Demand is heavy, so put your name down now!



top

good idea to keep the turntable very clean, as every time you will be putting a freshly cleaned record on it when you start to clean side two.

But should you just clean your records and put them back in their sleeves? Oh no, don't do that! Any dirt in the sleeves will just scratch the surface as the record is placed back in the sleeve. Better by far to buy brand new inner sleeves and use one of these after cleaning, discarding the original, or possibly putting the new inner sleeve inside the original, before putting the combined pair into the original outer sleeve. It's worth the effort!

I went shopping at Hififorsale.com Ltd - a dealer who sells a variety of inner sleeves or just this purpose. They stock sleeves by Nagaoka and Veda as well as a lined paper sleeve. All these replacement inners are anti-static, which is an essential requirement. Cost for a hundred varies from just under £30 to nearly £60 depending on the type you buy.

RECORDS USED IN THIS REVIEW INCLUDED:

- Norah Jones: *Feels Like Home*. Blue Note (EMI) 576 6021
- Allegri: *Miserere*. Classics for Pleasure CFP 40339
- Laurindo Almeida: *Virtuoso Guitar*. Crystal Clear Records CCS 8001
- Lincoln Mayorga: *The Missing Linc*. Sheffield Labs S-10

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 ☎ +44 (0)1488 72267
 www.garrard501.com



'Colt status'

Back in the late seventies, one of Japan's largest heavy engineering companies decided to go into hi-fi manufacturing. Mitsubishi - then best known in the UK as car manufacturer Colt - duly distinguished itself with a range of superbly made mid-price separates and even a high end micro system, the M-04. David Price takes up the story...

The nineteen seventies was the golden age of Japanese hi-fi, which isn't to say that the breed is having a bad time now, but simply that this period saw tremendous growth and change thanks to the extreme rivalry between Nipponese brands. Audio was seen as a highly desirable field to be in, not least because of the respect that manufacturers of quality hi-fi garnered, but also the money to be made. The result was that several of the country's general engineering companies moved into hi-fi separates, with quite surprising results. The Mitsubishi M-04 system you see here is one such example.

Of course, Japan Inc. specialised in audio separates. At the time, systems (specifically music centres), weren't seen as at all respectable - if you were serious about sound, then a one-box machine would never be on your list. So every credible music lover would be expected to have a large rack of components (the rack

system) as a testament to his or her commitment to the noble art of high fidelity...

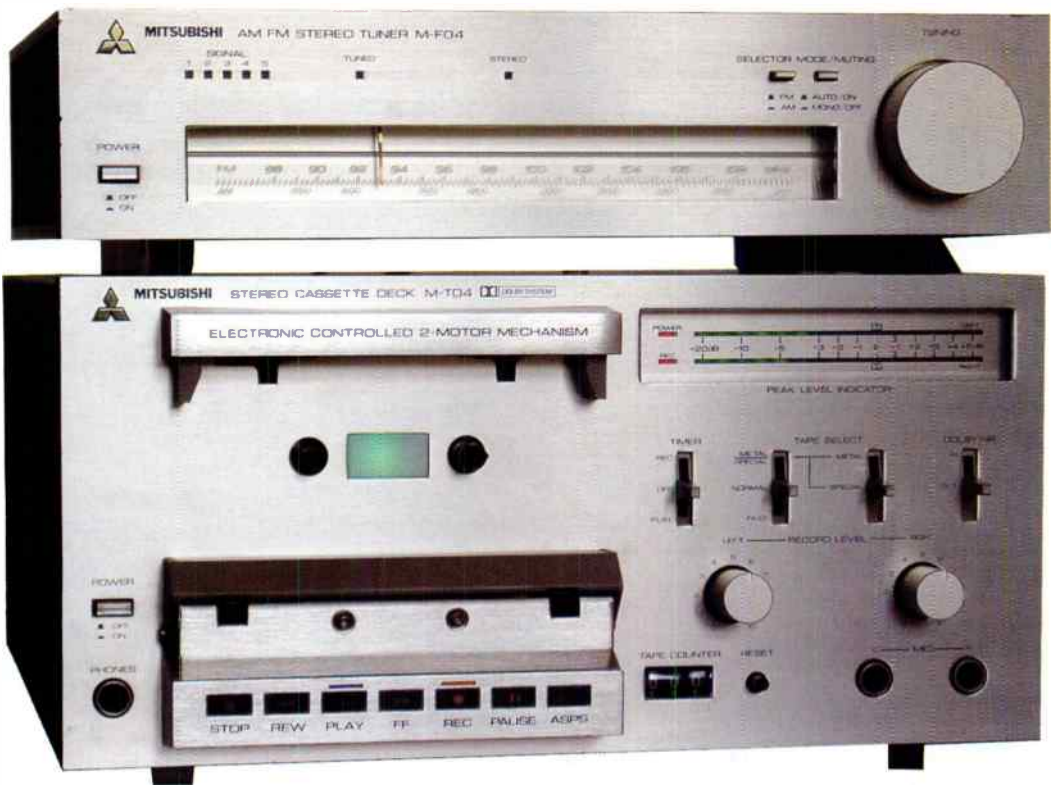
While this wasn't such a problem in the more capacious domiciles of Western Europe or the United States, in compact Japanese living rooms a high end rack system could end up taking half the floor space. To wit, Aurex (nee Toshiba) came up with the 'micro system', offering genuine hi-fi sound in a remarkably small package. A host of imitators followed, and the Japanese proved - if it was ever in any doubt, of course - that they could miniaturise consumer electronics like no other.

Mitsubishi's decision to move into audio electronics happened around this time, and the company launched a range of fine - if not particularly distinguished - hi-fi separates. Its success was hardly surprising considering the Japanese giant's prolific OEM activity. Yet the M-04 series was probably its highest point. An exquisitely finished system of micro components (known in

abbreviation and acronym obsessed Japan as 'mini-compo', inevitably), it is better built than any modern Denon or TEAC mini system. In fact, the only product to which it does not compare so favourably is - yes, you've guessed it - the top Aurex micro systems, which were considerably more expensive, anyway.

At its heart is the M-P04/ M-A04 pre-power amplifier. Although the pre is compact enough to make a modern Cyrus 'shoe-box' look indulgently large, it's packed with facilities including two phono inputs (one of which has switchable MM/MC gain), a welter of input options including dubbing between two tape decks, defeatable tone controls, subsonic





filter and mono switch. The matching power is twice its height, the lower half and all of the side casings being devoted to heatsinking. As was *de rigueur* back in 1980, it boasts LED peak power meters (switchable between 0-1W and 0-100W) and switching for two pairs of loudspeakers. The M-A04 is a redoubtable bit of kit - despite its diminutive dimensions it weighs around 6kg! As if this wasn't sufficient proof of intent, round the back there's a switch which lets on work in bridged mono mode...

The M-F04 tuner is a very neat design, complete with LEDs for signal strength, tuning and stereo, and a beautifully clean tuning scale and crisp, smooth tuning action. The best bit is its backlight, which glows a quiet yellow when tuning, but as soon as you move the knob on to a station, the entire dial rather dramatically glows green! The M-T04 cassette deck is another superb item. The same size as the M-A04 power amp, it's nevertheless fully spec'd with a two motor transport,

full logic controls, peak LED meters and metal tape facility - by the standards of the day, pure exotica. The

transport feels a very quiet, high precision affair, and the 'direct cassette loading' is a joy to use.

Last and least is the DP-EC7. Although a well finished and very substantial direct drive turntable, it's pretty anonymous. It looks like one of the many OEM products that appeared with NEC, Realistic, Hitachi and Toshiba names. Its S-shaped tonearm shows unusually low bearing friction with excellent alignment for a deck of this type, but it's not up to Rega Planar 3 standards - which I suspect would have been a direct price rival at the time. Still, it's silent, smooth, speed-stable and a joy to use - which pretty much sums up its intended design criteria, methinks...

SOUND QUALITY

The original, bundled Audio Technica MM cartridge fitted to the DP-EC7 was never going to win any prizes - although it was usefully upgraded by a modern AT-110E [see TUNING] - but the turntable was the least distinguished of all. A tad vague and two dimensional, it wasn't bad but nothing to write home about.

The electronics, however, were quite special. Considering that this system cost upwards of £600 in 1980 (three times as much in today's money) then perhaps it's no surprise that the amplifiers are real stars. They're not up to the standards of a modern Cyrus 8, for example, but still produced lots of fast, tight, clean power (I'd guess around 70W RMS per channel). The phono stage was surprisingly good too - better than the sort of thing that comes bundled

into a modern £2,000 AV amplifier, although nowhere near the likes of a Trichord Dino. In isolation though, it was the M-A04 power amplifier that was the hero - without the preamp to thin out the sound slightly, it really shone with a big, punchy and full sound.

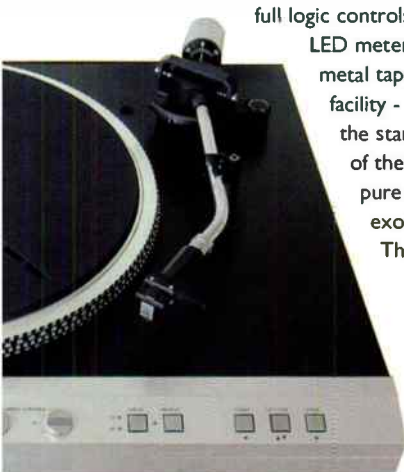
The M-F04 tuner was also impressive. Of course, it's an all analogue design, but a late period one when they'd got the technology right. The result is a smooth and natural sound with fine depth and space - by comparison, a high end Sony ST-J75 digital tuner of the day (costing half as much as this entire system) sounded coarse and hard. The cassette deck was also excellent - not up to Nakamichi standards of course, but comparable to an excellent mid-price machine with stable speed and good heads.

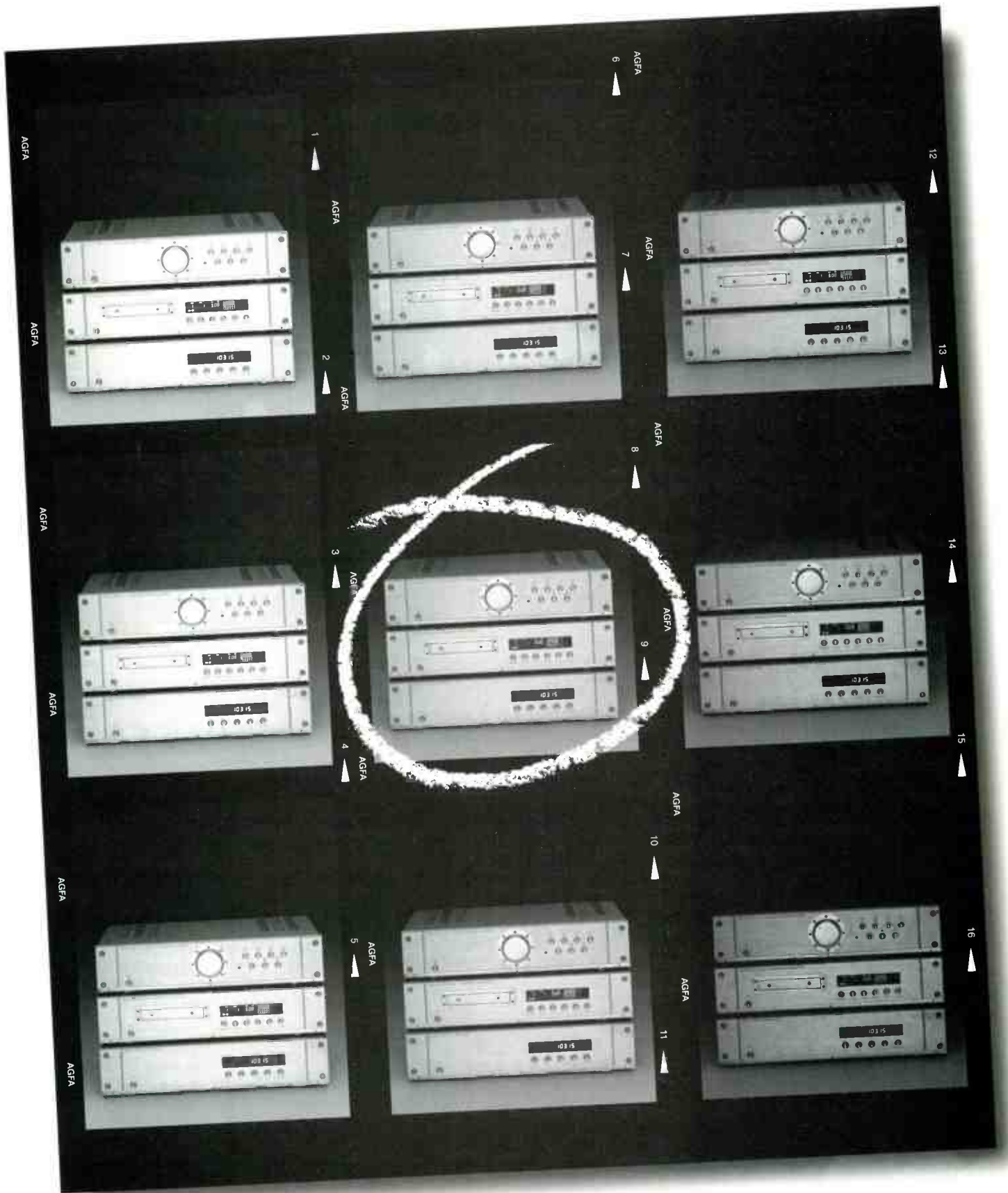
VERDICT

Systems such as this are surprisingly easy to find, and represent brilliant value for money, as they invariably sell for under £200. There's something truly, deeply impressive about the way Japanese manufacturers built their serious hi-fi twenty five years ago. It was before the Yen really started rising in value, and the cost-cutting that invariably followed. It's not quite as stunningly hewn as an Aurex, but not far off nonetheless - and sounds superb considering it's such a small outlay today.

TUNING

This system was bought second-hand for £160, and arrived in a right old state. The main problem was dust, which had got into all the socketry around the back, making the sound dull and vague. The hallowed bottle of Kontak was deployed, complete with pipe cleaners to get into the difficult places. The turntable then needed a new cartridge (an Audio Technica AT-110E, £25) and I fitted it into an old ADC LMG-1 magnesium headshell (£5, second-hand) for a more rigid mounting. The amplifier's ancient speaker cable was replaced with QED Classic 79 strand (£1.50/m) and some QED Qunex 1 (£20) interconnect used between pre and power amplifiers. Finally, the whole shebang was placed on a set of Milty Foculpods (£18). Result: the sound was transformed from dull and thin to neutral and engaging yet smooth - perfectly listenable even after I'd just been enjoying my considerably more expensive reference system!





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Reference, Serious

Grado's RS-1 is one of the most expensive headphones currently on the market. But how does it compare to Sennheiser's much vaunted high end HD-650? David Price listens in...

The story so far: there are lots of esoteric headphones around, but to all intents and purposes, those wishing to get true high end sound without remortgaging their abodes are presented with a choice - Sennheiser's HD650 or erm... Sennheiser's HD650. Although Beyer's high end products, such as the DT990, snap at the heels of the HD600s, the new Sennheisers are better still - and also don't suffer that silly cord that comes with Beyers...

Still, being a manufacturer of fine phono cartridge transducers, Grado was always well placed to make headphones, which aren't that too far away from 'headphones in reverse', if you see what I mean. There's definitely a link - precision micro engineering, exhaustive tolerances and some of that old, indefinable, black magic.

Now, at £750, the RS-1s are a lot of money. And frankly, the pound for dollar price tag isn't something that I'm terribly keen about. At \$695 in their native United States, you could just about label them as affordable (if you're a full-on audiophile who wants the best), but a price hike of over fifty percent by the time they've reached our green and pleasant land doesn't impress yours truly one jot. Ho hum. As Jeremy Paxman would say, "yes, well..."

Anyway, the RS-1 certainly isn't a shoddily made product by any stretch of the imagination, with its use of a wooden body. Whereas the Germans use Mercedes Benz-style dashboard plastics (all very nice and high quality, but plastic all the same), these are more redolent of a Lotus 7. Wood, of course, is a superb material as far as acoustics are concerned - as evinced by the simple fact that the only plastic bodied loudspeakers you see come bundled with £100 Aiwa microsystems. As a material, it's light, rigid and well damped - and judicious choice of the wood type makes it all the more so. So, we'll applaud this and grudgingly accept the RS-1's UK pricing for the moment, at least.

The particular type of mahogany used, and the way it is hewn aren't disclosed, but suffice to say it's very impressively finished and hitting the earspeaker bodies produced a quiet, well damped sound. The headband is leather, although looks like high quality vinyl, and is only sparsely padded. Frankly, they're not as comfortable as Beyer's DT-990s, but at least they don't quite have the 'vice-like' tightness of a freshly minted, un-broken in pair of Sennheiser HD650s. The cable avoids the nineteen seventies retro silliness of Beyers, and instead is straight line, uncoiled affair complete with a '15-foot' extension lead.

SOUND QUALITY

Kicking off with Roxy Music's 'More than This', the Grados put in an extremely engaging performance. It was very upfront, fast, vivid, well detailed and emotionally captivating - yet never once sounded harsh, hard, forward, clanky or cloudy. I was most impressed. Switching over the Sennheiser HD650s - complete with Stephan AudioArt cables (add another £100 or so) - and the same track sounded quite different. It was fuller in the bass and lower midrange, making the Grados sound a little light and insubstantial. Its treble was also obviously less well extended, with a more compressed and 'plastic' sounding demeanour. In the midband, the Sennheisers were more measured - they were less overtly dynamic and expressive, yet only a little less engaging thanks to their excellent grip. I have to say, the Grados made the Sennheisers (at one third of the price, don't forget), sound uptight and workmanlike, but I couldn't help but be impressed by the overall all round ability of the HD650 (tweaked) nonetheless.

Moving to some classic techno, and Isotonic's 'Different Strokes' showed the Sennheisers to have great detail, real depth and dimensionality and a strong, commanding bass. But then I switched to the Grados and it was as if the proverbial wool wadding had

been removed - the track was so much faster, more articulate, more lyrical, more moving. Bass was lighter yet

more tuneful, and treble so much more natural and organic sounding. By contrast, the Sennheisers seemed oh-so-German, somewhat akin to a VW Golf - brilliantly built, tremendously competent, but ultimately unengaging and rather mechanical and - dare I say it - plasticky. The Grados were obviously more musical, more lyrical, more fun. Treble and midband were their obvious forte -

it had the capacity to move, to inspire, to rouse. By contrast, the Sennheisers merely had the capacity to analyse, to incise, to report. After running the gamut of my music collection, I was in no doubt that I'd rather be listening to the Grado RS-1s, no matter what the music.

Still, despite their high end pretensions, they weren't perfect. Switching to my Quad 989 loudspeakers, complete with Townshend Maximum supertweeters, the Grados suddenly sound lightweight and veiled, and the Sennheisers plasticky and frigid. There's no doubt that either of these headphones are brilliant value for money, but neither will better serious £7,000 electrostatic loudspeakers - shame! When I find a pair that can, I'll let you know...

THE COMFORT ZONE

The Sennheisers felt like my head had been clamped in a loose and padded vice. The Grados seems far flimsier and less substantial, and I had to twist them into place over my ears, so each lug-hole got the right volume level, but thus manipulated, they proved very comfortable. That extension cable is a brilliant and very welcome touch, too - but so it should be at this price!

REFERENCE SYSTEM:

Marantz CD63 KI DP CD player
Musical Fidelity X-LP v3 headphone amplifier
MF Audio Passive Preamp
World Audio K5881 (modified) power amplifier
Quad 989 loudspeakers
Townshend Maximum Supertweeters

VERDICT

Superlative sound quality - brilliantly open and engaging - although not comprehensively better than their Sennheiser rivals at under half the price.

GRADO RS-1 £750
Veda UK
☎ +44 (0)1279 501111
www.veda-uk.co.uk

GO WHEST?

Whest Audio's DAP10.R is one of the most radical hi-fi 'tweak' products on sale. An active analogue audio signal processor, it claims to make all CD players give a more life-like sound - for a not insubstantial financial outlay. David Price listens in...

THE THEORY

James Henriot is a pro audio engineer who's spent a lot of his life making live recordings in studios, churches and concert halls. Unsurprisingly perhaps, he says this has given him an acute sense of precisely how live music sounds. With this in mind, he tells me he finds it quite hard to listen to CD, because it lops off a whole chunk of audio above 20kHz.

Of course, we can't hear this, but anecdotal evidence from subjective listening would suggest we can nevertheless perceive it. James reckons that all CD players exhibit the same set of problems above this theoretical cut-off frequency, and points out that it's the loss of harmonics, emanating from notes far down the audio band, that's the most obvious subjective manifestation of this.

"It's not surprising," he says, "as a single tone (say 1kHz) is not just a point in time but several. It has a complex content that spans below and above its 1kHz base frequency... Interestingly though, a good £500 audio amplifier fed with a 1kHz tone will add its own 'content' to this, so you then end up with the 1K tone plus its harmonics, plus the amplifier's added harmonics. This leads us to the DAP technology."

The research and development started nearly five years ago, with James trying to explain the gulf between pro and domestic systems playing back the same material. He says that in the same environment, even very expensive domestic systems always sounded slow and lacked resolution, soundstaging, focus and low frequency accuracy compared to the pro systems.

After "much measuring with


quite radical and bespoke measuring equipment", he found that, compared to the master tape, CD players exhibited a "doubling of frequencies which were slightly time shifted... So you could see a peak, plus another faint peak next to it". He claims he could consistently observe this, regardless of CD player type.

"Where the problem was, we are not too sure, but seeing that signals coming off the Compact Disc are in A,B,A,B format, one channel then the next and so on, could explain part of it", he adds. "The DAP10R attempts to line up these peaks, and because the DAP technology works 'outside' of the audible domain the systems inherent tonal quality is left untouched but the resolving power of the system increases".

THE PRODUCT

The DAP10.R's circuit design was based a concept which was borrowed from a £3,500 two-channel microphone preamp James was commissioned to design for a client. All the audio circuitry is discrete (hence its 'Discrete Audio Processor' nomenclature). The external housing and fascia plates are made of Aluminium type 6063. The material was chosen for its non-ferrous properties and lack of interaction with the power transformer's magnetic field.

The internal structure consists of 8 PCB containing four dual potted modules, piggy-back mounted and potted using a MIL spec compound. The purpose of potting is to reduce the influence of moisture which is a known cause of low level noise, says James. Another advantage is to reduce the effects of airborne and mechanical vibrations on the PCBs. The bespoke PSU is constructed as a balanced power supply. Each module



receives its own rectified, smoothed and regulated voltage supply. The toroidal transformer is said to exhibit low mechanical noise through the use of laminated cores, and is hand wound in the UK by specialist suppliers. Ultra fast soft recovery rectifier diodes are also used to reduce the effect of RFI and switching losses. All PSU capacitors used are low-Z and ESR and are all bypassed using zero-Z 100n audio spec polyester types.

THE SOUND

This was an interesting assignment for me. I'm not particularly well disposed to hi-fi wonder cures, sonic snake oil, audio medicine shows, *et al.* I've gone on record with my 'scepticism' of ultra-expensive interconnects, ludicrously overpriced accessories, and the rest of it. Frankly I'd automatically assumed the DAP10.R was precisely this sort of thing, especially as it costs a whopping £900. As such, I wouldn't normally have asked to review it, but events conspired to persuade me otherwise. The first thing was hearing anecdotes from several readers, who kindly took the trouble to write in and tell me that I had to try it. And then even a couple of dealers - whose judgement I respect - pitched in. Fair enough - a phone call to James was made.

Now, I don't for one second

claim to understand the theory and practice behind it. Perhaps for commercial reasons, James has been obviously rather 'vague' in his explanation. Noel, I suspect, could (and should, one day) go into this in great detail. But the need to go to press with this very late prohibited this for this particular review.

Methinks there will be a follow-up column by NK or myself sometime soon! Suffice to say that the human auditory orifices are the sternest test of the worth of a

steady click of stick against cymbal became more apparent in Aquilera's 'Can't Hold Us Down' and the hard bass dynamics sounded fuller and more resonant. Again, I couldn't criticise a thing, except to note that the Whest seems to add an almost spooky sense of clarity and slightly emphasises spectrum extremes by drawing attention to instruments, rather than altering tonal balance. With old and at times slightly harsh and muddled Rock from Gerry Rafferty the Whest lost no ground at all in its abilities. With classical music, strings of the Chicago Symphony Orchestra resolved better and sounded both full and lush with Rimsky Korsakov's Scheherazade, brass sounding fruity and rich - nice. Celine Dion's 'A New Day Has Come' did at times sound a little phasey, but this could well have been the Whest drawing

power supply buzz, which compromises the low noise of a modern CD or DVD player. Luckily, it's low enough to be inaudible in use.

In spite of these blemishes, the Whest injects a much needed sense of life into modern digital that it otherwise so patently lacks, for which it has to be commended. It's influence is quite pronounced at times, yet in a way that was always acceptable. The question then is - is it worth the money? Well, the answer can only be 'try it and see'. Find a Whest dealer and arrange a home dem - and you'll soon be able to make your own mind up. What I've found is that - no, it's not snake oil and yes, it does improve CD sound quite markedly. It's up to you to decide if the funds could better be spent upgrading your CD player or DAC instead.

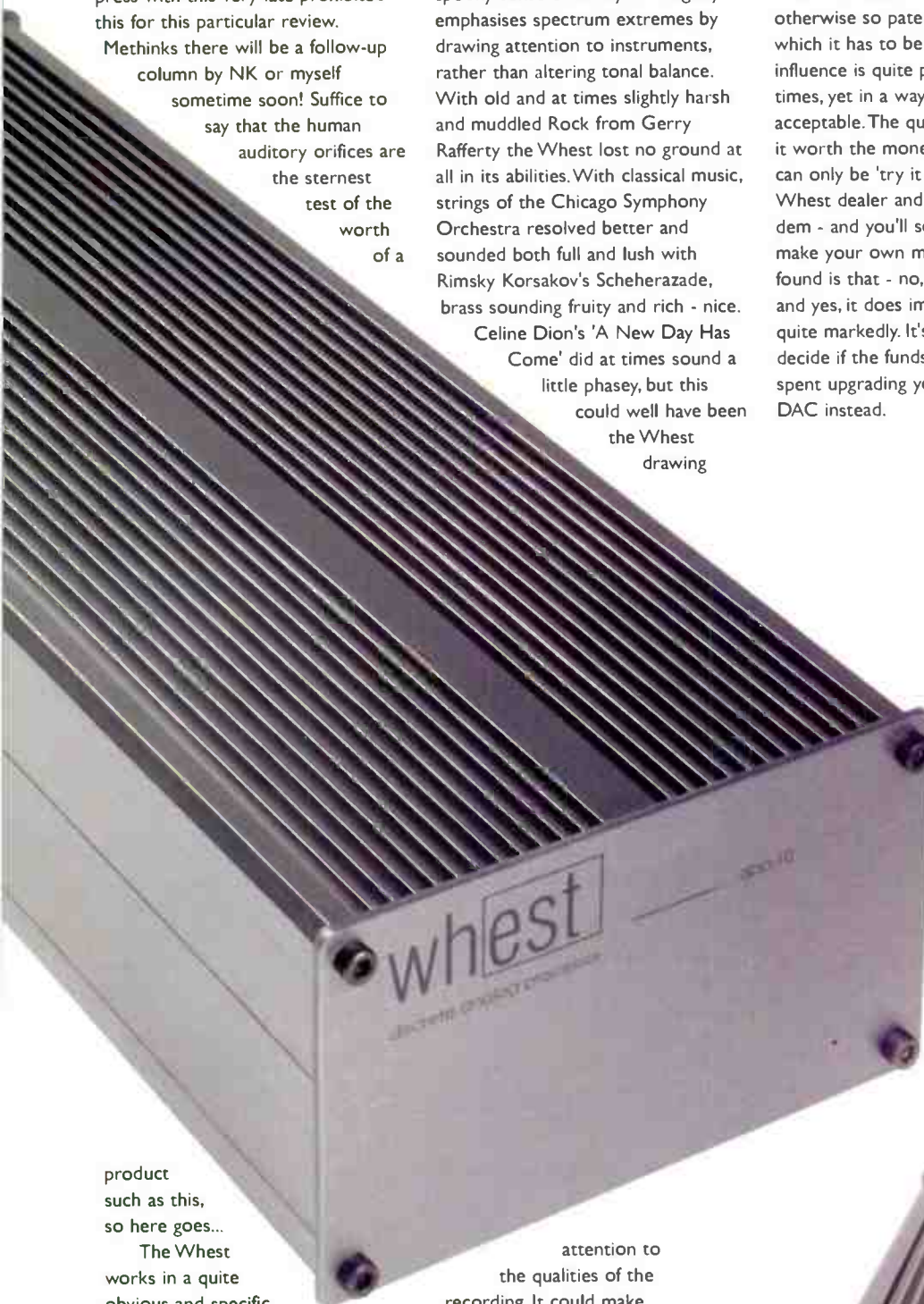
VERDICT ●●●●

Really does improve CD sound, in very beneficial ways - but whether it's good value for money depends on you and your system!

WHEST AUDIO DAP10R £899
 Whest Audio Ltd
 ☎ +44 (0)20 8965 4535
 www.whestaudio.co.uk

POINTS WHEST

Based in the heart of London, James Henriot (the man behind Whest Audio) is an audio engineer who has designed for both the professional and domestic audio fields, specialising in professional live sound recording and analogue audio processing and audio research and development. The DAP10.R is the company's first commercial product, but expect an interesting new phono stage out very soon!



product such as this, so here goes...

The Whest works in a quite obvious and specific manner subjectively, injecting a sense of sound stage depth through what appears to be added ambience. From a flat and relatively lifeless portrayal, singers and instruments are placed into a sense of three-dimensional space that is undoubtedly both attractive and convincing; I could not, using any argument, say I preferred the unprocessed sound!

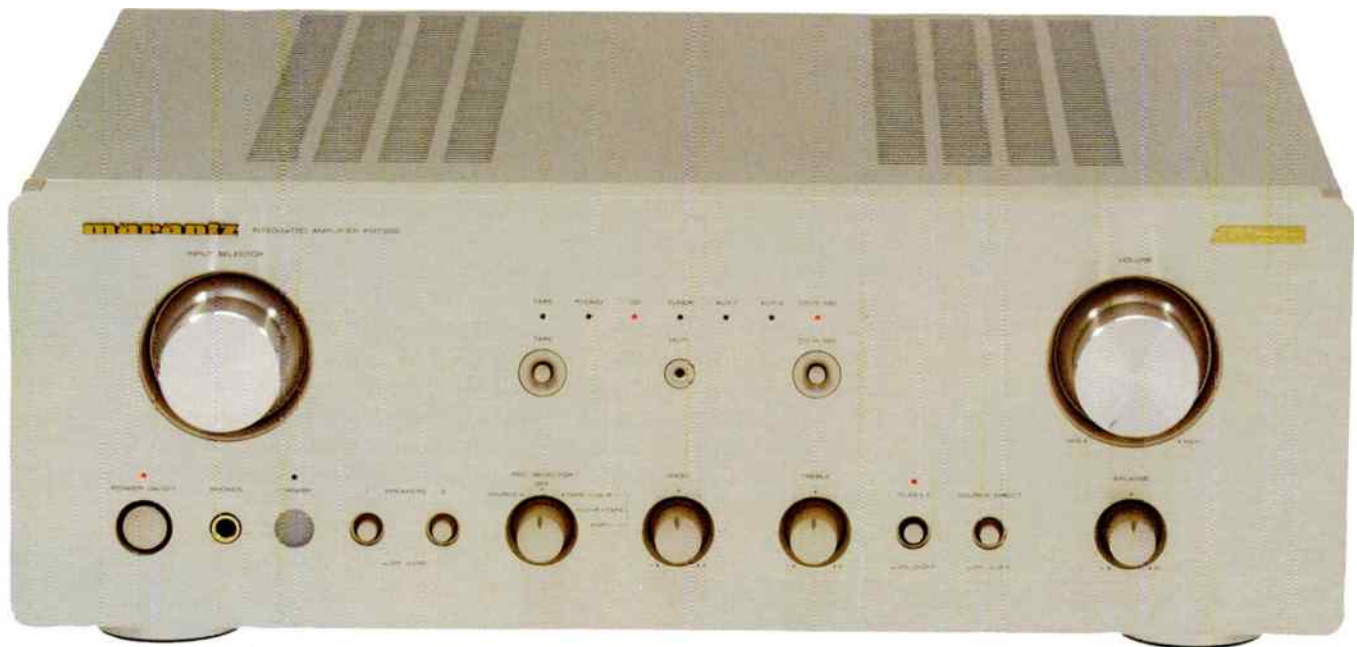
There were other attributes. The

attention to the qualities of the recording. It could make vocals quite forceful at times.

Two small details need attention though. The case is earthed, which introduces hum if both amplifier and CD player are earthed too. Disconnecting its mains earth cured this, but compromises safety. Turning volume right up then revealed a small amount of



Golden Wonder



When Ken Ishiwata is on form, the result is usually dynamite. The PM7200KI is the latest Marantz to explode onto the amplifier market, and Dominic Todd has a blast...

It may seem a little cruel to compare the Marantz PM7200KI to a bus, but the comparison is apt here. I'll leave the looks until later but, as with buses, the Marantz is unfortunate enough to come along at exactly the same time as a duo of highly capable newcomers. The Naim Nait 5i (£825), and Musical Fidelity X-80 (£600) may both cost a little more than the Marantz, yet offer sound quality so special that anyone spending around £500 simply can't afford to ignore them.

The Marantz gets off to a dubious start, in my opinion, with its styling. If the Naim is the Rado Ceramica and the Musical Fidelity the Tag Heuer 2000 of the hi-fi world, then the Marantz is a gold Seiko. That aside, you can't argue with the feature count, which confidently eclipses any rival. The standard PM7200 features a full system remote control, two sets of 'speaker outputs, separate record and listen selectors, twin tape loops, a processor loop, headphone socket and phono stage. In short, it's highly unlikely that you'll ever want for anything.

Being a PM7200 it also features a Class A switch. Selecting this, switches the amplifier from 95 watts per channel in Class AB mode to 25

watts in pure Class A. It's an unusual feature in what is, in other ways, an ordinary amp. Yet this is no standard PM7200. As with other selected Marantz products, technical genius Ken Ishiwata has breathed his magic on this integrated amplifier. As you'd expect from KI fare, there's a full copper plated chassis, copper screws, a hefty copper-plated toroidal PSU and even copper shields for the HDAM op-amps. In addition, Elna or other high-grade devices have replaced many of the capacitors, there's an Alps volume control, and OFC wiring. Even the meaty 12,000µf output capacitors are fitted with damping material. In short this is far more than a mere "chip and ship" job!

Reviewing the Marantz's sound quality proved rather less than straightforward as, in effect, the Class A switch means that it's really two amps in one. Nevertheless, with a Naim Nait 5i alongside for reference, I began by listening to Annie Lennox's 'A Thousand Beautiful Things'. With the Class A switch selected it was immediately clear that here was an amplifier with a very different sound to the Nait that stood alongside. Whilst the vocals weren't quite as incisive as with the Naim, they were beautifully smooth and beguiling, and without a hint of

excessive sibilance. Overall the sound stage was truly expansive, with a soft yet deep bass response. In isolation you would praise the timing and general control of the amp, especially for a budget Class A design, yet next to the Nait it couldn't help but sound just a bit loose and baggy. Switching to the more conventional Class AB made more of a difference than I had been expecting. There was certainly more sibilance from Lennox's vocals, and a more mechanical timbre to, yet the bass was undeniably tighter and slightly deeper. Its bold soundstaging reminded me of that other super powerful, integrated transistor amp, the NAD C370.

With Class A switched back in, it soon became clear that the PM7200 was not happy with The Prodigy's 'Out Of Space'. The bass simply didn't have enough kick, and the inherent softness of sound drained the track of much of its energy. Things improved greatly when the 95 watts of Class AB was released. It wasn't quite as agile as the Nait; yet the pounding bass response was superior to its British rival, and the attack and drive almost too close to call! Given the Naim's talents here, that's an impressive feat for the Marantz.

If the AB setting had suited The Prodigy best, the opposite was true



CLASS PRODUCTS

Although unusual, Marantz are no strangers to offering amps with switchable Class modes. In the late 1980s they produced the PM-95, which weighed in at a back-breaking 25kg. It even sported the very vogueish feature of a built in DAC, but at nearly £2,000 was far from cheap. A more direct descendant was the PM-80. Much like its offspring it offered power and control aplenty, with Class A an option for when music should soothe rather than stimulate. Then as now, 'speaker choice becomes an even more important issue, as Class A only really gives of its best with sensitive designs.

VERDICT ●●●●£

Extremely capable sound at the price, bolstered by the novel option of Class A or AB operation. Surprisingly close to the sub-£1,000 super integrateds in all bar the styling stakes.

MARANTZ PM7200KI
SIGNATURE £500
 Marantz UK
 ☎+44 (0)1753 680868
 www.marantz.com

- FOR**
- Sumptuous soundstage
 - Class A switching
 - Fully loaded

- AGAINST**
- Dated styling
 - Fierce competition
 - Music sensitive

of the Divine Comedy's 'Becoming More Like Alfie'. Here there was plenty of detail from the acoustic guitar and exceptionally well resolved vocals. There was real colour and texture to the acoustic instruments, which is a rare quality from £500 integrateds with this sort of power. Then again, we were listening in Class A, and I could never quite get used to such a sweet sound coming from the 'gold monster' sitting in the corner of the room. Although I had questioned the timing with Class A operation before, this time it was well paced and the fine separation meant that even during the most complex passages of music, the song didn't become confused or congested. As with Annie Lennox, the attention given to the main vocalist was what most impressed. Hannon's vocals were lifted forward from the rest of the mix, and projected well into the room. It almost sounded as though someone at the mixing desk had increased the level for the lead vocalist alone.

I had expected a sweet string timbre with Classical music, yet Chabrier's 'Danse villageoise' proved frustrating to listen to. Although melodic, there was some blurring from the strings and a lack of attack that blunted the music in a similar manner as had happened with The Prodigy. Switching to AB brought about an immediate quickening of response yet also a more mechanical edge to the string tone. This was all rather frustrating as somewhere between the two settings lay the ideal, perfected in my mind, yet totally inaccessible in practice.

To round off the session I selected Tom Wait's 'Warm Beer and Cold Women'. The contrast from

listening to Chabrier couldn't have been more pronounced. Gone was the frustration, to be replaced by true involvement in the music's atmosphere and the realisation that the Marantz could 'put you there' as well as any integrated in its class. Perhaps there wasn't every last ounce of detail presented, but the natural saxophone tone and bold, gritty yet soulful vocals really hit the spot. With music such as this the Marantz made rivals, including the Naim Nait, sound just that bit too mechanical.

Despite the fierce competition it faces, the Marantz PM7200KI still manages to carve out its own niche, and proves to be yet another copper-bottomed winner from the KI stables. Whilst I personally feel that the styling is rather dated, the feature count is amongst the best in its class. No matter how much more stylish that Naim Nait may be, having to use a converter box for a second recording device would kind of defeat the object! It's good to know that the PM7200KI will handle almost anything, and will happily grow with your system...

Sonically it's just as flexible, too. The Class A switching brings about a welcome relief from the increasingly dry sounding amps at this price range. It doesn't offer the last

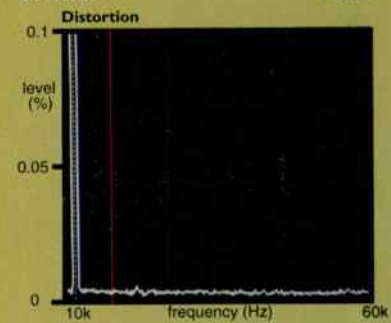
word in rhythm and drive, yet those who find the likes of the Nait 5i and MF80 just a little too forward, should be delighted by the sumptuous sound stage. Then of course there's the fact that there's a meaty 95-watt AB amp thrown in for free! For the times when Class A is just too soft, the AB device will just sharpen things up nicely. Of course it doesn't always get the balance spot on, but then I don't know of a single rival that's faultless either.

So, far from diluting the pool of talent at this price point, the PM7200KI has enhanced it. The choice as to which is best merely comes down to personal taste.

MEASURED PERFORMANCE

The PM7200 is powerful, delivering 84watts into 8ohms and 156watts into 4ohms running in normal Class AB mode. Switched to pure Class A mode these figures inevitably decrease, to 32watts and 56watts respectively. That's still enough power to go loud, providing reasonably sensitive loudspeakers are used. Power apart, performance changes little in Class A, distortion levels and bandwidth remaining unaffected. Since the crossover conditions change this seems unusual, but with the PM7200 distortion is so low there's only a residual to measure in any case. Our distortion analysis shows little more than a trace of second harmonic (0.004%) and noise. Bandwidth extends to over 100kHz to accommodate SACD and DVD-A. Even the phono stage reaches 80kHz. Line sensitivity was very high at 170mV for full output (AB mode) but normal for MM phono at 2.6mV. The phono stage measured well, featuring a warp filter that rolls down gain below 30Hz. Equalisation was accurate, noise low and overload high. The PM7200 will sound clean and open, measurement suggests. Differences between Class A and AB

	mode may well be subtle detail though; measurement suggests. NK
Power	84watts
CD/TUNER/AUX	
Frequency response	4Hz-120kHz
Separation	86dB
Distortion	0.004%
Noise	102dB
Sensitivity	170mV
DISC MM	
Frequency response	30Hz-80kHz
Separation	58dB
Distortion	0.02%
Noise	86dB
Sensitivity	2.6mV
Overload	140mV



Avant Grand?

Mordaunt Short's smaller 902, 904 and 914 loudspeakers have already received rave reviews.. so is it now the turn of their recently revised bigger brother, the 906 Avant? Dominic Todd listens in.



The original Mordaunt Short 900 series set something of a precedent. Companies such as Monitor Audio and Acoustic Energy had been using metal-coned woofer technology before hand, but no one had done it at the 900's price levels before. At the turn of the century, £150 for an aluminium coned woofer, domed tweeter, bi-wirable, bookshelf 'speaker, was exceptionally good value. Given its price, perhaps of even greater surprise, was the 902's superb sound. Further up the range was the floorstanding, twin-bass coned, 906. If you actually try and find a review of this 'speaker you'll struggle as, despite its four year life span, it always lived in the shadow of its 902, 904 and 914 siblings. Yet the same design principles applied. A rigid, narrow, MDF cabinet fitted with aluminium tweeter and continuous profile aluminium woofer units, although this time there were two.

The whole range has now been upgraded, and the newer models can be identified by the Avant tag. The basics are still the same, although the twin woofers now feature circumference ribbing to improve cone rigidity. The tweeter is unchanged, but the crossover is reworked to improve drive unit cohesion. Perhaps the most noticeable difference is the cabinet. Whilst always being narrow, it's now positively anorexic, which should bode well for stereo imaging.

To improve stability the spikes are now attached to bolt on feet, which extrude from the sides of the 'speakers. The cabinet itself features extra bracing, although it doesn't seem to be as solid as the previous 906 to me. As before, though, it's sand fillable and this is an option that simply must be taken up, as it improves the bass timing and image stability no end. Mordaunt Short call their new finish Honey Maple. Despite the rather twee name it's more likely to fit customers interiors than the old, darker, beech finish. Black is also available and both

colour options are, as always, faultlessly finished.

One of the reasons why the more expensive Mordaunt Shorts traditionally didn't do as well as their cheaper siblings was the increased competition. Little has changed here and, although they are thoroughly engineered they face some equally thorough rivals at £350. The most direct rivals have to be the Acoustic Energy Aegis Evo 3 (£350), and Monitor Audio Bronze B4 (£350) which both feature metal woofer technology. But don't rule out the rather under-rated KEF Coda 90 (£380) either.

I was expecting The Brand New Heavies' 'Shelter' to really suit the big 906s and, by and large, it did. There was a riot of detail at higher frequencies, yet it refrained from sounding overtly harsh or aggressive. There was a nice punchy, floorstander feel to the track, although, for a design of such volume, bass didn't go quite as low as expected. More impressive was the way it stripped away the music, carefully separating it and clearly defining it in a manner that one would usually associate with more expensive designs. For a comparatively budget floorstander design I also found the timing to be surprisingly good, although the lack of truly deep bass probably did more than its bit to help out here. For such a narrow design, the imaging wasn't quite as precise as I'd hoped for. It was no better than its boxier rivals and certainly not up to something like a KEF Q-series, whose coaxial drive units provide a less position sensitive soundstage. Overall though, the taut, cohesive sound was enjoyable and with enough wallop to remind you that you'd gone for the bigger design.

Jennifer Warnes' 'When The Feeling Comes Around' provided a vivid vocal performance. The staging was better here, with a solid central position and excellent vocal presence. Unfortunately I was also

Like many a British hi-fi company, Mordaunt Short has gone through a series of changes of ownership during its thirty years of existence. During the late 90s, it was financially in a bad way and was bought by The Audio Partnership (AP) in 1999. AP is hi-fi retailer, Richer Sounds' sister company, and one of the UK's largest hi-fi firms, with brands such as TDL, Cambridge, Gale, Ariston and Mordaunt Short to its name. You'd be forgiven for not remembering the 906's predecessor; as for most of its life it was exclusive, at least within the UK, to Richer Sounds. Insiders felt that the Mordaunt Short range was so good that it deserved further exposure. As such, the contract with sister company Richer was redrawn and the 'speakers were made available for UK wide distribution, rather confusingly, by Marantz!

reminded of the Achilles heel of the 900-series design: cone colouration. Whilst the lack of excess sibilance actually shows just how good the treble unit is, the upper mid-band is definitely tainted by the aluminium cone. It manifests itself, unsurprisingly, as a metallic edge that's noticeable with female vocalists such as here. It's rather a shame as the aluminium cones certainly bring about benefits in other respects. The guitar detail, for example, was far better than you'd expect from a 'speaker of this price, and the percussion in general was lively and vivacious yet never brash. Again, the separation of all the different instruments was excellent, yet it still managed to hold together and remain cohesive. One word of warning though: At higher volume levels the sound did rather harden and there certainly wasn't the refinement of something like the KEF Coda 90, or even Monitor Audio B4, for that matter.

The Prodigy's 'Out Of Space' also didn't really suit the 906s, but for a different reason. This time it was down to a surprisingly woolly bass that also didn't really grumble quite as much as it should have done. At least it was well integrated and there was the same, finely etched detail that we'd heard before. Yet, even when I added a lively Naim Nait 5i amp, the 906s simply failed to convince me that they could really involve the listener and raise their heartbeat to dancefloor levels. It was a pleasant enough listen, but I'm convinced that the Acoustic Energy

Evo 3 would have proved far harder hitting and, ultimately more exciting.

Ultimately, the 906 Avants were far happier with Classical music as Chabrier's 'Suite Pastorale and Espana' proved. Here, the lack of a deeply extended bass response quite suited the orchestra, as its natural weight and depth came across without undue emphasis or bloom. Yet it also proved incisive when needed, and the introduction of 'Espana' took me by surprise and made me jump, exactly as it should. Unsurprisingly, for a metal coned 'speaker, the brass tone was particularly good, and the music burst forth from the 'speakers without overwhelming the more subtle details such as the gentle decay of a cymbal. With the Nait in the driving seat, the 906's really had a tight grip on the music, and the overall sound was far more convincing than it had been with The Prodigy.

The Mordaunt Short 906 is a 'speaker I'd really like to like. I think it looks great, it's well built and has some impressive sonic qualities. Yet it's also one of the most frustrating 'speakers I've reviewed of late due to its inconsistencies and flaws. Some may forgive the upper-mid 'aluminium colouration' but I was always aware of it to some degree, and it made me pine for a good old-fashioned paper cone. The benefits are there in terms of detail, but it's a design that you'd have to audition extensively to ensure you'd be happy with it. Also disappointing is the lack of true bass attack and depth. It is generally taut and cohesive, but rivals from Monitor Audio and Acoustic Energy would easily out manoeuvre it in the boogie stakes.

Yet perhaps the greatest problem for the 906 actually comes from its own siblings. You could buy the smaller 902, which offers all the 906's tonality, for less than half its price. There's the same detailed yet refined treble, the same imaging, crisp timing and detail. There isn't quite the same level of bass welly of course, but it's actually more marginal than you might think. Add in the 902's superior bass timing and it all begins

to look tricky for the 906. So, as it is, the 906 is a flawed but still fine 'speaker that simply struggles to justify itself against both the opposition and its own cheaper siblings.



VERDICT

Occasionally superb, but ultimately flawed and genre dependant, this needs to be auditioned with care.

MORDAUNT SHORT MS906

AVANT £350

Mordaunt Short

(+44 (0)1753 680868

www.mordaunt-short.co.uk

FOR

- Musical insight
- Build quality
- Still fresh styling

AGAINST

- Cone colouration
- Lighter weight cabinet
- Mordaunt Short 902 Avant!

MEASURED PERFORMANCE

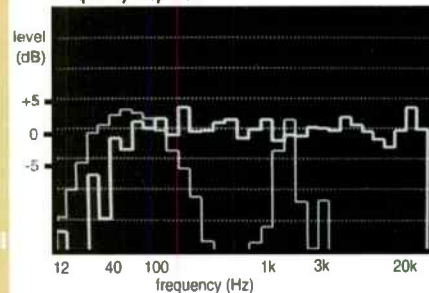
In overall trend the frequency response of this loudspeaker is perfectly flat. This usually translates to a forward, detailed sound, rather than a big bodied or fulsome one. In detail there are many small disturbances across the range, suggesting the speaker will have its own tonality, but then most metal coned loudspeakers are like this. Heavily damped plastic cone drivers measure flat but often sound dead! The Avant isn't as smooth as other Mordaunt Short loudspeakers, notably the 912/4 but it is fundamentally accurate.

Bass output extends down to 40Hz with no attenuation. The port works lower, down to 25Hz, which in large rooms will add some heft. Generally though, the 906 looks well damped and is unlikely to display boom or waffle. The impedance curve backs this up, with a heavily damped reflex acoustic load characteristic imposed on a 4ohm resistive voice coil. Above 200Hz there's the usual rise in impedance, until the tweeter cuts in, whereupon it again falls to 4ohms. The 906 is reactive at higher frequencies, but less so than most at low ones. Low overall

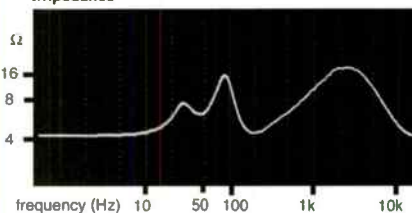
impedance, nominally 6ohms, contributes to high sensitivity of 89dB, meaning the 906 needs little power to go loud - 40watts should do.

The Avant 906 will be a characterful listen, forward dry and detailed I'd say from measurement. It needs little power and will have tight bass; near wall use may be preferable. NK

Frequency response



Impedance



Jukebox July

The original Perception Digital HD-400 was the first affordable digital jukebox. Now with CD burner, the new HD-480 seeks to carry on the tradition. Dominic Todd goes for a spin...



Isn't it strange that, although computers have packed hefty hard drives for some years now, the hi-fi industry has been so slow to catch on. When the original Perception Digital HD Jukebox was launched a couple of years back, it had very few rivals, and so the same can be said about the new HD-480. Probably the nearest is Sony's HAR-LH500, which boasts an 80Gb hard-drive but is let down by the lack of a CD burner, and also costs £150 more at £450. Yamaha's 80Gb CDR-HD1300 is functionally the closest rival, and it does sound better, but at nearly £200 so it should.

At its heart is a 40Gb hard-drive. Although that's adequate for most people, it is rather small by today's standards - the Yamaha comes with twice that. Obviously PD is aware of this, and 60 and 80Gb versions are set to follow. Undoubtedly the best feature about the new PD is the addition of a CD burner. This means that once you have recorded your material onto the hard-drive, it can be burned onto CD-R as either regular audio CDs or MP3 data discs.

Although the HD-480 uses much in the way of computer technology, traditional audio fans will be pleased to hear that one of the key appeals lies in that it works extremely well as a stand alone device. As well as

ripping discs onto the hard-drive at high speed, it also has a built-in music recognition system. This particular one comes from Gracenote, and I found it to be particularly good, with it recognising even some particularly obscure discs of mine.

Of course the beauty of a stand-alone hard disc is that you don't have to record simply from CD. Its analogue inputs also make it possible to record from any source, and the user can choose from compression rates of 128kbps, 320kbps or original quality. All this technology means that, for example, archiving an ancient record collection onto just a few CDs is easier than ever. The two-way remote control features a large display making the HD-480 easy and intuitive to use. The unit itself is hardly going to win any style awards, but it's a huge improvement over its predecessor and is at least discreet.

When reviewing a recorder such as this, it's not so much the sound quality with different types of music that's important, more the differences in sound quality with differing levels of compression. With this in mind I stuck to a couple of tracks I know well, and recorded them using all the different means available.

First off were the Crash Test Dummies' 'Afternoons and Coffeespoons', as a test of its

Compact Disc playback quality. The PD-480 didn't get off to the best of starts, as I found the level of noise distracting when either the CD or hard drive was in action. To make matters worse, there was considerable vibration from the casing, which would make an isolation shelf mandatory if it were to share shelf space with other hi-fi components. Otherwise, CD playback quality wasn't too bad. It was rather weak on detail and a little splashy in the treble, but generally smooth and inoffensive. In many respects it reminded me of the sort of sound you'd expect from a budget Technics CD player such as the SL-PG490. Bass wasn't especially deep and the timing was slightly stilted, but separation was fair. With Prokofiev's 'Romeo and Juliet' some spaciousness was lost and the violins sounded a little synthetic, but there was at least a sense of refinement that made for a pleasant enough sound. So the CD player was hardly the most inspiring of performers but then, let's face it, you wouldn't buy a PD-480 for this alone!

Of greater importance here is the sound of the hard drive and, to all intents and purposes, I'm pleased to say that it was almost imperceptible from the original. If anything, the vocals appeared a tad more focused, at least when

VERDICT ●●●●£

Remarkably flexible, decent sounding, easy to use and superb value for money - but noise and vibration issues let it down.

PERCEPTION DIGITAL

HD-480 £300

Perception Digital
www.perceptiondigital.com



recording at full 'CD quality' rate. This must be tempered, however, by the CD's less than perfect performance in the first place. If you're serious about your archived CDs though, I would suggest playing your existing CD player through the line level input, and recording them that way. It may prove a little slower but will give results that nearly equal the quality of your existing CD player.

Of course, using the compression modes, one wouldn't expect the sound quality to be as good as uncompressed, but with 320kbps the sound quality was better than you might expect. There was certainly some life lost, with less decay from the cymbals, and a slightly more splashy quality to the treble. Vocals became a little more recessed, and the bass lacked in the original's weight. Overall the sound was blander, but I would still consider it to be of reasonable enough quality to qualify as hi-fidelity, especially when fed a decent source.

Switch to 128kbps though and the term, hi-fi, does become somewhat tenuous. The sound shrunk back into the 'speakers, and

what soundstaging there was, was less than focused. The timing also appeared to take a turn for the worse and the treble became even more indistinct. The obvious upshot is that 128kbps should only really ever be used where the sound quality isn't of utmost importance. Personally I would be inclined never to use it, but I suppose it would be fine for making discs for music on the move and vocal archiving.

Recording on to CD-R/RW proved painless enough. The operation seems a little complicated at first, but you'd soon get used to the process. Of possible concern to home recording fans, is the lack of a recording level control. Pretty much all of the stand alone CD recorders have a digital record level these days, so to find a unit without one comes as something of a surprise.

That the PD-480 is an improvement over its predecessor is not in doubt. The superior styling and built in CD recorder see to that. Indeed, for flexibility and features the PD certainly impresses. To make it easier to record from one's own CD player/ transport, a digital input would be nice, and the hard drive

could do with greater capacity, but at £300 these are relatively minor gripes. Of far greater concern is the level of noise and vibration from the unit - PD should have fitted a bespoke low noise HDD. Certainly users must consider isolation shelves when buying a PD-480, particularly if placing along side high quality and vibration sensitive equipment such as CD players and amplifiers. Yet in terms of sound quality, though, the HD ain't half bad. If one stays away from the 128kbps setting for all but the most casual of recording, then the results should prove impressively close to the original.

As it stands then, I cannot wholeheartedly recommend the PD-480 to a budding audiophile. A stand-alone CD recorder, such as the Pioneer PDR609 would be cheaper, and better in terms of sound quality. Yet I can't help but admire the PD and reckon that, as a technology, this

is still only very much in its infancy.

WHO THEY?

So who, you might ask, is Perception Digital? Well, around the time of the peak of the dotcom bubble (1999), PD was founded. Rather unusually it was actually set up by professors and graduates from the Department of Electrical & Electronics Engineering department of the Hong Kong University of Science and Technology. Their business is mainly based in Hong Kong, China, America and Canada, but there have been UK bound products too. More commonly known as the Hercules PD, the HD-400 was the first jukebox device to sell for less than £300. Today's HD-480 sells for the same sort of money but now includes a CD burner.

FOR

- Flexible
- Good value
- Clear instructions

AGAINST

- Noise and vibration
- Poor sound with 128kbps
- Only 40Gb capacity



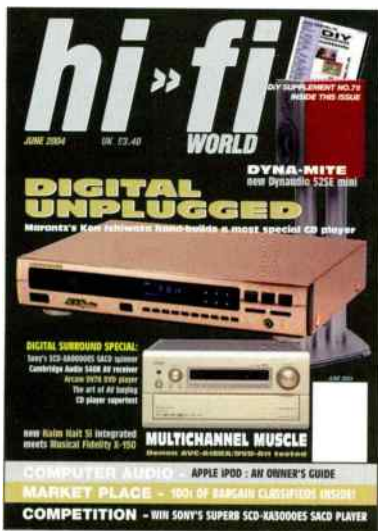
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room tune!



Getting a serious sound isn't as hard as you might think, just so long as you understand how your room acoustics work. Noel Keywood talks you through the theory...

We get many requests from readers about improving their room acoustics and even a few about building a room that will sound good. Golden Ratios, of length to width to height, might seem to offer a perfect solution, but this is an area where the best laid plans can go horribly wrong, as I will relate. 'Good acoustics' doesn't mean egg boxes on the walls and diffusers hanging from the ceiling, Royal Albert Hall style. As a reviewer I live with this problem and have experimented with numerous solutions to make the rooms I use behave decently, since loudspeaker manufacturers sometimes like to blame the listening room for a deficiency in their speaker. Ironically, some of the biggest acoustic gaffs I've come across have been perpetrated by manufacturers!

Getting a good sound isn't so

difficult, but you do have to be very careful even about basic notions. A 'perfect room' is one of them, because what is perfect in theory sounds weird in practice. This is gaff once famously made by a loudspeaker company of great repute. They built a 'perfect' listening room with a sloping ceiling and angled walls. They hoped to de-tune room modes, lessening the boom caused by modal resonances, where the room acts as a closed organ pipe. This perfect room was soon condemned for sounding 'awful'. It wasn't awful, so much as unrepresentative of everyday experience. A loudspeaker in it sounded very different to how it sounded in the home, defeating the object of the room. Illustrating the point that unusual environments give unusual results. The last I heard, this room of ill repute had been torn down!

Let me start off at the deep end

with room dimensions, something of great interest to anyone buying a home or lucky enough to have one built to their specification.

If you peer into a few books on acoustics you may well come across Golden Ratios [fig.1]. They specify the ratio of room length and width to height, so as to avoid coincident

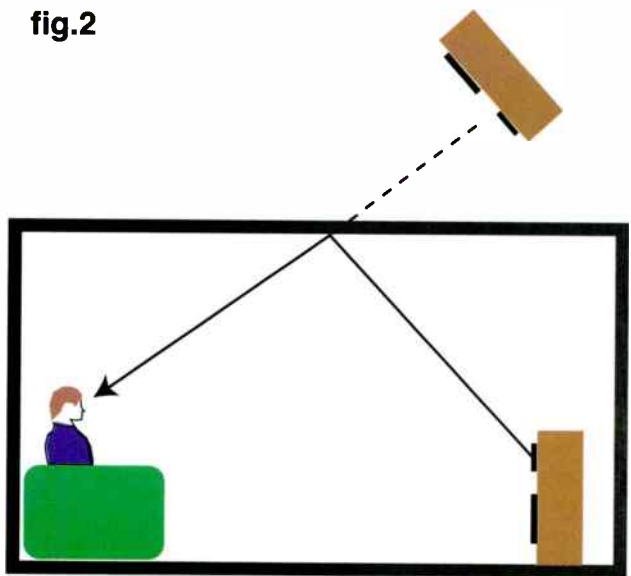
LENGTH WIDTH HEIGHT **fig.1**

1.4	1.14	1
1.55	1.3	1
2.32	1.6	1

GOLDEN RATIOS

Looking for the perfect listening room? Here are Golden Ratios, giving ideal proportions of Length to Width to Height. Height is taken as 1, so if height were 10ft then a width ratio of 1.6 would equate to 16ft. A room with these ratios should have even sounding bass and lack bass boom.

fig.2



CEILING REFLECTION

Ceiling height is often ignored, but it is very important. The ceiling supports an image that gives a sense of height. Both low and high ceilings have drawbacks in this respect. Controlling the ceiling reflection can improve a room's sound.

room resonances and a boomy sound. Don't get too excited. There isn't one magic ratio that will yield a perfect room and plenty of people have researched the subject deeply, all to arrive at differing conclusions. Worse, in my view, is that height is used as a reference point (i.e. given a value of 1) in all this and consequently gets overlooked. Yet room height is crucial in just about every way imaginable.

Ceilings are flat, smooth and hard, so they reflect an acoustic image down to you, as our diagram [fig. 2] shows. This reflection is important since it creates a ceiling image that adds a sense of height to the sound. The low ceilings of many modern homes – 8ft or so – give a very fast return with a lot of energy and it's best, if possible, to avoid this. I once rented a couple of houses in succession in Brighton. Both were quaint and cosy, but their low ceilings made for a confused sound. A diffusion panel in the centre of the ceiling helped tame this problem, as will a large, fabric lamp shade. Don't forget ceiling roses either; they will diffuse sound nicely, although only high frequencies. I suggest you experiment and listen – it's as simple as that. You can either absorb the sound or scatter it, the latter being best to avoid a dead acoustic.

The room I am sitting in right now was built in 1910, in a normal London town house. The ceilings are 9ft and it's a good height sound wise. The rooms sound lively enough but not muddled, nor dry. I once rented a

flat in a nearby townhouse of grander proportions, with large rooms possessing 12ft ceilings, no less. It looked palatial; only after I moved in did I become aware of the drawbacks. In a really large room a normal hi-fi system sounds lost. No matter how hard I wound the volume no system ever fully came to life. High ceilings give little perceptible return energy so the image seemingly extends little further upward than the loudspeakers. High ceilings might look grand, but they've got drawbacks and they don't sound especially good. If you are in a position to make a judgement on ceiling height, avoid them! I would suggest a ceiling height of 9ft-10ft is a fair choice.

Golden Ratios express room width and length as a proportion of height, so having established a good ceiling height let's look at what this gives us in terms of practical room dimensions. The width of a room must not be a multiple of the height; it is quoted as 1.14, 1.28 or 1.6 in our ratios table [fig.3]. I would choose 1.28 or 1.6. Why? Well, it is convenient: it gives a width of 12ft-14ft approx., which is wide, but not too wide.

Room length should not be a multiple of height or width. The ratio table gives 1.4, 1.54 or 2.33. However, length can lie in a range from 1.6-2.4 (after Bolt) and around 1.8 is a good choice. This gives a length of 18ft with a 10ft ceiling and it makes for a useful shape and volume. I currently use a 9x12x16, but it should be a little bigger, to more easily accommodate a large hi-fi system as well as surround-sound, a widescreen TV, settees and all the other paraphernalia that seeps into a lounge, especially when there are children around. I use wall diffusers to increase apparent length as well as rear wall damping, side wall diffusers and full height lined (important) curtains. All these would be less necessary if the room was larger. I also use two heavy settees to damp down bass; without them the room is too lively at low frequencies.

The extra volume of a larger room improves damping, through greater attenuation of the sound over longer distances. I would suggest a room measuring 10x14x18 or thereabouts (10ft ceiling) minimum is close to ideal, extending upward to about 24ft long maximum. A room this long will need to be quite wide though, around 14ft minimum. Width should not equal ceiling height (i.e. long and narrow) nor be close to half the length (i.e.

12ft), hence the 14ft figure [fig.4].

Bear in mind there is no optimum room size; small rooms sound lively but muddled and there's little space to change their acoustic by introducing furniture. Large rooms need increasing amounts of audio power to fill them and this means using large loudspeakers, or sitting close to the system, whereupon you'll hear a lot of direct sound but little reflected sound which, in my experience sounds a little odd. Medium sized rooms are good compromises. To avoid boom, Golden Ratios keep the modes separated. However, they still exist and can still be heard.

In my own 16x12 room, the lowest mode is a useful 34Hz but it's amplitude is too great I feel, without the damping provided by two large, well upholstered settees, plus a couple of corner absorbers. At long wavelengths you need huge absorbers so big, plush settees are a great choice, not scrawny 'first home' things. They turn a boomy room into a well damped one, something you will hear when you move them in. This emphasises the fact that whilst the frequency of your room's main modes is important, so is their amplitude and, by and large, the more furniture you have the better, if you want well damped, controlled bass.

Now let's look at this frequency thing and how low your room will go. My 18ft ideal room gets down to 30Hz, but it peaks at this frequency so there's plenty of energy lower down still. And 30Hz is a very low sound – just about a rumble. Bass guitar reaches down to 40Hz or so, some lower nowadays, so an 18ft room gets right down to the low end of the audio spectrum and its gain (room gain) supports the output of a majority of hi-fi loudspeakers, most of which reach no lower than 40Hz or so.

Subjectively, this is a very important point. If you make a room much larger most two-way loudspeakers will struggle to produce enough apparent bass. It's not the loudspeaker that is at fault here. Small-to-medium size loudspeakers aren't tuned (and cannot be tuned) to excite all the modes of large rooms. You could say large rooms don't suit small loudspeakers. A large floorstander with plenty of cabinet volume and multiple bass drivers is needed to drive a large room properly, both for the acoustic power required and to get low enough to energise its modes. Such a room will of course go low and give very deep bass if driven properly like this. Large

rooms suit surround-sound systems, because they can accommodate them and because five loudspeakers and a subwoofer can energise a large space more easily and consistently than two.

Small rooms and square rooms are an acoustic headache, so let's look at what can be done to make them work half decently. They do not support deep bass; a 12ft long room gets down to 45Hz. You can however force a small room to reproduce just about any frequency with a powerful subwoofer. A big REL will deliver huge acoustic output at 10Hz, my measurements show. However, quality will be mediocre (boomy). Also, turntables will suffer acoustic feedback from high sound pressure levels in a small room, especially since they are usually placed against a wall, the point of high sound pressure. Big loudspeakers tend to energise a small room unduly, causing it to boom.

The best compromise for a small room is the traditional, tried and tested one of using a small loudspeaker so as not to overly excite its resonant modes. Heavy furniture helps, insofar as space can be found for it. Bookcases break up side wall reflections nicely, or you could choose to absorb them with colourful wall hung rugs. Don't forget the luxury of full height, lined and interlined curtains. Like large settees, they can add real warmth and cosiness, whilst at the same time damping down reflections enormously. What's more, you can open or close them to adjust the acoustic!

Then there is the matter of the floor. Carpets are gathering a bad reputation at present, which is a pity since heavy carpet on thick underlay absorbs acoustic energy. I suggest using at least a thick central rug, as large as possible. If you are worried about mites or moths, a synthetic rug will do much to damp down floor reflections. Avoid bare floors.

Where to sit? This isn't easy in small rooms as there's little choice. If you sit against a (rear) wall, reflections from the wall will have a comb filter effect at your ears. Assess this by listening against the wall, then moving slowly forward toward the loudspeakers. Or, better, get a blanket or similar, fold it up and place it behind your head over a reasonably wide area to absorb incident sound. The thicker and deeper the better. If you feel this provides benefits then fit something to either absorb or diffuse sound striking the wall behind you. I use 8in deep diffuser panels,

with some absorption in front, and sit 12in away from the wall. This ruse lessens rear energy and also lessens the subjective impact of the main room mode. It's directly equivalent to moving the loudspeakers away from a rear wall. In either case you are increasing the amount of direct sound you hear from the loudspeakers, lessening the reflected sound (to improve intelligibility) and also lessening the influence of an axial mode, to improve bass quality.

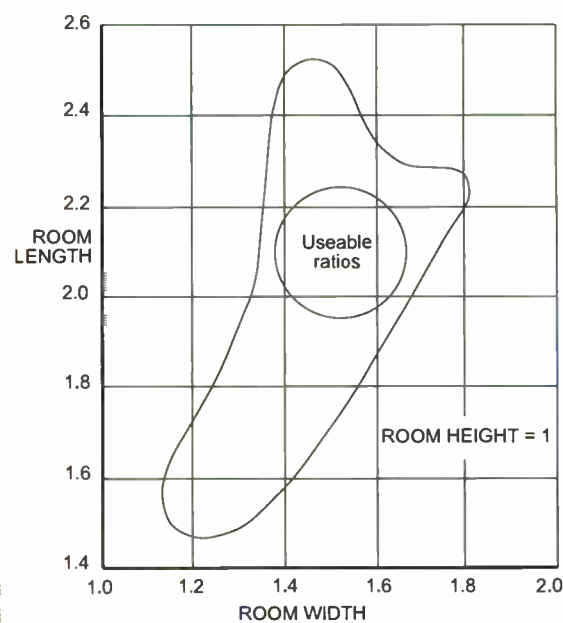
Finally, if you are trying to assess the potential of a listening room, watch out for certain common problems. Concrete floors and low ceilings are not too clever; carpet on concrete helps but bass will still sound a little dry. Flimsy partition walls are a bass disaster area! I've come across them at numerous manufacturers and some dealers too. Walls like this suck out bass and colour the sound. Rap walls with your knuckles to see how solid they are.

Avoid strangely shaped rooms too, because they usually harbour complex resonant modes that make

for an odd sound. This includes sloping ceilings. If there are bays, be prepared to curtain them (costly, but nice). Likewise with large windows.

All of which brings me to the conclusion that a thoroughly normal room that's large-ish, comfortable and well furnished is, for very good reasons, also a great room for a hi-fi system. Spend money on furniture, carpets and curtains to get a great sound from a really comfortable room. Simple as that!

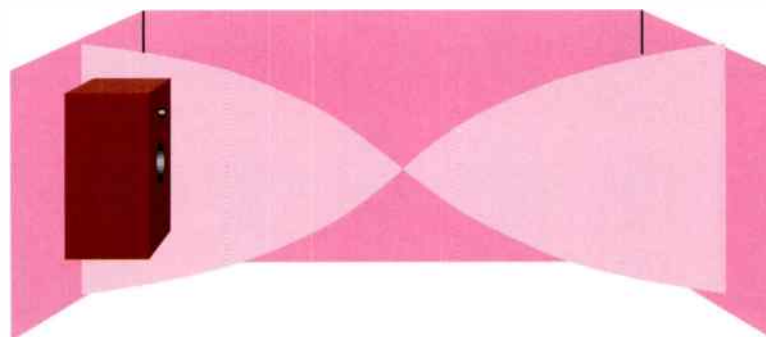
fig.3



ACCEPTABLE ROOM RATIOS

This graph gives an area of acceptable room ratios, based upon calculated modal distribution. It shows there's some leeway in the Golden Ratios; they are not fixed by any means. The most acceptable ratios lie within the circle however...

fig.4



ROOM DIMENSIONS

Each room dimension supports a 'standing wave', with pressure maxima at the walls, shown here. Staggering the room's dimensions staggers these resonances so they don't act together, minimising boom

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NEW KIT

The Kecl82 is our latest introduction for the true beginner and designed by Andy Grove. A simple and elegant design based on the classic ECL82 valve, a triode and power pentode sharing the same glass envelope. The amplifier consists of two ECL82s per channel, the triode sections work as the input/phase splitter and the pentode sections work in push-pull for the output stage. The amplifier offers 8 watts into an 8 ohm load, the hum level is extremely low, comparison to solid state standards. The chassis is constructed of 1.6mm mild steel with a black powder coat finish, there is only one signal input pair controlled at the front by a volume control for that simple touch. The speaker connects are the standard 4mm banana type, positioned at the rear, as are the mains input which is received through an IEC lead, mains switch and earth post. We have made the construction as simple as is humanly possible with comprehensive instructions. The circuitry is based on a single printed circuit board. Ultimately this kit is for the guy who has always fancied a go at building a kit, but never dared. Simon Pope says, "It's a great introduction to the valve sound. For it's humble price it delivers a full and rich sound with great detail and good depth." Kecl82 weighs 9kg. External dimensions are 30cm(w)x23.5cm(d)x11cm(h)



KECL82 VALVE AMPLIFIER KIT

£195



These are our new 6550 series amplifiers. A pure class A design providing 40 watts into a 8 ohm load. (available in a 4 ohm version if required) A truly high end design by Andy Grove, using Svetlana 6550Cs in push-pull (any 6550 or KT88 tube can be used with this amp). It features valve rectification (5U4) a choke pi filter power supply and is hard wired. Weighs 19kg with dimensions



390mm(w) x 330mm(d) x 190mm(h) with valves or 220mm(h) with cage. Simon Pope says - "If you favour attack and rhythmic grip, together with a smoothness of sound that's incredibly easy to live with, the KiT6550 could well be the kit amp for you. The 6550 is one for those who like a valve sound married to the attack and clout of a good quality solid state design".

KIT6550 VALVE INTEGRATED AMPLIFIER KIT

£615

KAT6550 VALVE POWER AMPLIFIER KIT

£580

The Kel84 features a pair of EL84 valves per channel in push-pull configuration. They give 15 watts into an 8 ohm load. The output transformers are Ultra Linear. Up front the ECF80 input/phase splitter valve has an extremely smooth sound. The Kel84 has very low hum, for simplicity the kit is built on a printed circuit board. A strong steel chassis is fronted by a 3mm anodised front panel and attractive brushed aluminium 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, phonos, and 4mm banana sockets. Simon Pope says, "The quality that can be gleaned from this amp is a fine introduction to the joys of the valve sound. 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).



KEL84 VALVE INTEGRATED AMPLIFIER KIT

£298

The 2A3 PSE integrated amplifier offers a seriously hi-end sound, but without the cost usually associated with single-ended amplifiers. The stereo chassis houses, on the output, 2 x 2A3 in parallel single ended configuration and a single 6SN7 as the driver tube per channel. The valve rectified power supply consists of a 5U4 and a 10h choke. This feedbackless design provides 8.5watts into an 8 ohm load, so a good sensitivity speaker is required above 90dB. It can accept 6 line-level inputs fully controllable from the front panel. We provide the excellent Alps Blue potentiometer as standard. The amplifier is hard wired so plenty of scope for tweaking in the future. Simon Pope says, "The 2A3 PSE is extremely impressive piece of kit, good imaging, wide sound stage, nicely extended on the high frequency and tremendous bass thump. Weight - 20kg, external dimensions with valves fitted - 390mm(w) x 360mm(d) x 220mm(h)



2A3 PSE INTEGRATED AMPLIFIER KIT

£570

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The PRE-II is a valve pre-amplifier with six inputs, tape monitor and two sets of output sockets. It utilises a high quality line driver transformer and x5 gain. The PHONO-II is a dedicated valve phono stage that incorporates a step-up transformer for MC users. Finally, PSU-II is a power supply unit that feeds both the PRE-II and PHONO-II.

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
Passive pre-amplifier (PAS-II)	£235.00



SERIES II MODULAR PRE-AMP KIT



KIT34 is a 32 watt stereo valve integrated amplifier, featuring a pair of EL34s, in push-pull mode, per channel, plus an ECF80 pentode/triode as input/phase splitter. The power supply is valve rectified (2 x 5U4), using a heavy duty choke to achieve exceptional smoothing. The output transformers are 14% Ultra Linear tapped to keep distortion down to its lowest level and the kit is totally hard wired utilising three tag boards. It has five line level inputs, plus a tape-in and



tape out, all controllable from the front. Simon Pope says, "This integrated brings together the best sonic virtues of our KIT88, kel34 and top of the range 300B PSE in an affordable package. The highlights of the sound are a deep and taut bass response, together with an open and highly detailed mid and high frequency response that only the best valve designs can achieve... a true valve classic." Weight 22kg. External dimensions with valves fitted - 390mm(w) x 360mm(d) x 210mm(h)

KIT34 VALVE POWER AMPLIFIER KIT

£480

KIT34 VALVE INTEGRATED AMPLIFIER KIT

£515

Our Parallel Single Ended amplifiers offer ultimate sound quality. Each monobloc has two of the beautifully linear 300B directly heated triode in its output stage, producing 20 watts into an 8 ohm load. At the front we have a 6AU6 pentode and an ECC82 as the driver valve. This design utilises a 5U4 rectifier valve in the power supply, in combination with a 10H choke, giving an extremely quiet supply. Both mains and output transformers use E/I pattern.

For purists, feedback is switchable and the kit is totally hard-wired. For those that require valves we provide the superb Tesla 300Bs, Russian 5U4s and European 6AU6s & ECC82. Simon Pope says, "Not to put too fine a point on it, the sound these monoblocs create is among the finest that can be encountered in hi-fi." Our 300B PSE kit bears an affordable price of £895.00 (UK price) excluding valves. Each



monobloc weighs 23kgs., external dimensions with valves: 25cm(w) x 38cm(d) x 22cm(h) per monobloc.

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 dynamics and drive to their valve sound. With a pair of 300Bs in push-pull configuration providing 26 watts output, these beauties 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 point to point 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

£895 per pair

300B PP MONOBLOC KIT NEW

£895 per pair

The HD83 headphone 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 HD83 is 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. For sound quality Jon Marks says, "The bass is punchy and controlled without becoming artificial, while treble has the crispness of the best solid-state, with the tonal purity, delicacy and speed associated with valves." External dimensions 18cm(w) x 30cm(l) x 8cm (h) weight 4kg.



HD83 VALVE HEADPHONE AMPLIFIER KIT

£195

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KIT6550/KAT6550 mains transformers

2 inch stack, 130mm(h)x120mm(w)x135mm(l)
drop through fitting with zinc cap. Secondaries
425V-0V-425V, 350mA, 0V-5V, 6A, 3.15V-0V-3.15V,
9A. Suitable for 120V & 240Vac operation

KEL84 mains transformer

1.5 inch stack, 90mm(h)x 80mm(w)x 95mm(d)
drop through fitting with zinc cap. Secondaries:
0V-240V 300mA, 3.15V-0V-3.15V, 5.5A, suitable for
120/240V operation

KIT34/KAT34/KIT6550/KAT6550 choke

1.25 inch stack, 65mm(h)x105mm(w) with fitting
holes x 60mm(d), clamp fitting, 2.5 H, 350mA

300B PSE mains E/I transformer

130mm(h) x 95mm(w) x 115mm(d).
drop through fitting with zinc cap.
Secondaries: 380V-0V-380V, 180mA/150-0V-150V,
25mA/0V-5V, 1.2A/0V-5V, 1.2A/0V-5V,3A/3.15V-0V-
3.15V,0.4A suitable for 120/240V operation

HD83 mains toroidal transformer

80mm dia. x 35mm(h). Secondaries: 0V-
165V,75mA/3.15V,1A, suitable for
120/240V operation

PSU-II mains toroidal transformer

80mm dia. x 35mm(h). Secondaries: 0V-
270V,60mA/0V-10V,2A, suitable for 120/240V
operation

TRANSI mains toroidal transformer

95mm dia. x 50mm(h). Secondaries: 0V-
370V,150mA/0V-6.3V,3.5A 300B E/I choke
65mm(h) x 70mm(d) x 80mm(w) open frame
fitting,10H, 180mA.

KEL84 E/I choke

0.5 inch stack, 40mm(h)x 35mm(d)x 70mm(w)
clamp fitting, 1H, 250mA

PSU-II E/I

40mm(h) x 35mm(d) x 70mm (w) clamp fitting,
15H, 20mA

KIT34/KAT34 mains transformer

2.5 inch stack, 120mm(h)x115mm(w)x95mm(d),
drop through fitting with zinc cap,Secondaries
365V - 0V - 365V,300mA/0V - 5V, 6A/3.15V - 0V -
3.15V,7.5A. Suitable for 120/240V operation.

2A3 PSE mains transformer:

2.5inch stack, on a 120 size lamination,
120mm(h)x115mm(w)x95mm(d), drop through
fitting with zinc plated transformer caps.
Secondary winding: 370V-0V-370V, 250mA, 0V-5V,
3A, 0V-4V, 2A x4. Suitable for
110V/120V/220V/230V operation. Can be used
for a valve rectified, dc heater (2A3), dc regulated
heater(input valve) stereo 2A3 PSE/PP amplifier.

KECL82 mains transformer:

1.25inch stack, on a 29 size lamination,
80mm(wide)x70mm(height)x70mm(depth), frame
type 2 hole fixing. Secondary winding: 0V-185V,
200mA, 0V-6.3V, 3.5A. Suitable for
110V/120V/220V/230V operation. Good for low
power amp, solid state rectification achieves a HT
of 240Vdc. Could be used for ECL82 PP/PSE
stereo amp.

MAINS TRANSFORMERS & CHOKES

KIT6550/KAT6550 E/I 16% TAPPED UL

push-pull output transformer 2 inch stack, 80mm
(w) x 95mm(l) x 100mm(h), drop through fitting
with zinc cap. Primary-secondary 4.5K, 16% UL
tapped. Secondary 4 Oh 8 ohm, pls specify on
order. max output 45 watts, max current 180mA,
valves, KT88, 6550 etc

KEL84 E/I Ultra Linear push-pull output transformer

1.25 inch stack, 76mm(h)x 65mm(w)x 76mm(d)
Primary - secondary, 8K with 12.5% UL tap -
8ohms, max o/p-15watts, max current 150mA
valves EL84 etc

KIT88/KAT88 E/I push-pull output transformer

80mm(w)x95mm(l)x100mm(h). Primary-secondary
10K - 8ohms, max o/p-40watts, max current-
160mA valves-KT88, 6550, EL34

Pre-II E/I driver transformer

80mm(w)x60mm(l) x65mm(h). 6:1 step down
transformer, max current-10mA valves-6922 etc
pre-amp stage

KIT34/KAT34 E/I 14% tapped Ultra Linear push-pull output transformer

2 inch stack, 80mm(w)x95mm(l)x100mm(h), drop
through fitting with zinc cap. Primary-secondary
6.4K, 14% UL taps, Secondary 8ohm, max output
34watts, max current 150mA, valves EL34, 6L6,
6CA7

HD83 E/I single ended output transformer

40mm(w)x50mm(l) x55mm(h).
Primary-secondary 4K - 4 x 64ohms
windings, max o/p-1 watts, max current-25mA
valves-ECL83 etc

300B PSE E/I parallel single ended output transformer

130mm(h) x 95mm(w) x 115mm(d).
drop through fitting with zinc cap.
Primary 1K5 Secondary 8R, output .

2A3 PSE E/I output transformer:

2A3 parallel single ended transformer, 2 inch stack,
78 size lamination. Primary impedance is 2.5K,
secondary impedance is 4ohm or 8ohm, max
current is 100mA. Output is 8.5Watts.

KECL82 PP output transformer

ECL82 push-pull ultra linear. 1inch stack, on a 29
size lamination,
80mm(wide)x70mm(height)x60mm(depth), frame
type 2 hole fixing. Primary 7.5Kohm, secondary
8ohms. Max current 85mA,
Good for numerous low output pentode valves in
push-pull configuration.

300B PP E/I push-pull output transformers

2.5inch stack, on a size 120 lamination.
130mm(h)x95mm(w)x115mm(d) drop through
fitting with zinc plated cap. Primary impedance 4K,
secondary 6ohm. Will suit 300Bs, 2A3s etc in
push-pull configuration.

PRINTED CIRCUIT BOARDS

- add KECL82 Printed Circuit Board 200mm(w) x140mm(l) x1.6mm(d)
- Kel84 Printed Circuit Board 280mm(w) x 135mm(l)x 1.6mm(d).
- KIT88/KaT88 Printed Circuit Board 140mm(w) x 310mm(l) x 2.4mm(d)
- Kel34 Printed Circuit Board 140mm(w) x 310mm(l) x 2.4mm(d).
- Kel80 Printed Circuit Board (a pair) 120mm(w) x 215mm(l) x 2.4mm(d)
- HD83 Printed Circuit Board 140mm(w) x 160mm(l) x 1.6mm(d).
- PSU-II Printed Circuit Board 105mm(w) x 130mm(l) x 1.6mm(d).
- PRE-II Printed Circuit Board 105mm(w) x 130mm(l) x 1.6mm(d).
- PHONO-II Printed Circuit Board 105mm(w) x 130mm(l) x 1.6mm(d).

OUTPUT TRANSFORMERS



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Kecl82 (8 ohm)	Kecl82 (with valves)	<input type="checkbox"/>	£195.00	£170.00
2A3PSE with valves (4ohm or 8ohm, pls specify)	2A3 PSE (with valves)	<input type="checkbox"/>	£570.00	£485.00
2A3PSE without valves (4ohm or 8ohm, pls specify)	2A3 PSE (without valves)	<input type="checkbox"/>	£470.00	£400.00
KaT6550 with valves (4ohm or 8ohm, pls specify)	KaT6550 (with valves)	<input type="checkbox"/>	£580.00	£495.00
KaT6550 without valves (4ohm or 8ohm, pls specify)	KaT6550 (without valves)	<input type="checkbox"/>	£450.00	£380.00
KiT6550 with valves (4ohm or 8ohm, pls specify)	KiT6550 (with valves)	<input type="checkbox"/>	£615.00	£525.00
KiT6550 without valves (4ohm or 8ohm, pls specify)	KiT6550 (without valves)	<input type="checkbox"/>	£485.00	£415.00
KaT34 with valves (4ohm or 8ohm, pls specify)	KAT34(with valves)	<input type="checkbox"/>	£480.00	£410.00
KaT34 without valves (4ohm or 8ohm, pls specify)	KAT34(without valves)	<input type="checkbox"/>	£415.00	£354.00
KiT34 with valves (4ohm or 8ohm, pls specify)	KiT34 (with valves)	<input type="checkbox"/>	£515.00	£440.00
KiT34 without valves (4ohm or 8ohm, pls specify)	KiT34 (without valves)	<input type="checkbox"/>	£450.00	£385.00
Kel84 with valves (8 ohm)	Kel84 (with valves)	<input type="checkbox"/>	£298.00	£255.00
Kel84 without valves (8 ohm)	Kel84 (without valves)	<input type="checkbox"/>	£268.00	£230.00
PSUII	PSU - II	<input type="checkbox"/>	£205.00	£175.00
PREII	PRE - II	<input type="checkbox"/>	£215.00	£185.00
PHONOI I	PHONO II	<input type="checkbox"/>	£110.00	£95.00
PASII	PAS II	<input type="checkbox"/>	£235.00	£200.00
Step ups transformers for MC use with PHONOI I	MC - step up (pair)	<input type="checkbox"/>	£80.00	£68.00
HD83 with valves	HD83 (with valves)	<input type="checkbox"/>	£195.00	£167.00
300BPSE with valves (4ohm or 8ohm, pls specify)	300B PSE (with valves)	<input type="checkbox"/>	£1197.00 per pair	£1020.00 per pair
300BPSE without valves (4ohm or 8ohm, pls specify)	300B PSE (no valves)	<input type="checkbox"/>	£895.00 per pair	£765.00 per pair
300BPP with valves (6 ohm)	300B PP (with valves)	<input type="checkbox"/>	£1197.00 per pair	£1020.00 per pair
300BPP without valves (6 ohm)	300B PP (no valves)	<input type="checkbox"/>	£895.00 per pair	£765.00 per pair

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34 mains transformer	KIT34 - mains T	<input type="checkbox"/>	£100.00	£85.00
kel84 mains transformer	Kel84 - mains T	<input type="checkbox"/>	£60.00	£47.00
HD83 mains transformer	HD83 - mains T	<input type="checkbox"/>	£40.00	£34.00
PSUII mains transformer	PSU-II - mains T	<input type="checkbox"/>	£40.00	£34.00
300B mains transformer	300B PP - mains T (each)	<input type="checkbox"/>	£115.00	£98.00
34/6550 choke	KiT34 - choke	<input type="checkbox"/>	£40.00	£34.00
kel84 choke	Kel84 - choke	<input type="checkbox"/>	£20.00	£17.00
300B choke	300B choke	<input type="checkbox"/>	£40.00	£34.00
2A3 PSE choke	2A3 PSE choke	<input type="checkbox"/>	£40.00	£34.00
PSUII choke	PSU-choke	<input type="checkbox"/>	£20.00	£17.00
6550 output transformer (4ohm or 8ohm)	6550 - O/P T (pair)	<input type="checkbox"/>	£130.00	£112.00
34 output transformer (4ohm or 8ohm)	34 - O/P T (pair)	<input type="checkbox"/>	£130.00	£112.00
kel84 output (8 ohm)	Kel84 - O/P T (pair)	<input type="checkbox"/>	£90.00	£78.00
2A3 PSE output transformer (4ohm or 8ohm)	2A3 PSE O/P T (pair)	<input type="checkbox"/>	£130.00	£112.00
HD83 output (multiloop secondary)	HD83 - O/P T(pair)	<input type="checkbox"/>	£100.00	£86.00
PRE-II driver transformer	PRE-II - driver T(pair)	<input type="checkbox"/>	£80.00	£68.00
300BPSE output transformer (4ohm or 8ohm)	300B PSE - O/P T (each)	<input type="checkbox"/>	£110.00	£94.00
300BPP output transformer (6ohm)	300B PP - O/P T (each)	<input type="checkbox"/>	£110.00	£94.00
kel84 PCB	Kel84 - PCB	<input type="checkbox"/>	£30.00	£26.00
kel34 PCB	Kel34 - PCB	<input type="checkbox"/>	£12.00	£11.00
kel80 PCB	Kel80 - PCB(pair)	<input type="checkbox"/>	£52.00	£45.00
KECL82 PCB	KECL82 - PCB	<input type="checkbox"/>	£25.00	£21.00
HD83 PCB	HD83 - PCB	<input type="checkbox"/>	£20.00	£17.00
PSUII PCB	PSU-II - PCB	<input type="checkbox"/>	£20.00	£17.00
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Stanton deliver!

A once famous name, these days Stanton's UK presence is mostly thanks to its venerable 500A club cartridge. However, the American company still makes some truly special, higher end designs, says analogue addict Stewart Wennen...

S Stanton was formed in the 1940s in America and was heavily involved with pickup cartridge design and manufacture, designing the first microgroove cartridge in 1948. It also developed the first user replaceable stylus assembly in 1954. By 1958, Stanton had manufactured the first stereo microgroove pickup cartridge and went on to develop the first CD-4 cartridge for four channel playback. In 1980 Stanton had made the first low impedance-moving magnet pickup cartridge.

All of these achievements were a result of having a fully functioning research and development department - something that

many other manufacturers should take note of!

There is evidence of this to this day, as Stanton is still at the forefront of cartridge design inasmuch as it designs and builds pickup cartridges for DJ use. Their support systems have been put in place as a result of many years experience in the professional public address industry. A first class audiophile cartridge

can cost many thousands of pounds, and requires an extremely precise platform. Compare this to the problems DJ equipment faces and we will be getting nearer to understanding why the majority of the latter equipment generally sounds so poor. And of course DJs are record collectors at heart with little or no desire to understand how their turntable works...

Because of the way DJs manipulate vinyl, the cantilever has to be of heavier construction than those of hi-fi cartridges, which is often to the detriment of sound quality. DJs have to be able to 'back cue' to the point they want the music to start. This is a very difficult task for a cartridge to achieve - try this with your treasured hi-fi cartridge and you'll see what I mean! Another problem faced by DJs is the overall sound pressure level and the subsequent mistracking caused by airborne feedback. The answer to this problem is not to increase tracking pressure beyond the cantilevers limit, rather make sure your turntable is set up correctly! This is difficult to achieve at the best of times but a little persistence pays dividends. Pay especial attention to the platter attitude - this must be level.

THE LISTENING

I mounted a 680HP in one arm and a 890SF in the other. It is vitally important to set the arm up correctly; achieving the right VTA is essential as the cartridge will not give its best if inaccurately aligned. Removing the plastic mounting pieces and replacing them with cap head bolts and nuts (either alloy or stainless steel) improves the sound a great deal. The difference over the familiar DJ-standard Stanton 500AL was simply gobsmacking. The 680 was much clearer, with a more realistic feel to bass

instruments. It had a good image depth along with an excellent image width, and the tracking ability of this cartridge was extremely good. Although it was not as subtle as my reference combination, this cartridge gave a fine account of itself. Its ability to extract inner detail from the vinyl is very impressive. It is presented in a plain plastic box, which means that you are paying for the cartridge and not the packing - although the instructions could be larger, as I had difficulty reading them.

Conversely, the 890 come as a matched pair in an attractive (small) flight case already mounted in classic SME-style headshells. The 890 package also includes a pair of elliptical styli, which are housed in a white body to differentiate from the conical, which is housed in a clear body. Both the 890 and the 680 share the same type of generator and consequently would appear to sound similar, although in practice the 890SA (conical) gave a much warmer sound to the midband and had less output level than the 680HP (the 890 has 0.5mv less than the 680HP, but still has an extremely



usable 6.5mv). Those clever people at Stanton made the styli non interchangeable between models,

although they look very similar. The tracking forces are again similar as they both track at between 2 and 5g.

This is where the similarity ends, for the 890SA gave a much richer, warmer feel to the reproduction with an obviously more secure presentation to the music. This was not immediately apparent, but after a few hours the 890 started to show its pedigree. Although its midband was very closely matched by the 680 its bass reproduction was remarkably smooth with an extended treble. Coupled with an innate sense of timing the 890 was superior in image presentation. The 890 gave a well-proportioned scale of stereo image.

Now down to the 890RM with the elliptical stylus, this cartridge tracks at 1g less than the 890RM, so resetting the OLI was called for. After this was achieved the resulting sound was glorious. The RM had even better control of the treble register due to the RM having an even flatter frequency response than the conical SA. This was shown by the vast stereo image with correct width and height. Stereo image depth was enormous along with instrument placement, which reminded me of my old Audio Technica OC9.

Its detail retrieval was amongst the best DJ cartridges

REVIEW SYSTEM

Technics SL 1200 with Origin Live OL1 tonearms and Origin Live mounting plates
Formula Sound mixing desk
Crown DC300A power amplifier
custom built monitor loudspeakers

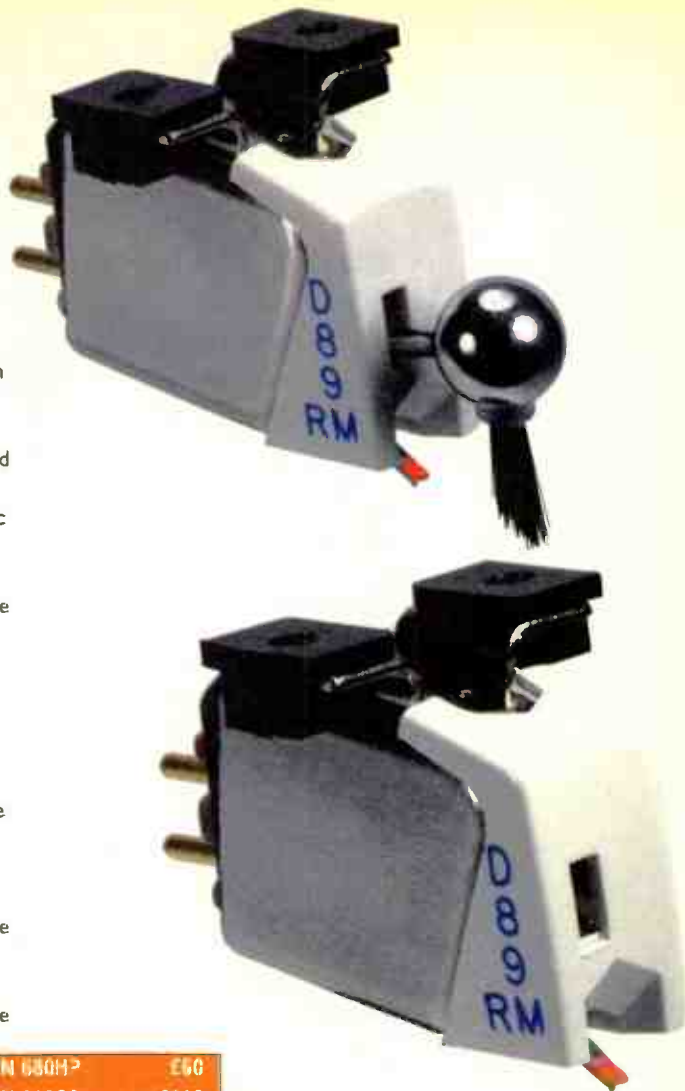
I have heard, although it was ever so slightly ragged in the upper bass region. This was not to the detriment of the music but it gave the music a little more 'bite'.

If you play without 'scratching', and are used to straight mixing then this cartridge is definitely for you. The bonus is that the conical styli are included so remove the RMs and install the SA when gigging. This cartridge is perfect for mixing music like Masters at Work and Blaze. It really shines with jazz funk from Donald Byrd and Patrice Rushen. Joe Sample took on a new lease of life!

CONCLUSION

The Stanton 890RM is a stunning cartridge, but is sadly rather expensive when compared to the 680HP. Although the RM and SA are much more subtle the 680HP is extremely good value for money. If you are a DJ that has lots of gigs then choose the 680HP, which is the chosen workhorse for a lot of rigs. But if you want the flexibility of altering your sound then choose the 890 package. All three of these cartridges display why Stanton is still at the forefront in professional cartridge design.

STANTON 680HP	£60
STANTON 890SA	£110
STANTON 890RM	£180



MEASURED PERFORMANCE

In the past Stanton's measured well, but the 890 is a Club cartridge, so I wasn't sure how it would fare. Surprise then, that with the RM elliptical playback stylus in place it put up an exceptional performance by hi-fi standards. Tracking at 2gms it sailed through 300Hz tracking tests and even negotiated 25c us/sec at 1kHz, a rare ability in any cartridge.

Distortion on vertical modulation was unusually low, negligible after a correction factor had been applied. This was explained by a VTA of 18 degrees, an unusually low but theoretically correct figure. Overall then, the 890RM produces little distortion.

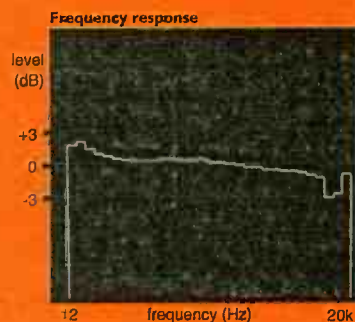
A square wave test signal was neatly reproduced, with just a little high frequency ringing. This correlated perfectly with the flat measured frequency response of our analysis, with a hint of top-end peaking. The 890RM will sound tonally well balanced and accurate, without treble spit or sharpness.

Output was a massive 10mV at 3.5cms/sec rms, three times more than other cartridges. If you suffer hiss or hum the 890RM will minimise it.

The Stanton 890RM has an extraor-

dinary measured performance, way ahead of all rivals. It should sound detailed, accurate and very dynamic too. NK

Tracking force	2.5gms
Weight	6gms
Vertical tracking angle	18degrees
Frequency response	20Hz-20kHz
Channel separation	30dB
Tracking ability (300Hz)	
lateral	90µm
vertical	45µm
lateral (1kHz)	25cm/sec
Distortion (45µm)	
lateral	0.8%
vertical	0.1%
Output (Ecms/sec rms)	14mV



Moving Pictures

With its new Lyra PDP 2860, Thomson has joined the fray of companies trying to finally crack the video Walkman issue... Patrick Cleasby goes out and about.

In the light of Apple CEO Steve Jobs' recent proclamations that he can't see that 'people standing around watching things on small hand-held devices' is going to work, the field is clear for those who think there may be mileage in the concept to position themselves in what can only be described as "video iPod" territory. Obviously the large European multimedia conglomerate Thomson believe that they can do this...

I can't help feeling that Jobs may be wrong (it has been known). You only have to look at the number of people on mainline commuter trains who now watch DVDs on their laptops to see where the obvious market is. The real selling point has to be the "take last night's TV on the train" approach - and the Thomson Lyra PDP 2860 achieves that by the simple expedient of allowing video to be recorded directly onto the unit's 20GB hard disk. I can just see those commuters sitting there with their Lyras propped up on the table with their little single-leg stands, watching Eastenders! Usefully, you can even play the captured video back out to a television, if you need to.

So far, so not very hi-fi, or even computer audio. But of course there is more to this clever little concept than just video. MP3 (and MP3PRO) files can be stored and played back, as can Windows Media Audio files. JPEG photos can be stored and viewed, and the inclusion of a Compact Flash card port which functions as a card reader when the Lyra is attached to a computer is a nice touch (non-FAT 16 formatted cards not recommended). Much like with the iPod, the side benefit of having all that computer storage in your (in this case slightly larger) pocket is that you can also use the disk to move large files around (as long as you're not using USB 1.1!)

Computer connection is achieved with USB 2.0 and transfer

speeds are satisfyingly fast. Disappointingly, the mini-B USB socket on the machine is somewhat redundantly covered by a fine-hinged plastic flap, which on this previously reviewed sample was hanging on by one of two hinges when it arrived, although not for long. Not a fatal error though. Once connected audio, video, and photo files can be placed in their respective directories. The machine is supplied with MusicMatch 7.5 software for PC, although if you are confident enough to use the right codecs and put the files in the right places in the Lyra's folders you can avoid using MusicMatch.

You need to install driver and application software if you're using a PC. The Lyra interfaces with Mac out of the box. Although in the future Thomson intend to keep the Lyra current by offering downloadable upgrades, the currently available download seems only to permit updating via a PC. Annoying.

The 135x80x27mm Lyra comes with a full complement of accessories, including car charger, cassette adapter for car audio

playback, case and all the necessary analogue video capture and playback cables. Needless to say the supplied earbuds should be discarded and replaced with Sennheiser MX500s or PX100s post haste, as per the usual instruction. Documentation is in the form of a handy Quick Start guide which suggests that obtaining the comprehensive User's Guide from the web. There is also a thorough set of FAQs to be browsed at the site www.thomson-lyra.com.

Not much help is offered if you wish to try and encode video for playback on the Lyra yourself - the supported format is AVI using the MPEG4-SP codec. At 320 x 240 resolution the device can reportedly hold 80 hours of such material, against 40 hours when the video is created by recording it straight into the Lyra, which creates an .asf file, a format which was the precursor to, and essentially is .wmv. It's a shame that given an MPEG4 codec is being used, direct support could not be given to the .mp4 video files which





opines tremulously that "America, your head's too big..." and all is well with the world. Attempting to use an iTunes-created .m4a file you have transferred in by hand will get you short shrift though. The profiling process, which recatalogues your library when you introduce new tracks, which can be run on the Lyra for Mac users who don't have the PC system tray icon to do this, and takes a few minutes for a half full device, appears to completely ignore any non-standard formats you put in the audio folder. I understand why .mp4 files (if only we could buy them here) would present difficulties, but surely there can be no issue with opening this device up to DRM free self-created files?

Given that if you're a music fan you can obtain an iPod with twice the storage of the Lyra for less than the £450 you would currently have to spend at Comet to get hold of one of these devices, and that the iPod has the advantage of a much better audio codec in AAC (including the new lossless flavour), the Lyra is definitely in the "video geek" and "rich commuter's toy" categories.

However it is a well put together piece of kit, which may not be a flash in the pan if Thomson can

VERDICT ●●●£
 Attractive package somewhat let down by its software, there are surely greater things to come, but if you need it now...

THOMSON LYRA
 PDP2050 £450
 www.thomson-lyra.com

- FOR**
- Nice Package
 - Good Sound
 - Record In
- AGAINST**
- Formats Limited
 - Windows-centric
 - Sluggish OS

can be simply created from any movie file using the export feature of QuickTime Pro on the Mac or on a PC. I got close to getting it working the longhand way – by using the QuickTime "Movie to Divx AVI" option, but ended up with no sound. PC users could probably create a usable file with some of the freeware utilities which are available.

Management of the files stored on the Lyra is done using a reasonably attractive colour GUI, and the navigation buttons to the right of the screen sit nicely under the thumb, but navigating the system can seem very ponderous at times, and can be prone to locking up – most bizarrely when you are just trying to display the current version level of the software. A reset button is on the bottom edge of the device – it's just like having a PC!

Video capture is achieved by connecting the supplied cable to your video, Sky box, DVD player (you will need to defeat Macrovision somehow for that one – no hints from me!), whatever, using either composite / left / right phonos or the supplied adapter block for SCART. Just switch to Video, and hit the Record button. The recording

quality can be adjusted between low/mid/high settings, with the latter recommended if you intend to playback on a TV. The quality setting is displayed along with the video in the record window when a video signal is being received. Interestingly, PAL and NTSC formats are both supported.

Video playback quality is adequate, if a little blocky, for .asf files created on the Lyra, even at high quality. Soundtrack quality is acceptable, if a little prone to artefacting. Quality for computer-created files will be dependent upon the software you use. Rudimentary skip forward and back controls can be used during playback, and if you have to stop playback a video timestamp allows to recommence from the same point at another sitting. Photos look very attractive on the 3.5 inch TFT screen, and can be set to display as a slideshow, with an MP3 backing track. Audio can also be recorded direct to mp3, with a similar range of settings (64/128/192kbps), and although I suspect the results will not be very hi-fi some people appreciate this feature.

Audio playback quality is very good – thankfully the Lyra supports top quality iTunes encoded 320kbps variable bit rate MP3. Morrissey

successfully keep the machine up to date with codecs and improved functionality by the download method. Here is a plea for Mac users to be included in both the ability to update the unit, and in the addition of QuickTime-friendly codecs, both audio and video. After all, if Steve deprives us of the highly-desirable true video iPod we may have to resort to this, unless we force ourselves into the Windows-powered world of the forthcoming Creative device previewed!

SYSTEM REQUIREMENTS:
 Pentium III 500Mhz or higher
 Windows 98SE, Me, 2000 SP3 or XP
 Mac iMac G3 or higher
 OSX Version 10.1.5 or higher
 64MB RAM (128MB recommended)
 USB port (2.0 recommended)



meet your maker

A reference guide to Britain's manufacturers and distributors

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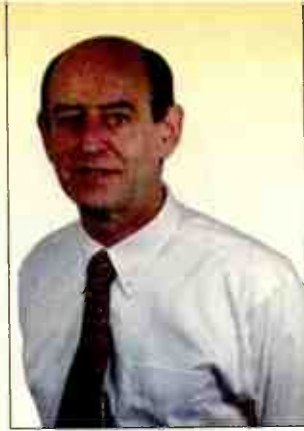
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noel keyword



Suddenly it's summer - wonderful! The air is warm, my window is thrown wide and there's a smell of freshly cut grass drifting in - even in Central London! This isn't a time when most people think about sound quality but it be, if like me and so many others you've decided to buy into the digital revolution and get a camcorder. You know the situation: you have the need, want the toy (or is it the other way around?) and make the purchase. Then you bump into the limitations! The audio side of digital video is one of them.

I know little or nothing about video, I have to admit. Waving a video camera around is a novel experience for me, one I've tried to avoid for a long time. Watching the contortions of tourists in London trying to video their grinning comrades put me off. Trying to get their friends in the frame alongside Big Ben means moving back so far they end up in the path of a Routemaster. This isn't a good idea because it was designed in an age before tourists glued to video cameras existed and the brakes really can't cope. And now I'm wandering around with a video camera doing the same!

Modern digital video works well enough. Picture quality is very good, if obviously not perfect, at least, insofar as I can tell with available video monitors - computer and TV - and playback software. It isn't broadcast quality, but a good camera can get close in picture quality. Burn the video to DVD though and whilst the pictures are right up with what you can buy commercially, the audio is not. For casual use perhaps this doesn't matter much. But if you are used to surround-sound from video

DVD, this is disappointing. Worse, it is difficult to improve. You can edit the picture heavily with modern software but not the sound, unless you are prepared to spend a lot of money. Adobe recently introduced a raft of new software better able to cope, from Premiere Pro to Encore DVD, which can compress a multi-

„ a lot of effort is being put into merging home audio and video with computer technology to provide an easy to use but powerfully capable resource

track recording to Dolby Digital for full surround-sound, but it isn't for consumer use.

The expense and complexity of this software suite highlights the gap that exists between what is possible today and what is desirable for tomorrow. If video and audio are to be integrated in a way that allows ordinary consumers, rather than video professionals, to make home videos of decent quality, or good audio recordings to DVD, there's still a wide gap to be bridged. Anyone engaged in surround-sound editing would complain straight away that it will forever be impossible for ordinary users like myself to ever match the audio quality of commercial DVD video discs, but I'm not so sure of this. A lot of effort is being put into merging home audio and video with computer technology to provide an easy to use but powerfully capable resource that will, of course, prove attractive enough, manufacturers hope, to persuade us to buy into this new

world.

It's almost essential to be able to commit video to DVD so it can be quickly and conveniently viewed. Otherwise it sits as collection of tapes on a shelf that rarely get seen by anyone. The final stage of burning to DVD has turned out to be crucial. DVD has shown itself to be a great way to store sound as well as vision. At present recordable DVD still isn't with us as an easy to use consumer product, but it may well be coming.

I was fascinated to see that Sony are trying hard to make progress in this area. They recently announced the release of a new VAIO (Video Audio Integrated Operation) computer range, where video and audio are both strongly supported. Vaio

will burn video to DVD, complete with Dolby Digital surround-sound, meaning the company have obtained the necessary licenses as well as developing and installing appropriate software. If you were to buy this from Adobe the software alone would cost almost as much as a computer. Sony obviously see this as vital for market acceptance and it says a lot about where they think audio and video are heading in future.

Burning audio to DVD might not be the sort of thing you or I think about on a warm, sunny day, but the world's largest consumer electronics companies are. I'm looking forward to a time when we can make smooth recordings in 24/96, edit them quickly and easily on a computer and send them to DVD in any form we wish, from stereo to full surround-sound, with or without pictures. DVD will then become a lot more useful to us than it is today, and audio quality will surely take a large step up in the process too. ●

david price



There's something very strange about audiophilia. In a sense, the amount that some people spend on accessories - which is to say, cables, mains plugs, interconnects, spikes and assorted items of magical and mystical significance (polished African hardwood obelisks, rubbed on the thighs of virgin tigers, etc...) - is staggering. Frankly, if you beamed down from the planet Thrnug, you wouldn't believe it. However, what is even more unfathomable is the massive amounts of money other folk spend on their systems without so much as a thought for getting the respective bits to work synergistically with one another.

I think the former is perfectly understandable. After all, women have shoes, don't they? Contrary to the collected and received wisdom of humankind, these aforesaid items do not exist to facilitate the walking process of bipeds, but rather to exist as desire objects for the fairer sex to covet - and never use, of course...

With this in mind, miniature carbon fibre cones hewn in the shape of the old Glastonbury Pyramid Stage, plated in gold, boxed in velvet and sold to hi-fi obsessives for £149 per pair (when you need three to support each speaker) perhaps doesn't sound so stupid..?

Hmmm... well, alright - it does. But you get my drift. We're allowed a small indulgence aren't we? That's what hi-fi is all about. If you and I weren't at least slightly self-indulgent, we'd all be listening to 1983 Amstrad Stack Systems, no?

Okay, so madcap hippy tuning aids are socially 'd'accord', but what then of the Neanderthal imperative of blokes who go into 'High End

Silliness Ltd.' for their fix of telephone number price tag feel-good separates, with seemingly total disregard for the ensuing sound? Again, I think the same psychological imperative is in force. "I don't like myself, but I have money/ credit,

“ If you and I weren't at least slightly self-indulgent, we'd all be listening to 1983 Amstrad Stack Systems... ”

therefore I must be great, therefore I'll treat myself, and everything will be better in the morning"...

Which is sadder? I'm not sure. Either way, there's not a huge amount of listening going on. The point is that if music is your first priority, you can do very well for yourself with just a hundred quid in your pocket. Now I know that's going to offend all manner of folk, but pick up a classic nineteen eighties Rega Planar 2, NAD 3020 and KEF Coda system, follow our tuning advice on p34 and be amazed. I've heard better music from this system, provided it's well fettled - that's as in really well set up - than £10,000 systems that aren't. I kid thee not.

Okay, so he's just being contrary, you say. Well - *au contraire* - maybe I'm being a little 'pointed', but my point is that proper system setting up can negate thousands of pounds of worthless, pointless expenditure. If you've read our tuning feature and thought, 'oh God, we are now entering the Twilight Zone', then you should try some of what we're advocating. You may be surprised.

If you'll pardon me an automotive analogy - regular readers will know I'm into cars and bikes - if you pick up a mint BMW M5 with flat, bald tyres, Scotts Porridge oats for engine oil and jelly for suspension, then maybe - I'd

respectfully suggest - you'd not exploit the car's full potential. That's why you've got to make the most of what you have - which means supports, mains, interconnects, contacts, and the rest. It simply doesn't make sense to run your expensive hi-fi at below its full potential. Yes, I know polishing your mains plugs

makes you a sad man, but at least you'll smile when you put a CD on your stereo system...

Now, I'm not suggesting the aforementioned African hardwood obelisks. Frankly, I think the more whacky end of audiophile tweaking is more about marketing than science. But there's no denying that the right cables in the right place will make a big difference.

Let me let you into a secret. As an editor of a UK hi-fi magazine, I feel I should be singing the praises of £300/m cables - because all the others do. But despite the peer pressure, I simply can't get my head into a space that accepts the validity of ludicrously expensive stuff. The best tweaky stuff is very cheap, and all about judicious application rather than a big hit on your credit card.

I realise this might make me unpopular with the burgeoning hi-fi accessories industry, but there you go. Yes, if you have a £10,000 system, then a smattering of big buck interconnects will really do the job, but otherwise, stick to clever system matching and synergistic fine tweaking. ●

dominic todd



It was this time last year when you couldn't get an Apple iPod for love nor money. Unless you were prepared to accept the odd dog-eared 10Gb model, then iPod ownership meant a long wait. Since then of course, both the portable MP3 sector and the iPod itself have gone from strength to strength. It is now a mass-market format that has taken serious sales chunks from MiniDisc and even portable Compact Disc. Yet, the same still isn't true of its full size equivalent, the stand-alone hard drive. As many predicted within the industry, the price of memory has come down over the past year, and the number of products has been steadily increasing. Yet, these products still lack a sense of unity or focus. The iPod's, and its entire ilk's, position in life is clear. It's simply a portable, recordable music device that doesn't look too dissimilar to a portable MiniDisc. Yet full size hard drive recorders still appear to come in three different formats and marketed in three different ways. First there's the hi-fi separate approach, where the unit is CD recorder sized and designed to fit into a separate hi-fi system. Then there's the PC based device that may be tailored towards music storage, but still looks like a computer tower. Finally there's what's known as a music server that is essentially like a standard hard drive recorder but also with added whiz to make it serve a multi-room system with varying tunes. It's all rather confusing and not helped by a lack of icon model such as the iPod.

Yet, confusing or not, it's still a technology worth considering. Not so long ago, I suggested that when hard drives could offer 500 Gb of storage for less than £1,000, then any such product could enjoy very substantial sales indeed. Well, we're not quite there yet, but there have been some interesting developments within the

market nonetheless. Yamaha was one of the first mainstream companies to bring out a hard disc recorder of hi-fi separate size and format. The CDR-HDI300 has been tweaked to hold up to 80Gb of unprocessed music. 120 hours of CD quality music certainly isn't bad, but it's not enough for people to want to dump their collection entirely. With the built in CD recorder it's still more of a

if it's first-rate sound quality and mass storage you're after then you'd be better off checking out the Cyrus Link Server

product for people who want to make compilations from various sources. Much the same is true of the Hercules Perception. At 40Gb it will only hold 60 hours of uncompressed music, yet it will also accept MP3 compressed music to increase this capacity by approximately ten fold. The latest Perception has a built in CD burner too, and at £300 looks fantastic value. Again though, it's not the virtual music library that many have been hoping for. Interestingly, yet perhaps not surprisingly, Sony has got in on the act. Their HARLH500 mirrors the Yamaha in many respects. Its £400 price tag buys you 80Gb of recordable hard disc space, and it will also rip from CD at 12x speed. Surprisingly, there's no CD burner onboard, so Sony must feel that it's more likely to be used as a permanent storage system. Probably it's best feature is the built in ATRAC compression system. Those familiar with MiniDisc will be familiar with ATRAC. It's generally one of the better compression systems and, in my opinion, beats standard MP3 format hands down [Hmmm - depends on the MP3 codec and bitrate... Ed.]

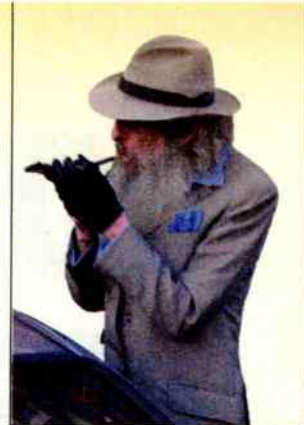
Sony hasn't left the potential of

the hard drive to just one product, though. As with others, they are tackling the market on two fronts. As a hard disc drive is at the centre of all computers, the other angle is to take a standard computer and tailor it towards audio. The results certainly aren't all that bad. Anyone who attended this year's Bristol Show can't have failed to notice Sony's PCV-RZ servers. Marketed under the Vaio name, they look exactly like PC towers and aren't exactly the sort of kit you'd want gracing your hi-fi separates rack. Yet, looks aside, their practicality is hard to fault. The £1,200 502P model will store 120Gb and the 504 model a hefty 250Gb. That's rather more like it, and you have a whole host of other gizmos that come from basing

the design around a PC rather than simply taking the hard drive out and sticking it in a hi-fi separates box. Sound quality, of course, will be another matter. During a quick demonstration I found the quality to be as good as a basic Sony CD player but not exactly audiophile quality. If it's first-rate sound quality and mass storage you're after then you'd be better off checking out the Cyrus Link Server. It's really designed as a server to an entire multi-room system, yet it's credentials as a hi-fi hard drive unit are far from weak. As well as 250Gb of storage the Link Server uses the company's Q-DAC and even has the option of being fitted with the £350 PSX-R upgraded power supply. I've yet to hear the said combination, but I'd be most surprised if it didn't sound at least the equal of the company's CD players. That said, at around £3500 it would very disappointing if it didn't.

It's pleasing to see that progress is being made with hard drive technology, and I suspect that in a year or two HD could be big business. In the meantime, I wonder if Apple has thought about the possibility of an iDrive? Happy recording. ●

lijk setright



The hands are the hands of Esau, but the voice is the voice of Jacob. To what kind of pianos are we listening, and who is playing?

Not many issues ago, I was speculating on the cause of the pianoforte being so notoriously difficult to record. Indeed I became so impassioned (or perhaps merely infuriated) by the argument that I quite forgot to identify my favorite Chopin pianist' as Stefan Askenase.

He would forgive me; readers might not, and editors are never to be taken for granted. In this, if in little else, editors resemble pianos, which all differ from other pianos of the same kind, from other pianos of different kinds, and from all the more or less musical instruments (Setright does not, be it noted, deem the piano a particularly musical instrument-not when compared with such paragons as the human voice, the clarinet, the Spanish guitar, or the noble B flat euphonium) that we seek to record: no piano can be taken for granted.

If, then, the piano is so very difficult to reproduce by our familiar but fallible means, surely the answer is to have the piano reproduced by a piano? It can be done, and it has been done.

Heaven forbid that we should rely upon so mean and mechanistic device as the old pianola, the player piano that was merely an evolution of the ancient musical box and remains no more meritorious in its electrified form, performing its spectral repertoire in upper-class department stores. The punctured paper of the pianola roll recorded merely pitch and duration, which might serve as a record of the

composer's manuscript but could never depute for the performer's interpretation. However, a century ago there were reproducing pianos, upon whose rolls were encoded not only pitch and time but also force

” Surely the answer is to have the piano reproduced by a piano..?

and pedaling. On these instruments, by Duo-Art or by Welte-Mignon (each having its own encoding system), some of the greatest pianists and composers of those times laid down their own conceptions of how any given piece should be played - and, if satisfied with the result, signed the finished roll from which copies could be made.

Twenty-one years ago, in Austin (the capital of Texas), I caught my first sight of one of these, signed by Gustav Mahler. It was in the home of Kenneth Caswell, then the general manager of the Austin Symphony orchestra, and it was a home better equipped than most to meet the musical criteria of a professional perfectionist. Much of what you might call his hi-fi matched what was then the state of the art in the USA: not for him a run-of-the-mill record player, but one whose rate of turn could be controlled from zero to something like 90 rev/min. and then he had his reproducing piano, and a collection of rolls made and verified by the likes of Debussy, Granados, Zusler, Scriabin...

Today Mr. Caswell is a retired gentleman, deeply engrossed in making recordings. For the Pierian label (representing a charitable

foundation) he is producing a CD series offering us the chance to hear all his collection, to hear Ravel played by Ravel, or Teresa Carreno just 100 years after her performance.

Yet what irony, that after a hundred years of careful conscientious preservation of unsullied analogue record-rolls, uncorrupted by the introvention of electronics, unalloyed by the intromission of treacherous transducers and specious speakers, the faithfully

preserved sound of the piano-and especially the attack to each note, something to which digital systems can only approximate-should have to be offered us in so unsatisfactory a medium as the digital disc.

It is bad enough that, as we noted earlier, pianos all sound different. Whether Duo-Art or Welte and Sohne ever attempted to codify such differences; I cannot say; but would wager a dollar to a doughnut that they would have failed had they tried. So we cannot hope to hear the elegant lucidity of an Erard, nor the romantic bloom of Bosendorfer. Maybe we should just be glad to be spared the scream and crash of the omnipresent modern German-American Steinway, may its noise be ever abated.

Maybe, just maybe, some bright spark will some day give us a new means of synthesising all these things. Perhaps we should progress backwards, away from records of pianos playing music, back through pianos reproducing themselves playing music, back to the piano as a means of giving a vague approximation to the music. While we are about it, we might devise a better way of writing music. Then we can start all over again. ●

patrick cleasby



I didn't really intend to write another column about format wars issues this month, but events conspired to force my hand again. A couple of things happened which were too interesting to avoid, so here are the latest words from the front...

Firstly, about press time last month I had the pleasure of giving the Dolby Labs surround Voyager a (listening) spin. Any direct reflections on the experience, other than to say it was very fine indeed, are to be reserved for future discussion, but format-wise I was afforded my first viewing of a Dual Disc. The disc in question was BMG's contribution to the Dual Disc live market test – Usher's '8701' album. The disc appeared to be physically well made, and indeed claims have been made that development has resulted in a supremely flat and rigid disc. Interested parties have thus far found that rumours of testing success in slot loading machines have been well founded, although many have fought shy of giving the precious rare discs up to jukebox machines for testing. It appears that concerns over mechanical compatibility have been avoided. However there are a couple of inescapable limitations of the technology that have not been fully highlighted. One is the fact that the layer bonding methods employed mean that the CD side of a Dual Disc cannot encompass the full 78 minutes or more capacity of today's standard CDs. No great loss in these days of overlong albums you might say, and you may well be right. However the concomitant effect on the DVD flipside of the disc is more invidious to the serious audiophile. Once again we have to be concerned over issues of digital resolution fiddling.

Many of the urban albums which

constitute BMG's initial slate of DVD-Audio titles must be 24/48 ProTools of origin, but on the straightforward DVD-Audio release, Usher's album has been mastered at 24/96 resolution on a dual layer DVD, as have all its companions. The fact that the DVD side of the Dual Disc is forcibly restricted to slightly below the capacity of a single layer

“once again we have to be concerned over issues of digital resolution fiddling...”

DVD has meant that this version of the "high resolution" surround mix is a down-sampled 24/48 version! I merely ask you to make up your own mind whether it is a coincidence that the selection of previously extant DVD-Audios Warners released as Dual Discs during the test period consisted of titles which were 24/48 even, when they were pure DVD-Audio: namely REM 'Automatic For The People', Donald Fagen's 'The Nightfly' and Linkin Park's 'Reanimation'?

The cynical view might be that this is a convenient way of avoiding discussion of the down-sampling or extras deletion which squeezing what was a DVD-9 down to less than a DVD-5 necessitates, whereas the charitable interpretation would be that using the lower resolution titles merely made the development times of the Dual Disc versions quicker... You decide!

Even though the SACD camp do not have to deal with the vagaries of extras or resolution juggling, they have not done themselves any favours this month by being slightly unfocussed in their PR messages. In these days of instant web publication a release saying that Jamie Cullum's

'Twenty Something' is the landmark two thousandth SACD release only has to escape the word processor of a PR before it is announced on the web. But that title is just ever-so-slightly parochial, so the message got re-spun to say that the two thousandth title was actually the much more global-market-friendly Diana Krall SACD 'The Girl In The Other Room'. Alas, too late!

In fact, SACD is already beginning to be taken up by the indies in sufficient numbers to remove any influence over the actual title count from the control of the Sony/ Philips hegemony. A quick guess would indicate that these two Universal

titles, fine and worthy of your consideration as they may be, are probably, say, titles 2057 and 2059 in the SACD chronological list. It would be much more significant if title 2000 was one of the small UK independent Eclectic Discs' Nektar remasters, or even if it was one of Universal International's non-English language releases such as Calogero's 3...

But fundamentally, who cares what the two thousandth SACD release was, and more to the point who cares about the small spat which recent competing PR claims of market success for one or the other format seem to have provoked? The success of the Dual Disc experiment, BMG's launch into DVD-Audio and the soon-come first fruits of DTS Master Series collaboration with EMI will ensure that that the high resolution PCM format continues the struggle, much as the hearty endorsement of SACD by both corporate giants Universal and innovative UK independents Mute means that we have many more interesting SACDs to look forward to. The argument is unlikely to be resolved before 2005 at the earliest. Vive La Difference! ●



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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 CD11 1986 [£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 [£7000]
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 paperback-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.



ESCTERIC 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 brought 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 LVX 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.

TONEARMS

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 HRI005 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.

NAIM ARO 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.

LECSO 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.

**LECSO 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.

PIONEERTX-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.

ROGERS T75 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.

SANSUI TU-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.S; surprisingly musical MD recorder.

SONY TCD-8 DATMAN 1996 [£599]

Super clean sound makes this an amazing portable, but fragile.

LOUDSPEAKERS**ACOUSTIC RESEARCH****ARI8S 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 KEF T27 / B110 combo as seen in the BBC LS3/Sa. 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.

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 electrostatics.



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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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

ANTTI/ARM ONE/IQI 1998 £725
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 comb, but dry and clinical sounding compared to rivals. Accomplished performer with classical music, nonetheless.

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.



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.

TOPEARMS

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.

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.

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.



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 World isn't, but comes close. Vice-like bass with incredible weight, ultra clear midband and treble. Does everything except beguile the listener.

CARTRIDGES

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.

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.

**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.

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.

DIGITAL DISC PLAYERS**ARCAM DIVA CD82T** 2002 £600

Oodles of finesse, but not the most gripping performer at the price. A fine all rounder in the classic Arcam mould.

CAMBRIDGE AUDIO DVD57 2003 £200

Crisp, lively DVD-A sound makes this superb value for money, but 16bit playback is way behind similarly priced CD spinners.

CREEK CD50II 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.

DENON DVD-A1 2002 £2500

Middling CD performance, but a genuinely strong DVD-A sound with masses of space and detail. Excellent pictures, too!

**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!

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 CD6000KI 2001 £500

Brilliantly warm and voluptuous sound will endear it to vinylphiles and tube lovers alike. Musical, colourful, polished and powerful like none others at or near its price.'

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.

NAD C5411 2002 £330

Highly musical and articulate budget machine in the classic NAD mould. Second only to Cambridge's CD500SE in the value stakes.

NAIM CDS 2001 £1195

Taut and grippy like no others at the price, but lacks the warmth of the Marantz CD6000KI at half the price. To wit, it's a very focussed product, best used in Naim systems.

MERIDIAN 507 2003 £1195

Quintessentially Meridian mid-price machine; smooth, warm, expansive and seductively musical. The best all rounder at this competitive price point.

**NAIM CDX2-XPS2** 2003 £4950

A fine high end machine, but add an XPS2 and it becomes one of the most charismatically engaging 16bit machines we've ever heard. Plays music with such passion!

DENON DV-2900 2003 £850

Superbly designed and built do-it-all player that delivers fine sound and great vision. Sonically class of the sub-£1000 DVD universal field, but the i-Link and HDMI direct digital capability of arch rival Pioneer DV-868AVI may swing some towards the latter, and its DV-2200 baby brother is even better value, though.

**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.

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!

**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.

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.

MARANTZ SA-17SI 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.

**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 CD50II 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.

MUSICAL FIDELITY TRI-VISTA21 DAC 2003 £1,200

Superbly neutral and expansive sound makes this offboard digital-to-analogue converter an excellent upgrade to any mid-price CD player - fed by a decent transport, few 16bit players at any price come close.

**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.

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 non-sense budget buy. Fine direct digital copies, but analogue input poor. Middling sonics, but there's a digital output!

YAMAHA CDR-HDI 300E2002 £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

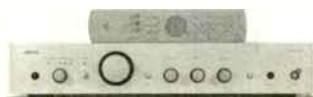
Fine all rounder at the price, which a satisfyingly full bodied sound that's smoother than the Creek but a tad less engaging. Only Trichord's Dino, with its easy upgradability for just £50, reflects badly on this fine bit of kit.

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.

AMPLIFIERS**ARCAM DIVA A65 PLUS2002** £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 ANALOGUE**PUCINNI** 1999 £495

Brilliant value mid-pricer is a real step up from budget designs. Smooth, fluid, natural sound with adequate power and no nasties. Fine phono stage too!

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 SE2000 £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 upgradability 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.

MUSICAL FIDELITY**A308** 2002 £2400

Impressive monster integrated. Vast power delivered with clarity, even-handedness and finesse. Musical, with real tonal colour. Separate pre-power version better still, but less good value.

NAIM NAIT 5 2001 £845

A fast and thrilling listen, thanks to taut and articulate bass and midband. Surprisingly polished for a budget Naim amp, both sonically and ergonomically.

**NAD C320** 2002 £220

Not the giant killer that the 3020 once was, but a very strong budget design. A great starting point; forms a fine system with NAD's partnering C541i CD player.

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.

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-CANS V3** 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** £1010

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 feisty 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 under-powered.

**INTEGRATED AMPLIFIERS**

AUDIO RESEARCH VS1552003 £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 A501R 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.

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.

**LOUDSPEAKERS**

EPOS ELS-3 2003 £200
Plenty of brio and a decent degree of refinement makes this budget baby a fine value contender.



B&W CDMI 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.

TDK S-80 2002 £90
Ingenious NXT multimedia sub/sat system has a wonderfully even and open sound - like baby electrostatics.



LINN NINKA 2001 £995
Major on rhythms and dynamics, making them an involving listen. Reasonably refined, too - but tonally disappointing.

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.

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.



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.

**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.

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 GR602002 £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 MAXIMUM2003 £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.

HEADPHONES**JECKLIN FLOAT TWO** 1998 £99

Wonderful panel-like sound from these esoteric-looking headclamps.

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.

**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.

**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.

**VINYL****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.

THORENSTD190 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.

"One might expect this Stereo 40i to cost in the region of £2,000..."

Hi Fi Choice June '04 They go on to say:

"The sound has a lovely spacious and airy quality with plenty of depth. The music flows well with a good sense of purpose, and attractive interplay between different instruments...The frequency response exhibited extended bass below 10Hz and fell by only .0.3% at 20 KHz"...*"Stunning styling and an impressive spec at a very sharp price"*

Awarded Hi Fi News 'Editors Choice 2003'

"Icon Audio offers sensible, well sorted valve amps, with adequate power for most users and built to a good standard. Valve amplifier ownership without tears"



Stereo 40i EL34 integrated 40+40w (or 19+19 Triode)

Hi Fi News Feb '04 said... "I was impressed not only by the almost tangible three-dimensionality of performers but the depth and width of the soundstage."...*"ample, deep, rhythmic, tuneful bass, underpinning a lucid and effortless midrange and treble"*...*"I liked the impeccable finish and feeling of bomb-proof solidity as well some of the most natural sounding music that I have heard at home"*. Tony Bolton

Do you suffer from listening fatigue? Harsh clinical sound? No emotion in your music? Tried fancy interconnects? Sorry, but only valve amplifiers can give you that smooth musical, full bodied sound that you are missing.

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no grey imports - all equipment comes with 1 year full warranty

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.



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.

PRIMARE T21 2002 £600
 Seriously accomplished design with mature sonics, great styling and fine build.



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.

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 built 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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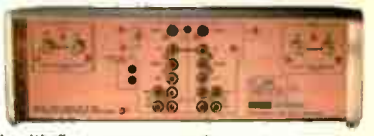
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Letter of the Month

EVEN BETTER THAN THE REAL THING?

I was disappointed that DP in his review of the Townshend Maximums made no mention of the most mysterious and significant thing about them - the sonic improvement they obtain from CD. This is why people have bought them, as the Townshend website makes clear. Could it be too inconvenient a fact for the CD-haters at Hi-Fi World? Surely you should listen again to CD through systems with supertweeters before telling us, as NK does in his February column, that there has been little improvement in CD players since 1987.

In any case, this claim seems a little overstated. My friend used to have a Sony CDPX-338ES (1989), which was not too far behind my own Arcam Alpha 8 (1996). Then I moved on to an Alpha 9 (1998) - a startling leap forward in just about every way that matters. Then came the CD23t - again, striking improvements in staging, imaging and dynamics, even more transparent than the 9, if a little lightweight for my large orchestral tastes. My friend acquired an AVI player which again was a great improvement over his Sony. But quite the biggest shock I got was with a Krell Kav-300cd (1998) which in balanced mode left the middle-market players I had heard well behind in presence, scale, staging, well everything! With the added attraction of being more natural and easier to listen to. The Alpha 9 doesn't get much use with the Krell alongside it.

But a bigger problem for you is that my touchstone for good sound is not 'analogue', but the real thing. I am a regular orchestral concertgoer, most often to the Philharmonic Hall in Liverpool plus occasional visits to the Bridgewater. Sorry, but CD doesn't disappoint me, even a few hours after a concert. (The system by the way: KAV-300 and Arcam Alpha 9 CD players, Krell KRC-3 pre, MF X-A200 monoblocs, Harbeth Compact 7SEii with those wonderful Townshend Supertweeters).

So am I just crazy for cherishing my CDs the way you do your LPs? But I know other classical music lovers who feel the same. You include some classical in your listening, but I suspect it's not your daily bread. It's very hard to tolerate LP surface

noise during a string quartet or a Bruckner slow movement. Even a little is way too much! Tape hiss is okay because it's constant. Coughing in the auditorium is sparse and softer than clicks. But LP noise - unacceptable, even on an Oracle/Koetsu based system I heard a few years ago. Some of us, especially lovers of large scale orchestral music, do seem to find CD far more rewarding than HFW writers. Especially on more recent and high-end CD players. Perhaps such machines are simply too revealing of recording inadequacies in rock and pop.

Jayne Lee Wilson

Hi Jayne - last things first. Is this a thinly veiled polemic against "rock and pop", or a letter in defence of Compact Disc? You're on unsafe ground if the former, as I'm certainly happy to admit listening to "rock and pop", as you put it. The stuff I listen to is invariably of the sixties and seventies variety, which was recorded in analogue, mastered in analogue and pressed on lathes with no digital delay loop. I also listen to lots of jazz, from the fifties to the nineties (and beyond), which - of course - features uncompressed acoustic instruments, often recorded - in the case of BlueNote stuff - with nothing more than a crossed pair of cardioid microphones running straight into a tape recorder running at 15ips - more than an adequate gauge of great live sound, methinks.

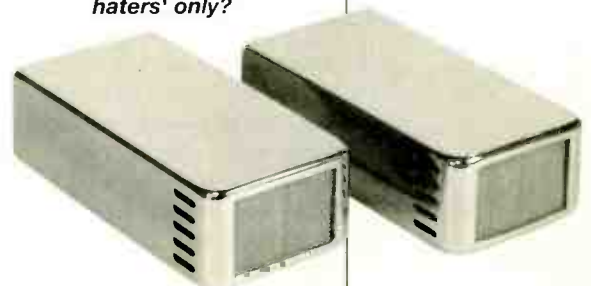
Of course, classical music on vinyl has the obvious drawback of having lots of quiet passages, where any surface noise present can be distracting. But listening to my Deutsche Grammophon LP pressing of Karajan take on Beethoven's Pastoral Symphony (a personal favourite) is for me, far more satisfying than through CD. Yes, there is the occasional random surface imperfection, but the depth and breadth of the soundstage, along with the deliciously seamless midband that allows the strings to live and breathe, more than makes up for it.

As for "the CD haters at Hi-Fi World", well I think that's a tad mischievous on your part, wouldn't you say...? If you're a regular reader, you'll

know we take great pains to explain why CD isn't perfect, and why it sounds the way it does. We speak about CD critically, because we do not accept it to be the reference standard music carrier, as some other magazines have done until very recently. But just because we don't fawn over it, doesn't mean we hate it. We take great pains to find kit we like, and show to get the best from it, as this issue shows... We're also very interested in your point about the development (or otherwise) of CD hardware over the years - and feature a wide variety of classic kit which we always compare to new stuff - to wit, our recent comparative review of Meridian's 1985 MCD Pro with the modern 507. If you read Ken Ishiwata's interview last month ["Get The Balance Right", June 2004], you'll see a number of technical reasons why CD has not necessarily got better - the move from BIMOS to CMOS, the loss of the swing arm laser mech, the changing sonics of digital filters and the adoption of Bitstream DACs to name but a few.

Now I'm off my soapbox. I'd just like to congratulate you on a brilliantly balanced system (lack of turntable notwithstanding), and concur with your finding that the Townshend Maximums do indeed work well with CD, right down the audio band. It was down to lack of page space that I didn't allude to this, not some sinister plot... In this job, it's funny how many people interpret the slightest nuance as a conspiracy - I guess it's the sort who don't believe there was ever a moon landing in 1969, or who really do think Diana was assassinated by Her Majesty's Secret Service... DP

**Townshend Maximum
supertweeter - for 'CD
haters' only?**



THERE (S)HE BLOWS

I was moved to write after reading Patrick Cleasby's review of The La's because it raises an important issue - sound quality. In my opinion Lee Mavericks - the singer/songwriter of The La's - was right to get so upset about the sound of his album. He had some great songs, a fine band, and a fabulous voice, which he wanted to get on record the way music should sound, the way it is heard when playing with a few friends, but what he ended up instead with was the usual Brit Pop sound - thin and brittle.

If you listen to the Lost La's 1986-1987 and compare 'Son Of A Gun' and 'Doledrum', which were recorded in an attic, to the same tracks on The La's album, recorded in a top studio with a very expensive producer, the former recordings just blow the latter away. Why? Because they are real, warm, and natural.

Oasis have never sounded good to me. I not a fan so I am probably not a fair judge, but if there is any bass there I hardly notice it, they sound as hi-fi to me as someone hitting an old tin cigarette ashtray. At the other extreme, there are bands that record things so perfect that they leave me bored, such as Dido. An album called '69 Love Songs' by the Magnetic Fields is usually described as low-fi, because their recordings are down to earth and unpolished. But to me they are hi-fi because they sound real and natural, and void of all brittleness and harshness.

I have noticed many times over the years how demos sound so much better than the studio output. Why does anyone use such a top producer when the sound they make is so obviously flawed? And do these producers really like the sound they make? Or is it: make it spitting and nasty so its cuts through everything else on the radio. I don't know, I'm just trying to find a reason for it.

Things may be improving a bit nowadays. I have noticed that some modern rock bands are making, in my opinion, some well recorded albums. The new Electrelane album, 'The Power's Out', is blistering rock that leaves your hairs on end and is not for the faint hearted, but sounds fabulously fulsome with a nice fat treble. And Homelife's 'Flying Wonders' - jazz rock/ techno- is superbly realistic and mellow, and yet, with a glistening clear treble. I'm also hoping that SACD will also do something for sound quality in the future.

The La's album could have been one of my favourites if Lee Mavericks had got his way; it's a real shame, I have to imagine instead how could have sounded. Or perhaps one day I might buy Acid Pro and try to remix it. Or perhaps Lee will do an 'Unplugged' or something (fingers crossed) - it's worth saving!

Kevin Blow

Kevin - I have to confess that I have never been moved to get hold of The Lost La's, but maybe I should. The thing is that I never really went for the recorded-on-a-ghetto-blasters feel of something like 'Over', and the reason for this is that anybody who has been bitten by the recording bug always aspires to the "professional" (whatever that may be).

The demo question is most interesting - Mavericks is not the only person to find the process of transferring whatever magic was in their demos very fraught. If artists don't lose sight of this, they often just base their tracks on the demos anyway. The professional recording industry is not infallible and does go up many blind alleys, from over-enthusiasm for 16bit digital to the current horrors of autotuning and the removal of all real-life feel from the musicians' (if there are any) playing.

I too hope that our enthusiasm for high resolution somehow cross-pollinates with the recording arena - not everyone is going to go back to analogue tape, but many artists and engineers are only just upping their game from 16bit and 44.1KHz! As everything improves, we should ultimately get more recordings with the full power and realism you are after - as long as there is still some musical artistry left too. **PC**

TAPE TALK

Regarding your recent digital recorder supertest, I feel that it is unfair to the digital recorders that you pitched them against the best in home analogue recording (i.e. the Nakamichi ZX-9). The digital recorders are only mid-priced whilst the Nak is state-of-the-art. This alone renders the comparison unequal. I know the Nak is the best there is but its price is a world of its own. I did not want to pay that kind of price partly because I was starting in life then and funds were tight.

There is another side to the saga of cassette recording. Even if I did buy the Nak and I got good recordings (at least when fresh), do they last? I have used a few humbler recorders including the Sony Walkman Pro (recommended by the late Mr Vereker). I know what a good recorder can do. However, play a fresh recording several times and you can hear a degradation at each play. I have made some good recordings from my Linn LP12 and a year later it sounds as if I had used a Basik arm and cartridge instead of my Ittok! Asak combo.

I know that these are observations with Sony, JVC, TEAC and Marantz decks (some were borrowed) and not with the top-of-the-line Nak. (Another friend had a

Nak 500 but it was a base model. I thought its sound was only par for course.) However there is no guarantee that there won't be signal degradation after a year or a decade of archiving even if I had the Nak. The other thing about cassette recordings is their "phasiness" especially with poorer recorders but audible even with mid priced machines. I am very irritated by these interchannel phase shifts and speed instabilities.

For these reasons I did not get the Nak but now that I am more financially capable the machine is not in production (I don't think I want to buy second hand as I am not sure there is proper local service support.) I feel that your Supertest comparison should have been with a cassette recorder more equivalent to the digital recorders' prices. Such a recorder may show a pair of heels to the digital recorders still. Then we know that it is more likely the format and not the recorder quality that determines the fidelity available.

S P Tan

Fair point, but as I said in the preamble, I wanted to see if the latest digital recorders had actually raised the game compared to ye olde analogue tape. The Nakamichi was simply used as an exemplar of domestic analogue at its best - a absolute benchmark by which to judge the others, and not a What Hi-Fi style 'we say what's best at the price' type buying guide participant. Frankly I hadn't expected the Nak to whip the others so decisively. I'd expected it to be a little softer and sweeter - which it was - but hadn't bargained on its tremendous grip, dynamics and punch. For me, the supertest showed that digital recorders are convenient and cheap, but they weren't any better than analogue - as they so often like to pretend - in sonic terms. Once again, the piece rather debunked 'the myth of progress' in hi-fi... **DP**

NAIM OF THE GAME

An impending house-move has presented me with an unexpected upgrade opportunity, and I would welcome some advice/ ideas/comments. Current system is LP12/OL-modified RB250/DNM Recal Lingol Trampolin/ Cirkus with Naim 92/90 and World Audio KLS3 speakers. Following successful experiments with previous speakers, I have mounted the crossovers on the exterior of the cabinets. Speakers are bi-wired with mixture of Naim and Linn, with cable runs being around 7m each due to equipment-sitting constraints in previous house. I note that Naim stipulate a

minimum cable length of 3.5m or so, and have thus left the length as is to compensate for bi-wiring. Other stuff is a Marantz ST-50L tuner with budget CD player and cassette deck as peripheral sources.

My listening is split 50-50 between records and radio, with tastes being general rock and acoustic. Most of my listening is late at night and at low volumes, but this reveals channel imbalance on the pre-amp due to the efficiency of the speakers (the amp has been checked by Naim and found to be okay). I am happy with the general sound, so am really looking for better low-level performance. A short-term loan of a 72 preamp went a long way toward solving the imbalance problem, and introduced better low-frequency definition. It didn't have a phono stage, though, so couldn't tell much else.

A local dealer has suggested changing the 92 for a 112 with freestanding Naim phono stage, or alternatively getting rid of the 90 and replacing with a valve power amp and Flat Cap. My experiences of valve are confined to the loan of an EAR834 phono stage which when used with my old Cyrus 2 amp made Nick Drake sound great and Bob Marley sound half-asleep (not so great). I had thought of a Naim tuner, but £700+ for a NATO5 would not leave a lot for amp improvements.

I am fairly happy to buy second-hand, and would also consider a kit purchase providing this was simple (I can manage simple soldering and can find plenty of rubber gloves in the local shops, but would be at a loss if anything failed to work first time). I don't have any real preference for either valve or solid state (looks apart). My budget is around £1,000 plus proceeds from any redundant equipment. Thoughts?

Andrew Ketley

Interesting. You like the sound of valves in theory, but find it patchy in practice. Methinks this is because the EAR834P phono stage is very much a euphonic sounding valve product, and not universally applicable, especially to someone into Naim gear! Given that your speakers are superb - and designed, first and foremost, to work with valves (thanks to their high efficiency and easy load) - and your front end is also excellent, I'd say it's the Naims that aren't giving you quite what you want. But then again, you don't want something that strays too far from that characteristically tight and fast Naim sound. So... I'd recommend an Audio Research VS155 integrated tube amplifier. Now I know it costs £2,800 or thereabouts - hardy within your budget, but it's the only way you can go. Bigger and better

Naim amps will bring more impressive sound at high levels, but won't really assuage your low level listening malaise...

You need a slight change of track - and valves offer this - but most valve amps will leave Naim fans completely underwhelmed. That's why the Audio Research is perfect for the job. It's brilliantly fast and lithe, yet altogether smoother, richer and more beguiling than your existing amplifiers. This will be especially obvious at low levels, where you'll find it has ease and flow - not to mention a nicer tonality - that the Naims lack. So - sell the Naims (you'll get a great price for them - they have superb residuals) and start feeding the piggy bank - it will take less time than you think! You'll need a good phono stage too, and the Trichord Dino at £299 will do nicely, thank you very much. This done, you'll have a brilliantly matched system that's especially able with the sort of music you like and still sonically very much up your street. **DP**

ONE OF MY BETTER DECISIONS...

For my 21st birthday (1981) I was fortunate to get £600 worth of hi-fi. The choice then was a rack system - all flashing lights and poor sound quality or separates. Fortunately I found a local dealer in Bristol and after listening to some combinations and some extensive magazine reading settled on a Linn Sondek LP12 with LVX Basik arm and Audio Technica MM cartridge. With this I bought a NAD 3020 amp and KEF Celeste IV speakers. This was one of my better decisions in life and started an ongoing interest in hi-fi and listening to music.

However, over the years, various needs, wants and particularly family have meant upgrading from my original set up has been infrequent. Currently I still have the original system but the LP12 has had the addition of the Cirkus kit and a Lingo power supply and some services over the years. The arm is still the LVX but now with a £40 Ortofon MM cartridge. In the mid 1980s I bought a Grant/Lumley valve power amp and use this with the pre-amp stage from the NAD. The speakers are as above and I do have a very cheap CD player as well.

At long last I'm in a position to move towards the system I've been wanting for years. Unfortunately I'll have to do this in two or three steps or compromise more than I wish on choices. I still play a lot of vinyl so the turntable is important to me. Having spent money on the LP12 I intend to keep it, but realise an arm and cartridge upgrade will be the order of the day. As you can guess over twenty three years you rightly or wrongly start to form some opinions/ prejudices. I have dreamt

for years of owning a Koetsu Red MC cartridge. Will this suit/ work with the LVX? On amps I heard the Krell 400xi the other day and was very impressed. I did however hear it with a CD source and through Martin Logan speakers so I'm not sure how much was down to the amp? Also I realise there's no phono stage with this amp so any thoughts in this area? On speakers I have no fixed view other than from a size and room positioning point of view I'll need stand mounts.

Finally I'll need to look at a new CD player (or SACD?) and consider interconnects, speaker cables and a stand to mount all on my carpeted solid floor. I don't know if it makes a lot of difference but I listen to a wide range of contemporary music - rock, acoustic, pop, folk and reggae. Bass matters but truthfully I want to get as close to the original music laid down as possible. Any suggestions on any of the above would be most helpful, particularly a suggestion as to how and where to start. I fully intend to audition products before buying but as I pointed out with my brief listening to the Krell it'll be difficult to entirely replicate my current set up and more importantly the set up I'm trying to finally achieve.

Nick Parker

Hmmm... I don't like queries like these because you've not really clued me up on your budget, timescale, room size, etc. But given that you still have your original speakers and arm, these are the obvious starting points. I could write a thesis on tonearm choice alone, but assuming you like your Linn LP12 - and why not - then I'd counsel either a Linn Ekos or Naim ARO as a starting point. Now I know the Ekos didn't do brilliantly in our recent arm supertest, but we were using an Origin Live deck for that. With a Sondek, you can be assured that the Ekos will perform superbly - and match a Koetsu well, to boot! The ARO is probably less suitable here, given your choice of valves, as it may sound a tad soft, and require headshell drilling to accommodate the geometry of the KR. So... start with an Ekos.

Next, speakers. Oh boy - stand mounters with a valve amplifier? Actually, what you need is a compact floorstander with no bass boom, that works well with tubes. Answer: Martin Logan Clarity (£2,895). Electrostatics generally sing with tubes - if you don't want high sound pressure levels - and these are superb. They have a light and well damped bass, but stunning midband and good treble too. If these are too expensive, then Elac's FS207.2 is the automatic choice at £995 - these have a tight bass (if you use both port bungs) and work very well in

small rooms. But they also have great incision and dimensionality, and a treble that's probably even better than the MLs!

CD player? If you can't find a Musical Fidelity TriVista SACD (£3,995), then I'd suggest a Marantz SA-17S1 (£1,400). This is an extremely beguiling and musical CD spinner, that does SACD brilliantly - in Ken Ishiwata's opinion it's better than the fabled SA-1, although I'm not sure I'd concur - and as such an ideal partner to your LP12. Thus equipped, you'll have a digital and an analogue source with a lot in common, which makes amplifier choice easier. You'll have to decide whether you want to go transistor or tube. Me, I'd suggest you hold fire until you've made the aforementioned changes... but you should think along the lines of the Audio Research VS155 tube amp (£2,895) or the forthcoming Musical Fidelity KVV500 (£3,995 - watch this space for a review) which puts out half a kilowatt into 8 ohms, and should have a nicely sweet and open transistor sound if its predecessor is anything to go by. Come back to me on this one when you're ready! Phonostage? I'd still say the Trichord Delphini NC (£1,200) is the one to have at the price. "Bon voyage"... **DP**

THORENS AND BEYOND

I was very interested in the letter from Garnet about the Thorens TD160. I have owned one of these from new and have always enjoyed it despite its somewhat crazy speed selector! Mine has a SME 3009 fixed with an Ortofon VMS20E II and all told it wasn't bad but bass was a little thin. I decided to make some changes to bring it up to date. As you may recall from my last letter everything has become significantly heavier! The platter is now a three part screwed together sandwich to stop it ringing with a conductive foam infill so it is as dead as it can be. Matt is Chamois leather. Plinth is completely remade being two layers of standard chipboard kitchen worktop as the base with a top layer of beech block (Ikea worktop) cut out to allow for the mechanics. The surround is made from what I thought was utilie wood but it turns out to be rather more like massaranduba. At least it is extremely hard and tough! The deck is damped to the plinth by compressing high density foam directly between the plinth bottom and the deck top plate wherever there is space for it. It needs very good screws to pull this down hard! The bearing has been packed with copper anti seize paste and a thick molybdenum grease and the belt shortened by about 1cm. There is a

picture on my website.

Even with the original cartridge it sounds so much better. There is bass, there is less noise, probably because the platter doesn't resonate, and its oh so smooth! Clicks and pops from damaged disks don't sound so fierce again, probably because the platter is so dead. I intend to find a better way of mounting the SME that is more resilient and further damping the structure it sits on, upgrade the cartridge to initially a V15 III or IV (cause they are cheap second-hand) until I can afford the latest Shure model and remount the motor so that it transfers less of its energy to the deck plate. I have found no advantage to changing the springs or the damping materials after this work. This changes the turntable so drastically that the small change with the springs is all but inaudible.

The LX5 issue should be understood by anyone who has ever worked on a loudspeaker. The driver and cabinet have to work in synergy. Sure you can change drivers to your heart's content but without careful retuning it is very unlikely that you will ever get what you expect just by swapping the drivers. I have made and modified dozens of pairs of speakers including the dreaded "white van man Acoustic Reference 3311". It is all about getting the cab tuned right, the crossover parameters moulded into the drivers and of course running the whole lot in for about three weeks. If anon would like to get in touch with me via email perhaps I can offer some clues! Usually loudspeaker designs are a compromise but some just couldn't be any better without either doubling the price or doubling the size. It's really down to what you want. My web site is: <http://groups.msn.com/Artandwork>. Anyone fancy a chat on these sort of things feel free to drop me a line at: [dave_london@hotmail.com!](mailto:dave_london@hotmail.com)

Dave

Interesting. I think the TD160 is a superb sounding deck - or can be. Now I know the Thorens cognoscenti will be tut-tutting, and swearing blind that the TD124 was the only proper thing ever to emerge from the factory, but the 160 is essentially a tweaked 150, which itself formed the blueprint for the first generation of super-decks - Linn LP12, Dunlop Systemdek, STD305M, Ariston RD11S, et al. A well designed intra-skeletal independently sprung subchassis belt drive has much to recommend it. The only downsides are the interaction of the plinth - which ushered in the exo-skeletal Michell GyroDec in 1980, heralding the new age of turntables. While this latter, modern generation

of decks sounds very tight and explicit, the Thorens TD160 and its ilk do have a lovely, smooth, lilting nature which I, for one, adore. As you show - re-engineering all the deck's cost-cutting compromises out (which is essentially what Linn did with the Sondek), yields an altogether more immersive and involving listen, but still avoids the 'Swiss watch precision' of modern designs - which some analogue addicts simply don't crave.

DP

AND SO TO THE DUMP?

My system comprises active Linn Kabers tri-amped by three Myryad 120 power amplifiers and preamplifier, Michell Orb turntable, Zeta tonearm, Koetsu Black and an EAR 834P phonostage. Two problems - first, the Myryad T20 CD player sounds quite over the top compared to vinyl, so I'd like to upgrade it for around £1,000. Second, I've had an accident with the Zeta arm - can I get it rewired, or should I just dump it and get an SME?

Martin Jacobsfield

Hi Martin. First, as your CD player is still a perfectly fine sounding unit - albeit not a patch on the Orbe, of course, then you could do far worse than retaining it (especially as it's a visual match for your amps) and buying a Musical Fidelity Tri-Vista 21 DAC (£1,200). This adds genuine warmth and space to any good mid-price CD spinner, and would raise your digital game enough to make it worthy second to your vinyl source. Second, the Zeta is a cult arm, and well worth rewiring. Give Mark Baker at Origin Live a call - he should be able to advise as to whether it's worth rewiring (i.e. whether the rest of the arm is still in good condition). If not, you've got a choice between the SME Series IV and Origin Live Illustrious. Both are superb, although the SME lends towards the analytical and the OL toward the beguiling. Your Zeta is more in the SME camp, and not far behind although its bass is softer and looser. Given your front end, I'd plump for the SME, but should you ever feel the need to switch to a Trichord Delphini NC phonostage (£1,200), all that extra detail and depth would match the warmer, sweeter strains of the OL. Your call. **DP**

LIFE IN THE FAST LANE

My Rega Planar 31 Musical Fidelity X-LP always used to trounce my Arcam 85E CD when powered by an Arcam Alpha 5 amplifier. After buying a Naim Nait 51 Flatcap21 Stageline amplifier this is not now so clear cut. The rhythmic 85E

seems to suit the Naim gear, while the Rega suffers with some recordings. To an extent I think it's a case of getting closer to the recording, even if it's not well produced, but I still feel the turntable needs changing now. Any suggestions? Budget up to about a grand and I am partial to second-hand if necessary. Oh and speakers too; I have Rega Kytes but now they live in a much bigger room than initially planned. Floorstanders do you think?

Mark

Your lovely new Naim Nait 5 is giving a greater insight into recordings, warts and all. The Rega Planar 3 is a superb turntable at the price (the best, methinks), but can sound a little out of its depth if not carefully fettled and matched with superb cartridge when used with better ancillaries. To wit, you can either spend £300 on an Ortofon MC25E for its RB300 tonearm, and get an Audiophile Furniture BASE SPO1 subtable, or just go straight to a new Michell GyroDec SE for about £1,000 with your existing Rega arm. Now I know that many readers have just lost the will to live reading my recommendation of the Gyro ("shurely shome mishtake!", etc.), but it remains the best at the price by a country mile. It will inject tremendous depth and detail into your system, along with a very tightly defined and highly 'architectural' soundstage. The Rega will sound thin, wiry and wobbly by comparison, bless it - and the Arcam CD8SE will have well and truly met its match, sounding compressed and two dimensional. As for your speakers, the Elac FS207.2s are the automatic choice with your system - sweet yet tight and detailed, they'd be a perfect match for your dry sounding amplifier. If you want an overtly warm and full sound though, the Castle Conways are superb - they're bigger and more physical, although you'll find they're rhythmically less able. Either way, a Michell Gyro/ Naim Nait 5/ Elac or Castle system is probably the best way to spend £3,000 on hi-fi right now. Next step after your speakers - get your Rega arm OL modded and a Goldring G1042 cartridge for £300, or splash another £1,000 or so on a Michell TecnoArm a and Ortofon Kontrapunkt c and you'll well and truly be entering the fast lane.

DP

BACK TO THE BOOTER

Following various comments in HFV regarding the sound quality of early multibit CD players, I recently had the opportunity to find out for myself. With a bit of negotiation at a recent car boot sale I purchased a tatty looking Philips

CD380 for £5, and after a thorough cleaning, inside and out, found the sound quality very pleasing especially when connected to my recently constructed WAD KEL84 amplifier. In comparison to my Pioneer 839 player/recorder, it was wilder and less refined. What has really surprised me however has been the ability of the CD380 to happily play any CD-RW I have tried in it! Why is this?

The cassette medium has always amazed me by how good it can be and can still provide strong competition for many new formats. Three of my best equipment bargains have been, one of the last Nakamichi DR10 units from Richer Sounds, a Technics SL1 50MKII turntable, complete with SME 3009 III arm for just £60 at a Tonbridge Audio Fair together with a Garrard 401, purchased a few years back for £35. I will be refurbishing this unit over the coming months. Finally, I have just bought (new!) a Sony MDS 980 MiniDisc recorder mainly for editing and time-shift use, even on MDLP2 the following appears to hold:- FM + MD > DAB.

Bill Dudman

Hi Bill - I too was amazed to see my first generation 1983 Marantz CD73 playing CD-Rs (of both audio and data varieties) - this was made five years before the recordable disc was invented! I suspect it's a case of the particular type of laser used in the early Philips CDM-series swing arm mechs (as fitted to all Philips and Marantz machines from Year Zero) having excellent optics, well able to read difficult discs. The early Japanese machines, however, used different (often Sony-based) transports altogether. You're right, most people have forgotten - or never realised in the first place - just how good cassette can sound. Almost all of it was poor-to-middling, but high end Japanese decks of all varieties (especially Nakamichi, of course) could get stunning sound from this format. This is most obvious when you make a cassette copy of an LP - thus keeping everything in the analogue domain. There is air and space and sweetness that even DAT can only dream of! MD can be a good sounding format, although I'd avoid MD LP like the plague - this is Sony's rather half-hearted attempt to keep up with MP3, and reeks of an ill-conceived corporate compromise.

DP

SPLENDID ISOLATION

There are many benefits living as I do in Cornwall, such as my nearest neighbour being over half a mile away. I can therefore drive my hi-fi without fear of upsetting others. The downside of this

isolation is the lack of diverse hi-fi dealers where I can hear equipment in action and arrange for any home tests prior to purchase. Hence, all of my purchases are made via phone or the Internet and delivered by courier. Your help would be greatly appreciated in recommendation of suitable floorstanding loud speakers to meet my requirements. I live in a 350 year old cottage of cob and stone construction with walls over two feet thick. The listening room is 28 x 12 feet, with a wooded floor and exposed beam ceiling. I have a budget of around £1,000 but could exceed this if the extra expense would be justified.

My present set-up consists of a WAD 300 PSE monobloc amplifier with WAD Series II modular pre-amp kit, Michell GyroDec SE, TecnoArm a and a Dynavector DV20X-L cartridge. The CD spinner is a Njoe Tjoeb Valve Reference model from AH! I had thought that perhaps the Castle Conway 3s might be the answer, but was informed that they might not be sensitive enough with the amp output only being 20W into an 8 ohm load. I have a varied musical taste, which includes trad jazz, R&B and country and western. I wish the speaker output to be open and true and do not want accentuated bass or false coloration. I appreciate that there is no substitute to 'suck it and see' but will be happy with a 'best guess' from you in order for me to make a purchase of likely suitable speaker units.

E L Vant

I'd be wary about the Castle Conway IIIs, not because of the amplifier power issue - which is an issue, although shouldn't in practice hinder things unless you listen at very high levels - but because you said you don't like accentuated bass, which is precisely what the Castles do have. It's very nicely accentuated, but it's there all the same and if this doesn't suit your tastes then you may not get on with them. I think they'd be the automatic recommendation for anyone with a thinner sounding system, but as yours is already well balanced then you need some neutral transducers. Enter Revolver R45s (£899) - these are very efficient (and should really blast even with your PSE) but also neutral all the way up the audio band. They're a rousing listen, yet sweet and smooth with it - and the automatic choice for your system. **DP**

TIP FOR THE TOP

I would like to share a tip for vinyl lovers like me with limited budgets. Linn no longer supply replacement styli for the Linn K18 cartridge. As a result there are a lot of used examples around at rock bottom prices. The K18 (like the K9 and

K5) was a development of the Audio Technica AT95 series, but with modified bodywork which makes the styli non-interchangeable. I have discovered that trimming the entire front section off an AT95 stylus mount makes it fit just fine. I used a sharp knife blade heated in a flame to slice cleanly through the plastic. It's a two minute job - although one that needs a steady hand. Obviously you lose the benefit of the K18's bolt-in stylus securing assembly, but the loss seems minimal. And we're talking really cheap - I got mine on-line for £15. Availability isn't an issue, as the AT95 is still a current model. So what does it sound like? Well, for a start, not much like the original K18. That had an edgy and insecure feeling that made it hard to relax with. To my mind, the K19/AT95 hybrid is actually better - far smoother, stable and assured. It is also a lot less detailed, but it is highly listenable; very pleasant, and really meaty. Certainly it's a country mile better than a complete AT95 cartridge. The only real downside is the odd appearance. So there you have it: classy cartridge given a new lease of life for just £15!

Andrew Jones

MY TWO CENTS

Just a quick email to say how much I agree with your comments on old CD player. I purchased a Cal Tempest 2SE two years ago which came out in 1989. It wipes the floor with every other CD I've ever heard. I have the first Sony SACD spinner, which is a classic in its own right, but the Cal is in a different class at 16144. I was also interested in your review of the Sennheiser 650s. Are you aware of the Sony R10 Wooden Headphone? It originally came out in 1989. Not many people know, but they still make it on special order in Japan. It makes the Sennheiser and every other dynamic headphone sound ordinary - the downside is that it costs over £2,000. Keep up the good work!

Andy Browning

Hi Andy - yes, I'd seen and heard the Sony R10, back when I was living in Japan. The fact that the ear speaker casings were made of wood seemed quite incredible at the time! They're amazingly detailed and smooth, but I have to say a tad dry in the great Japanese high end tradition. I never realised they were still available to special order, even now. They used to sell hundreds of them through my fave Tokyo electronics emporium, Yodobashi Kamera. I remember the glamorous packaging, and the price tag which back in 1990 was about 200,000 Yen (about £800 at the time). Cheers, **DP**.

PUMP UP THE VOLUME

My question concerns the new Musical Fidelity X-150 integrated amplifier. I am currently running the old MF X-A2 integrated alongside an X-Ray CD player and various speakers, from Spendor BC-1s to the smaller Advents and it all sounds fine. But a gentleman offered to sell me the new X-150 for \$850 brand new in a box here in the States. I know you're thinking what a bargain! How much more performance would I be getting from the new one compared to the old one - as they are both rated at 75 watts, albeit the new one is producing 50 amps of peak current compared to 14 amps for the X-A2. How much difference does a higher peak current make in sound quality if any at all? Is there value here or is this some sort of snake oil, like \$1500 cables offering better sound quality?

**Oz,
Chicago, Illinois, USA**

No, it's not snake oil. Current driving ability could be viewed in a similar way to that of torque in an auto engine. For instance, the new Yamaha R6 motorcycle makes something like 90BHP at the back wheel, whereas the BMW F650 makes half that, but at realistic speeds, the latter feels no slower because of its near identical torque figure. This, and current driving ability, is what people actually perceive as 'power' more than BHP or Watts per channel, which simply describe the maximum a motor or an amplifier can make in extremis. Current driving ability is essential for a strong, commanding bass and impressive dynamics. It means the amplifier doesn't run out of steam at high volumes, or start going wobbly with difficult speakers. If you want a great example of a high current, low power amplifier, listen to NAD's original 3020 (1979). It was rated at 20W into 8 ohms, but gave nearly twice that as the impedance halved, and then nearly twice that as the impedance halved again. Result: grippy, punchy and confident sounding, despite its meagre 20W! The previous X-A2 wasn't bad in this respect, having enough grunt to drive my Yamaha NS1000Ms for example, but it didn't have an iron grip in the way that, say, the old XA-200 monoblocks had. The new X-150 gets closer to this, with lots more control into tough loads at high levels. At low levels, you'll hear a stronger and better defined bass, but whether this warrants swapping amplifiers is another story. If it's a good deal and you can sell your old amp for nearly as much, then yes, but otherwise, I'd probably spend the cash on music! **DP**

FINE CERAMICS?

I suspect many HFW readers would be familiar with the two rules of thumb applicable to high fidelity audio. Firstly, newer does not necessarily equate to better. Secondly (and this follows from the first rule), changes in technology frequently alter the character of sound rather than providing outright improvements in quality. Like many others, I have learned these lessons over many long years, with many pieces of equipment bought and sold, leading up to the present day where I choose to listen to a mix of technologies, including components rapidly approaching 40 years in age.

These lessons in hi-fi have provided some joy in reading old issues of hi-fi magazines, precisely because they offer an opportunity to compare hi-fi 'truths' from each decade and gain some much needed perspective on the rhetoric we hear today. Recently, prompted by the May 1967 issue of Electronics Australia, I started thinking about the ceramic pick up cartridge, and the reasons for its demise. I quote:

"[Ceramic pickups are] inherently amplitude sensitive - in other words, they deliver a signal voltage which is proportional to the amount of groove displacement. Since the present-day RIAA recording characteristic produces a groove which deviates by approximately the same amount at all frequencies for a given input signal, a ceramic pickup produces an approximately level output, without external frequency compensation. This combination of relatively high output and relatively level frequency response means that the associated amplifier need provide only modest gain and no special order frequency compensation."

Although the article goes on to extol the virtues of the moving magnet, I was left wondering whether the inherent qualities of the old ceramic cartridge had been fully exploited before its demise. Had it died premature death, perhaps the kind of death promised vinyl in the early nineties?

It is true that the moving magnet posed the ceramic cartridge a significant threat in the 1960s; the Shure V-15 in particular must have altered the high fidelity landscape quite dramatically. But I would suggest that were it not for other technological developments, namely the solid state circuit, the moving magnet may have remained a niche product for many years (in much the same way as the moving coil continues to be a niche product).

In the 50s and 60s providing the extra amplification and filtering necessary for a moving magnet pickup was a potentially complex and costly

proposition, particularly for the DIY hobbyist. The necessary gain could be achieved with a pentode like the EF 86, but at the cost of noise. Lower noise triode phono stages were available, but they incurred additional cost and complexity. The transistor changed this situation significantly: not only could a low voltage transistorised phono stage be slotted into an amp for relatively little cost, it also involved, at least in theory, lower noise in operation. At this time a number of hi-fi manufacturers made 'hybrid' amplifiers (such as the Sansui 1000a) incorporating transistor phono stages within their tube designs. By the early seventies, when solid state had well and truly won market share, the transistor phono stage was standard even in the most budget amplifiers - not surprisingly, the need for a ceramic cartridge was dispensed with at this time.

This leads me back to my original question - was the demise of the ceramic cartridge premature? Or to put the question another way: what would a high fidelity ceramic pickup look like today? Although the 60s ceramic cartridge had evolved substantially from its crystal forebear, it never had the benefit of the immense technological improvements that today's moving magnet has inherited over the past 40 years. If the ceramic pickup were around today, I suspect armed with more recent innovations (e.g. boron cantilevers, nude polished styl, rigid bodies etc.) that this would in all probability be a very interesting beast indeed.

In particular, I wonder if dispensing with additional phono amplification and RIAA filtering (i.e. because of the ceramic's approximately flat response, and nearly line level output) would offer any unique insights into the record groove. Perhaps, we could speculate, this would provide a more 'direct' sound in much the same manner as a decent single-ended? Sure, there would be inherent problems (e.g. only 'approximately' flat output) but this is after all the third hi-fi rule of thumb: namely, every technological development, no matter how good, has its own inherent limitations.

Dinesh Wadiwel
Australia

A fundamental weakness of ceramic cartridges was that the piezo-electric element needed to be flexed to generate output and, being stiff, it resulted in a cartridge with low compliance and poor low frequency tracking ability. To counteract this, in as far as it was possible to do so, tracking force was usually high, in the order of 2-6gms, which of course leads to groove wear, etc. Whilst it was possible to squeeze a reasonable performance from a ceramic cartridge

by standards of the time, using Garrard and BSR autochangers, it isn't what we'd be very happy with today. To make a ceramic work well proved nigh on impossible; it remained a budget solution suited only for groove chewing record players. I'm not sure we could do any better today with ceramic generators. There was no shortage of effort and innovation at the heyday of the LP, in the late 1970s, with pickup cartridges, but no one bothered trying to take crystal or ceramic types any further. Tracking was poor and distortion high. That they were amplitude sensitive is little recompense, especially since the RIAA equalization curve is not a perfect constant amplitude characteristic. Sorry, but I see no parallel with Single-Ended working in this case. Not all oldies are golden. **NK**

MORE AERIAL VIEWS

I am in the process of assembling a complete system of the highest fidelity, so as radio is important to me I have invested in a TAG McLaren tuner plus the DAB option with an eye to the future. Sorry to do justice to my extravagance, and as a direct result of reading your article 'Aerial Views' [Hi-Fi World, August 2003] I purchased a Maxview DAB aerial kit from Maplins in Brighton - only to find that it was rated at 75 ohms impedance, not the 50 ohms you state is the standard for DAB.

In an effort to clarify the situation I contacted TAG who confirmed they specified 50 ohms, but added 75 ohms might work. I contacted Maplins next ("Sorry mate, every DAB aerial we have supplied has been 75 ohms"), then looked on the BBC DAB website but alas there was no information. Maxview, once I had got through their virtually impenetrable phone system, said they'd only ever made 75 ohm aerials. Various aerial erectors contacted through the yellow pages all unanimously stated that they had only encountered 75 ohm aerials for DAB. So what hope have we with this new service?

Can you tell me why you mention Maxview in your article, implying they comply with the standard when they never have, and explain why the DAB standard specifies one thing, while the aerial industry seems intent on installing entirely unsuitable equipment? Lastly, who does supply 50 ohm aerials? Your help would be greatly appreciated!

Nick Cheyney

This is an obscure problem to which I can get no definitive answer. I am told by a DAB design engineer of some repute that early DAB standards, which originated in Germany, specified aerial impedance as 50ohms. It has

now been re-specified as 75ohms for domestic installations, whilst car units and aerials remain 50ohms. Tag McLaren, having strong European links, adhered to the original standard and insisted to me that 50ohms was correct when I researched the article you refer to. I could get no definitive answer from UK aerial manufacturers, nor the BBC. Digital is so hideously complex, issues like this tend to get pushed aside it seems. As far as I am aware 50ohm aerials are not commonly available in the UK, although common in Germany. There is a small loss of a few dB with a mismatched 75ohm design and likely a small amount of reflection in the cable. However, this doesn't usually cause problems. **NK**

FELINE GROOVY - THE SEQUEL

I don't know if this image will do anything for your cause. They are of our old family moggy, Rufus, from through the bottom pane of the back door... Please give my regards to Dominic Todd. Fifteen years ago he was busy selling hi-fi here in Scarborough.

Gordon E Smith



Rufus pondering the difference between EL84s and 6L6s...

FELINE GROOVY - AND MORE

We very much enjoyed the letter of the month 'Feline, Groovy' from Adam Stanhope (and indeed DP's response) in your May issue... We too use cats extensively in the development of all of our products and attached you will find a picture of our oldest member of staff, Mr. Black, who has now sadly passed away. He could often be found in the demo room applying the fine adjustments to the turntable....

Catigula ond Spartapuss



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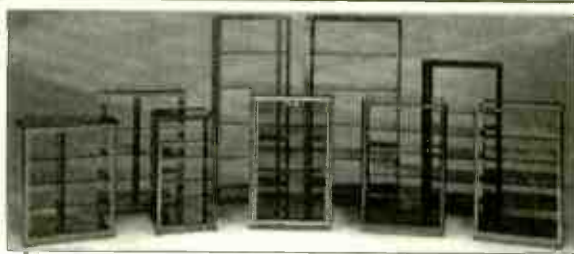
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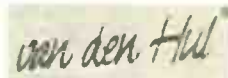
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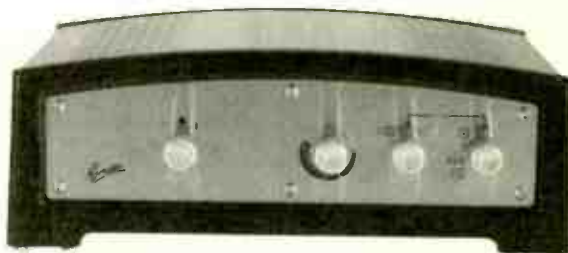
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Primare A30.1 Integrated Remote Amplifier "B Stock"	1500	995
Quad 606 Poweramplifier S/H	N/A	349
Red Rose Sprit Integrated x-demo	1000	649
Spectral DMA100s Power Amplifier x-demo	4750	3499
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DynaStands Master SE S/H	175	119
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Sonus R4 Stands S/H	329	199
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Townshend Glastonbury II Black S/H	1800	699
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Acoustic Zen Silver Signature Balanced 12ft S/H	2700	1399
Cardas Neutral Reference 1m RCA-BNC S/H	550	375
Chord Chorus 1m XLR S/H	199	109
Madrigal CZ Gel 1.5m Balanced new&boxed	599	299
Madrigal MDC 2 1m Fatboy Digital cable new&boxed	319	159
Madrigal MDC 2 0.5m Fatboy Digital cable new&boxed	279	139
QED QNEXII 1m RCA-RCA Interconnect S/H	N/A	22

Siltech SQ58G3 2x4m Balanced Interconnect x-demo	2370	1499
Spectral MH-330 15ft Interconnect RCA-RCA x-demo	800	499
Spectral MH-750 15ft Interconnect RCA-RCA x-demo	1400	799
Spectral MI-350 20 ft Speaker cable x-demo	2100	1199

Tuners & Tape Decks, Power Supplies		
AKG C1000 Condenser Mic S/H	241	110
ION Systems FMT 1 FM Tuners S/H	N/A	175
Magnum Dynalab FT-R Remote Switcher for FT101A/Etude (New&Boxed)	450	279

Bargains Under £100		
Arcam Alpha II CD Player S/H	N/A	79
Linn Helix Speakers S/H	279	79

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Selected items for sale

Sonus faber Signum and stands (mint)	£ 850
Krell KPS-25sc (mint, our dem)	POA
Krell KPS-28c (mint, our dem)	£5900

THE PINEWOOD MUSIC COMPANY

Mobile : 07860 351113 e-mail : brianriv@mac.com
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SPEAKERS

TANNOY Rectangular Yorks 15" reds excellent cloth and cabinets £2500 TANNOY Canterbury's [new repro's] 12" reds nice £1750 TANNOY 3LZ's 10" golds lovely condition £450 WHAREF-DALE Airdales very nice original condition, a seriously under-rated speaker £325 GOODMAN'S Maxims brilliant small speaker first bookshelf £85 LOWTHER Dual position Acoustas lovely birch faced ply PM6A £550 LEAK Sandwich good condition £120 ROGERS BBC LS3/5A's teak finish very good clean condition £750 CHARTWELL BBC LS3/5A's beautiful £750 ROGERS LS3/5A's black nr/mint original boxes £650 BOSE 141[new] £150 JBL 2445 compression drivers £225 KEF Coda 9 £225 TANNOY Cheviots [12" HPD] £425 Arcam Alpha 8 CD £165 MARANTZ CD6000 OSE £155 MYRAD CD10 £225 MYRAD CD20 £325 SONY CDP X-3000ES £325 AUDIO Alchemy-dac in a box £85 Nakamichi BX2 £115 PIONEER reference CD PD91 Myrad CD10 £225 Myrad CD20 £325 Micromega stage 5 CD £425 Musical Fidelity B1 £145 Marantz CD5000[new] £145 Nagaoka CD NG7700[LINN] £195 £275 JBL 2405 tweeters £500 VITAVOX S2's compression drivers £600 S3's £350 Various 4 cell horns

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Marantz PM66SE KI signature integrated amplifier £ 199	£ 199	Musical Fidelity "The pre amplifier". MM & MC	£ 149
Naim Nap 190 power amplifier. Mint. Boxed.	£ 799	Audiolab 8000A integrated amplifier. Boxed.	£ 199
Audionote valve amplifier 10W/wh.K4. Revalued £450	£ 450	Linn LK100 power amplifier. Excellent condition.	£ 395
Golden tube Audio SE-40 single ended valve amplifier.Complete with Bias adjust tool.40 watts of valve power	£ 650	Rotel RB970 BX power amplifier. Bridgeable.	£ 125
Sugden AUC51 power amplifier. Boxed.	£ 650	Naim Nap 90 & Nac 92 pre/power.New cases	£ 495
Marantz PM66SE KI signature integrated amplifier £ 199	£ 199	Crimson Electrik 510/520 pre/power amplifier.Bxd.	£ 249
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Tube Technology Unisis valve pwr amp. Mint bxd	£ 995	Harmon Kardon HK1400 line amplifier.Mint/boxed	£ 199
CR Developments Carmenta Line valve pre-amp.	£ 450	Kenwood KA660D integrated amplifier. Black.	£ 60
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Garrard 401. Boxed. With book. Mint condition.	£ 300	Thorens TD160 with thorens tone arm.	£ 95
Transcriptors Hydraulic reference/Decca arm.Mint£POA	£POA	Garrard 301/401 chassis in various condition from	£ 125

SPEAKERS

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Kef Cresta 2's. Cherry. Standmount.Mint & boxed	£ 80	Celestion F30 floorstanders. Mint. Boxed.Black ash	£ 129
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Roksan ROK-ONE speakers. Black. Mint. Boxed.	£ 295	SD Acoustics SD3 loudspeakers. Piano finish	£ 275
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Kef C20 Bookshelf monitor speakers in black	£ 60	Magnepliner MG 14. Boxed with £400 oak stands	£ 999

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Trio KT880L synthesiser tuner. AM/FM. Black.	£ 75	Rotel RCD 965 BX CD player. Mint. Boxed	£ 149
Arcam Delta 150 nicam stereo tuner and remote.	£ 95	Marantz CD50 Cd player. Ex condition.	£ 79
GEC PX4 valve. Brand new.	£ 100	Decca London international tone arm. New. Boxed.	£ 175
SME 3009 tonearms from	£ 125	Rotel 950 CD player. Ex cond. Boxed.	£ 100
Quad 77 RDS FM tuner. Mint. Boxed. Instructions	£ 399	Nakamichi CDP 2E CD player. Ex condition.	£ 250
Marantz SD275 twin cassette deck. Dolby BC	£ 49	Technics SL-PG440A Mash CD player/remote.	£ 75
Aiwa AD-S750 Dolby B-C-S/HX pr cassette deck	£ 75	Technics SL-PS620A CD player/remote.	£ 75
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AUDUSA - OOM Silverlink OCC balanced speaker cable - stranded, silver on OFHC plus three strands of OCC (Ohno Continuous Casting - single crystal copper) for improved bass performance. Mylar infill and with designed in protection against RF and EMI. conductor of 3mm diameter (approx 8 gauge). Cable Overall Dimension: 14.72 mm.

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GNLM 05/04

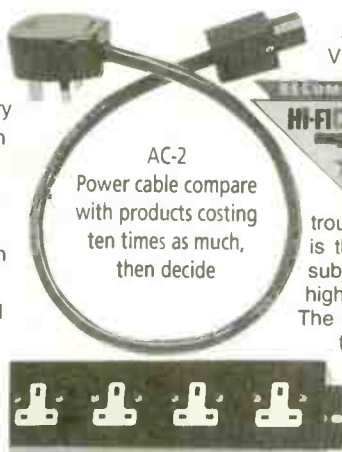
£58 for 1.0m, £72 for 1.5m, £86 for 2.0m. Also available off the reel.

Both GNLM cables are available for export.

SILVER SILVER - upgrade the cable with silver plated contacts on IEC and and MK plug for £6. AUDUSA - Eupen and LAT AC-2 mains cable available with 16 amp IEC (for certain models of amps by Krell, MF, Levinson etc), Marincos/Wattgate IEC 320, Figure of eight, Bulgin, Hubble, European Schuko, French, Australian, Swiss, Danish, Neutrik and other plugs see our web site for IEC's, MK plugs RCA and Banana connectors with silver plate contacts and other audio and ac mains connectors

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is a near alloy of silver and copper. IT IS NOT SILVER PLATED OR SILVER CLAD. Plating (or clad, which is the same thing as plating) causes a dioding effect when signal is passed through resulting in brightness and distortion. The Silverfuse process starts with seven nines OFHC copper wire with a diameter that is slightly larger than the required size. It is then pulled through a trough of molten silver. The wire with a silver deposit, is then forced through a compacting die where it is subject to tremendous pressure. The silver and the high purity copper are fused together into a near alloy. The compacting fusion also reduces the wire diameter to the desired size. No dioding subsequently occurs with this process. The result provides for the benefits of silver; which are excellent definition and clarity, with the high purity copper benefits of warmth and mellowness.

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MARANTZ SC-22 PRE & MA-22 MONOBLOCKS	REDUCED	£1100
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B & W SILVER SIGNATURE, EXTERNAL X-OVER/3 METRE CABLES & SLATE STANDS	REDUCED	£2250
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TAG MACLAREN CALLOPES	RING	
ALON 11 OPEN BAFFLE FLOORSTANDERS	REDUCED	£395
LIVING VOICE AUDITORIUM . EX DEM (CHERRY)	REDUCED	£1075
CELESTION A-2 FLOORSTANDERS	REDUCED	£595
REGA XEL (WALNUT)	REDUCED	£550
KELLY KT3 HIGH 95 DB SENSITIVITY CHERRY VENEER	MINT/BOXED	£750
INFINITY KAPPA-B REFERENCE	REDUCED	£1095
SNELL C MK-IV AMERICAN OAK VERY RARE/GOOD	REDUCED	£1350
EPOS ES-14 WITH STANDS	MINT	£375
BOSE 901 MK IV & MATCHING EQUALISER (RECENT £700 SERVICE)	EXCLT/BOXED	£595
CASTLE HOWARD-2 PREMIUM BEECH FINISH	EXCLT	£695
CASTLE AVON FLOORSTANDERS	REDUCED	£395
CELESTION SL 600 AEROLAM CABS	VGC	£375
ACDUSTIC ENERGY AE-109	EXCLT	£225
CELESTION DITTON 25 S	VGC	£175
ACDUSTIC ENERGY ASW-FB-110 SUBWOOFER	AS NEW	£350
REL STORM-1 SUBWOOFER	VGC	£450
TRIANGLE ANTALS MATCHING CENTRE CHANNEL & 2 REAR SURROUNDS		£850

RACKS/STANDS

SOUNDSTYLE ST-105/ SILVER/BLACK	EX DISPLAY	£225
SOUNDSTYLE XS 105 5 SHELF	EX DISPLAY	£195
SOUNDSTYLE XS 100 4 SHELF	EX DISPLAY	£175
SOUND ORGANIZATION Z-140	EX.DIS	£95

CABLES

LOUDSPEAKER CABLE		
XLO 7.1 SIGNATURE 7 FT PAIR X 2 BRAND NEW PACKAGED	(EACH PAIR)	£1200
PS AUDIO X-STREAM 3 METRE BI-WIRE	AS NEW BOXED	£795
TARA LABS PRIME 1800 18 FEET PAIR BI-WIRE	AS NEW BOXED ETC	£795
DIAMOND HI SILVER CABLES 3 METRE PAIR LOCKING 4MM PLUGS & 3 METRE PAIR SPADES	EX DIS	RING
MIT MH-750 12 FT.PAIR BI-WIRE	REDUCED	£795
NIRVANA AUDIO SL-SERIES 2.3 METRE PAIR EX DEM. FACTORY TERMINATED		£525
VAN DEN HUL REVELATION 2 METRE STEREO PAIR TERMINATED VDH BANANAS EX DIS.		£500
VAN DEN HUL REVELATION 2 METRE PAIR TERMINATED VDH SPADES		£500
QED GENESIS 3 METRE PAIR FAC.TERMINATED-AIRLOCS	AS NEW BOXED	£295
XLO REFERENCE 6 FT. PAIR TERMINATED SPADES/BANANAS		£275
TRANSPARENT WAVE 200 2 METRE PAIR		£175
CARDAS HELIXK 2 METRE PAIR (FACTORY TERMINATED)	REDUCED	£250
AUDIONOTE AN-SP 2 METRE PAIR (FACTORY TERMINATED)	REDUCED	£325
AUDIONOTE AN-L 4 METRE PAIR (FACTORY TERMINATED)		£225
AUDIONOTE AN-L 3 METRE PAIR(FACTORY TERMINATED SILVER SPADES		£225
AUDIOQUEST CRYSTAL HYPERLINK 2 METRE BI-WIRE TERMINATED		£75
JPS LABS ULTRA CONDUCTOR 8 FT.PAIR AS NEW (FAC.TERMINATED)		£100
LFD 3 METRE PAIR		£150
GOERTZ M-1 3 METRE PAIR (FACTORY TERMINATED) NEW BOXED		£150

INTERCONNECT.

HARMONIC TECH MAGIC LINK DNE 1 METRE EX DEM	REDUCED	£595
SILVER ARROW 1 METRE BALANCED XLR DEM USE ONLY (£1250)		£650
ACOUSTIC ZEN SILVER SIGNATURE		£495
XLO 3 METRE PAIR (PHONO) EX.DEM		£225
MUSICAL FIDELITY NUVISTA INTERCONNECT 2.4 METRE BRAND NEW		£250
AUDIOQUEST DIAMOND 2 X 2 METRE PAIRS		£550 EACH
AUDIOQUEST LAPIS 4 METRE PAIR		£450
VAN DEN HUL 0.8 MC GOLD XLR	BOXED	£200
LFD SPIROLINK 4 FEET PAIR		£50
NORDOST RED DAWN 2 X 1 METRE PAIRS	BOXED	£195 EACH
NORDOST RED DAWN 2 METRE XLR	BOXED	£325
NEOTECH PROFESSIONAL CABLE 0.5 METRE	BOXED ALMOST NEW	£225
BLACK RHODIUM SYMPHONY 0.5 METRE/1 METRE	BRAND NEW PACKED	£5065
BLACK RHODIUM CONCERTO AWARD WINNING CABLE 0.5/1 METRE	BRAND NEW PACKED	£80700
SUPRA EFF-ISL 2.5 FT	NEW/PACKED	£50

DIGITAL

MADRIGAL MDC-1 AES-EBU 1 METRE BRAND NEW/BOXED		£225
TARA LABS CS AIR REFERENCE AES-EBU BRAND NEW/BOXED		£250
VAN DEN HUL THE FIRST 0.8 METRE EX DEM/BOXED		£75
XLO 4.1 BRAND NEW	ONE METRE-£175 2 METRE	£225
NIRVANA 1.5 METRE	NEW	£225

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- B+W 801 Nebula Speakers £5750
- Heve A20 Speakers with Stands £1385
- Acoustic Energy Aegea Speakers £295
- Revel F50 Speakers (new) £4495
- Wharfedale Diamond II Speakers £50
- B+W CDM1 Speakers £865
- Elan Floor Standing Liberty 54 Speakers £140
- Orchid LW0 Speakers, Ex Demo £2495
- B+W CDM1 Speakers £350
- Mitsunon 702 (Stand Mount Model) (Black Ash) Just Reduced From £250 £150
- Audio Physics Tempo speaker £995
- Revel LE1 Sub Amp Plus 2 Sub 15's £3995
- Etax Symphony floor standing speakers £39

PRE AMPS

- Conrad Johnson 18LS Pre Amp £3995
- Mark Levinson M2LS Stereo Stage £2995
- Proceed PAV Pre Amp £1395
- Sony 1000 ES0 Digital Pre Amp £150
- Conrad Johnson P14H Pre Amp £1595
- Naim Bas 52 Pre Amp £350
- Exposure 11 & 12 Pre Amp & Power Supply Just Reduced from £900 £650
- Adcom GTP 450 Tuner/Pre-Amp £350

AMPLIFIERS

- Yamaha CA1010 Integrated Amp £395
- Accuphase E307 Integrated Amp Unused £2295
- Mark Levinson 334 Power Amp £3995

- Mark Levinson 431 Power Amp (our demonstration) Last Price £3995 Our Price £4995
- Heybrook Signature System, Pre Amp, Power Amp & CD Player £795
- Mark Levinson 333 Power Amp £3850
- Mark Levinson 20.5 Ref Mono Blocks, immaculate condition & boxed £4995
- Audio Research 2000 Power Amp £1685
- Sugden Audition P Amp £150
- Huller DH 200 Amp £125
- Michel Mazzo Amplifier £955
- Mark Levinson 383 1st Amp £4495
- Conrad Johnson RF2500A Amplifier £1195
- Boultad 102 AE Power Amp £1395
- Chord 1200 Mono Blocks £695
- Musical Fidelity P180 Power Amps With MF3a Pre Amp & Psu £350
- Revel LE1 Sub Amp Plus 2 Sub 15's £1995
- Audionote Ilirio Mono amps £5995
- Adcom GFA 5300 Power Amp £350

CD PLAYERS & TRANSPORT

- Accuphase DP55V CD Player Unused £2095
- Accuphase DP67 CD Player Unused £2995
- Mark Levinson Ref CD Transport & Dac £2950
- Meridian 508 20bit Cd Player & MSR Remote £850
- Mark Levinson 37 Cd Transport £2750

MISCELLANEOUS

- Audio Ilirio (Kondo) Digital Silver Litx cable 1mtr, boxed mint condition price new £700 our price £475
- Zen Acoustics Hologram II 18ft B/Wire Pair (new) Normal Price £1600 Our Price £1200
- Transparent Power Link Power Cord 2mtr £35
- Transparent 2mtr Ref Power Link 2, Boxed £375
- Revox H11 Cassette Deck £395
- Selection of high quality Kondo Audio Cables, bal & single ended
- Hipacn AKH-RF Radio Tuner FT-5500 mk2 £65

- Sony Stereo Cassette Deck TC-R502ES £150
- Sennheiser 180 Headphones £60
- Leaktronics CDW-820 Multisystem Converter £125
- Microdot Sator Wind Bl Wire Single Run 4mtr £75
- Shunyata Ex Demo 1m Area rca interconnects with locking connectors normal retail £650 our price £425
- Shunyata Ex Demo 1.5 Area rca interconnects with locking connectors normal retail £800 our price £495
- Shunyata Ex Demo 3m Lyra Speaker C/W Spades with locking connectors normal retail £1500 our price £995
- Transparent 1.5 mtr digital interconnect £195
- Planar Elite DVD/CD Player Region 1 DVD £365
- Yamaha DVD Player S795 £145
- Star 4040 Headphones £350
- 1mtr Kondo KSL LP interconnect (Normal Price £2000) £2995
- Yamaha CI-910 Am/Fm Tuner £125
- Nakamichi br2 cassette deck £195
- Star SR07 omega ref (SR117 head phone & SR4007) dual probe) Normal Retail £2995 £1995
- Audionote Ilirio 2mtr pair SP2 speaker cable £1995
- Audio Note (amds) KSL-LP Silver Litx interconnect 1 mtr pair £850

TUNABLES, CARTRIDGES & TONEARMS

- Garnier H01 Turntable with SRE Simon 3 Tonearm £350
- Selection of brand new discounted cartridges £195
- Rega Planar 3 Turntable/RB250 £395
- Michell Gyrodeck Turntable with Linn Ittok-LVII Arm £395
- Koetsu Urushi Gold Unused BARGAIN £90A
- Koetsu Red Unused BARGAIN £90A
- Michell gyrodeck with ps power supply £395
- Verder Ebony Wood arm board Normal Retail £900 £425

DACS

- Pink Triangle Ordinal Dac 1307 Pillar £395
- Mark Levinson 36a Dac £1995
- CEC DMS1 MK2 DAC with CEC TL51 Transport NEW £1995

Other services available. See in store 0% Finance. Conditions Apply. See in store

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- This month's Delights
- Pink Triangle Ordinal dac with Da Capo filter £450
- Naim CD1 Mint Boxed £850
- IMF ds 50 Transmission line speakers £395
- DPA PDM 1 SERIES 3 two box dac and tt transport £775
- Magnepan MG 2.5/R ribbon speakers £995
- Meridian 557 power amp £850
- Systemdek 11X 900 with PSU £250
- Krell Ksa 50 Power Amp £1195
- Unison Research Smart 845 Monos Plus Mystery Pre, (£6080) Check The Reviews! £2845
- Theta Gen Y Dac (Another One!) £1795
- Orelle Cd10 Transport £350
- Audic Analogue Maestro Integrated ex dem £1495
- Theta gen V dac (£6200) £1695
- Audio Research sp9 mk2 (£2850) £1095
- Apogee Calipers(brand new,custom finish,ring !) £1895
- Apogee Duettas mk2 (brand new custom finish ring!) £2995
- Accuphase dp801 cd transport (£6000!!) £1095
- Unison Research smart 845 monoblocks(the best) £2095
- Mark levinson no.23 pwr amp £2595
- Mirage 1090i omni dir. Spkrs £495
- DPA Enlightenment pre/pwr(late chrome models) £795
- Makamichi CR1E 2 head tape deck £195
- Audiostatic ES200 e/stats £1395
- Art Audio Quintet, 15 watts of valve loveliness! £745
- Conrad Johnson PFI Lpreamp £695
- Conrad Johnson PVS valve preamp £595
- Counterpoint SA12 valve hybrid (unbeatable!) £595
- Counterpoint SA20 valve hybrid (more unbeatable!) £895
- Counterpoint DA11E cd transport (philips cdm4) £495
- Krell KAV-300ii integrated (300 watts/channel!!!) £2195
- Meridian 601 dac/preamp (£2700) £695
- Audiolab 8000s remote amp £345
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SONUS FABER Cremona speakers £3500. E.A.R.V20 integrated amplifier £1500. Aloia PST II.0li pre-amp, Aloia 15.0li power amplifier 60 x 60 watts 4 box system £1800. Tel: 020 8531 5979 (Jul/I)

SCANSPEAK HIGH End units. Models 8545. Carbon bass/mid two pairs, 'retail' (£100) each. D2905/9500 treble one pair 'retail' £80 each. Unstarted project. Boxed! 'Guaranteed! Unused' Cost £560. Sell £280. Tel: 0 382 552 072 (Jul/I)

FOR SALE: Roksan Xerxes turntable with SME arm board, very good condition, little use £250. Nagra reel to reel recorder £450. Tel: Matt 07775 560 357 or Email: a.hankinson@clara.net (Jul/I)

IMPULSE H2 for sale. Horn loaded, floor standing, high sensitivity speakers. £1000 ono. Tel: 07974 274 615 (Jul/I)

AUDIO NOTE ANJ-SPX black silver wired with dedicated cast iron stands (£1900) £799. Audio Note OTO-SE line immaculate condition (£1190) £550. AN-L 2x 4m factory terminated cable £300 (£150) Tel: 07855 444 054 anytime (Jul/I)

QUAD IIL speakers, rose-wood, mint condition £250. Sand filled stands £25. Exposure BI wire speaker cable, 10 metres £20. Tel: 02476 448 344 (Coventry) (Jul/I)

TEAC VRDS T1 transport £275. Cambridge Dacmagic £75. Marantz PM66 KI Signature amplifier £175. Above retro fitted IEC sockets. Marantz PM40 SE amplifier £95. Rega Planar 3/ RB300/K9 £175. All mint 0141 357 5308 (Glasgow) (Jul/I)

WANTED: DENON POA 4400A Power amplifiers, must be vgc. Tel: 02476 395 228 or 02476 348 894 (Jul/I)

MICHELL FOCUS One turntable, Linn Basik arm, mint condition, still in box, £400. Quad ESL57 speaker, mint condition £400. Will demonstrate. Tel: 01332 574 396 (Jul/I)

ARCAM DIVA A855 amplifier, boxed, in new condition. Includes phono upgrade. Bought for £848, sell for £425. Also Arcam Alpha 8R amplifier, sell for £125. Tel: 01495 724 889 or Email: kwscwrf@aol.com (Jul/I)

NAIM SUPERCAP with SNAXO 3x6, very little use, excellent condition, boxed, 1995, £1550. Tel: 07860 513 729 evenings. If no reply will return message. (Jul/I)

ARCAM FMJ CD23 £550. Arcam FMJ integrated amplifier £500. Arcam FMJ P2S power amplifier £350. B+W 603 speakers £200. All together with cables and interconnects £1400 ono. Tel: 0121 378 0337 or Mobile 079 3288 9319 (Jul/I)

AVANTGARDE UNO Horn speakers £4500. Sonus Faber Cremona speakers £3500. Aloia PSTII.0li pre-amp, Aloia 15.0li power-amp 60+60 watts £1800. E.A.R. V20 integrated amplifier £1700. Tel: 020 8531 5979 or 9790 326 5205 (Aug/I)

NAIM CDX, 2 years old, £1250. Naim XPS, 18 months old, £1000. Chord Anthem interconnect £100. All superb condition/sound with manuals and remainder of guarantee. Tel: 02380 274 494 (Jul/I)

LIVING VOICE Avatar OBX-R, with MkII x-overs, European maple. Exquisite sound, wonderfully dynamic. 94dB sensitivity. The reference speakers to many hi-fi reviewers. New £4000, asking £3000 ono. Tel: 01296 437 314 (Aylesbury, Bucks) (Jul/I)

NORDOST VALHALLA 1m phono interconnect asking £1300. JPS Superconductor + speaker cable. 5 foot bi-wire pair and 5 foot single wire pair - WBT banana plugs. £450, £275 respectively. Tel: 01296 437 314 (Aylesbury, Bucks) (Jul/I)

SUPERB PAIR of Klipschorn corner speakers in American oiled walnut. These awesome speakers are acknowledged as one of the worlds greatest. House move forces reluctant sale. (£6200) £2950. Tel: 01202 388 688 (Dorset) (Jul/I)

REVOX A77 Half track low speed, fully serviced and aligned 01.03.04. Metal chassis, £200. Revox A77 Half track high speed, fully serviced and aligned 01.03.04. wooden case £300. Tel: 07710 82 82 86 (Brighton) (Jul/I)

LYNWOOD MAINS conditioners (two). The Advanced £50. The Mega £125. Nordost Silver Shadow digital interconnects., 2 @ 0.6mtr £225 ono. Tel: 01249 821 288 (Jul/I)

MYRYAD MA120 RC Integrated amp £200. Myryad MT100 tuner £250. Both mint condition. Rega RB600 unused. 4 months old £200. RB300 1 year old £80. Reson Recca MM cartridge, only 40 hours use + spare stylus £100. Several Soundstyle stands - cheap - buyer collects. Tel: 02392 356 955 (Jul/I)

GARRARD 401/SME/M75G2/Plinth £200. Goldring 88 £75. Collaro 2010 £25. Ditton 25s £100. Ditton 44s £80. Mezzos £35. LNB/S8RSDDs £50. Leak 2020s £25. Tel: 0773 309 7673 or Email: nnh@dmu.ac.uk (Leicester) (Jul/I)

MERIDIAN 557 power-amp, 200wpc, under warranty until October 2004, mint, hardly used, £895. Tel: 01993 883 523 (Jul/I)

CYRUS 3i amp, as new, boxed with remote £250. Quad 303, boxed with leads, 1993 service £95. Cambridge CD4SE, excellent condition, remote, £75. Tel: Mark 01206 752 558 (Colchester, Essex) (Jul/I)

SONUS FABER Electa Amator Mk1, ironwood stands, excellent £1600. Tannoy Canterbury 15HE special cherrywood. 42x28x18. Retails in standard walnut £9.5k, brand new, boxed £5k. Tel: Kevin 01245 251 235 (Chelmsford) (Jul/I)

CYRUS SYSTEM: CD7Q CD Player, Cyrus 7 amp, 2x PSX power supply, Smart power. Cyrus Tri-Arbour oak stand, mint and boxed. Cost £3400, sell £1300. Tel: Nick 01253 713 033 (Lancs) (Jul/I)

AUDIO RESEARCH LS25 Mk2 £4000. SPII Mk2 £2000. Michell Orbe SE £1000. Koetsu Red Signature, 900 hrs, £500. Origin Live Silver £300. Kimber 8TC, 8ft bi-wire £120. Tel: 07973 793 892 or Email: stephen@dbn.co.uk (Jul/I)

REVOX A77 Half track low speed, fully serviced and aligned 01.03.04 Metal chassis rack mount £200. Revox G36 Half track LOW speed, takes N.A.B. spools, 1960's model £200. Tel: 07710 828286 (Jul/I)

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AUDIOLAB 8000Q pre-amplifier. Good condition, remote, boxed. Priced for quick sale, £480. Tel: 020 7731 6497 or Email RichardDickinson@compuserve.com (Jul/I)

MONITOR AUDIO Studio 20 SE, cherry, three years old, including very high quality jumper leads, tiny unnoticeable scratch and chip on one speaker, otherwise immaculate, boxed, will demonstrate, £920. (£2200). Tel: 0179 451 1407 evenings (Jul/I)

E.A.R. 864 Preamp, mint, boxed, manuals, £850 ono. Nordost 2 metre stereo pair 'Solar Wind' speaker cable, £75 ono. 1 metre 'Blue Heaven' speaker cable stereo pair, £85 ono. Tel: 01745 331 681 evenings. Mobile 07714 530 889 (Jul/I)

HORNING ONE Loudspeakers £725. Audionote OTO SE Signature, £725. May exchange speakers for Quad ELS. Tel: 01273 727 476 (Jul/I)

QUAD 34, FM4, 405-2. All boxed plus all leads, £480 ono. IPL M3 transmission lines mahogany veneer, £140 ono. Tel: 01283 814 422 evenings or 07952 865 404 daytime (Jul/I)

MARK LEVINSON 383 integrated amplifier in perfect condition with all original packaging. £3695 ovno. (£6000). Also Levinson 27 power amp, mint, £1795 ovno. Can demonstrate either amp. Tel: 01202 624 094 or Email: paulfreund123@aol.com (Jul/I)

WANTED: LUXMAN LV105 integrated 80wpc amplifier. For Sale: Linn LK1/LK280 £500. Hitachi FT5500. Tuner £50. Densen DP Drive MM/MC £200 Tel: 07833 325702 (Jul)

NOTTINGHAM ANALOGUE Spacedeck, latest thicker platter, Rega RB600, Reson Etile, mat, clamp (£1950) £1300. Tom Evans Microgroove plus MC phono stage (£800) £500. New LP's £5, for list Tel: 01453 544 050 (Jul/I)

TRICHORD DELPHINI-NC, Audio Research VT-60, VT-100-II, D-60, poweramps Oracle Delphi, RB300, Quad ESL-57 stands, AN-J/D stands, MF-MX preamp, Leak Stereo-20, Garrard 301, SME-3009imp, Creek T50, Magnum A-200, MP-330. Tel: 0117 955 6555 or 07979 514 450 (Jul/I)

MAGNUM A200 Stereo power amplifier 220wpc, matching 2-box preamplifier. Fantastic sound/build quality (£3500) £1500. Loudspeaker cables, Audioquest Midnight 5 metre pair/2 metre pair - interconnects, various, giveaways. Tel: Allan 0117 952 1341 or 01179 556 555 (Jul/I)

SUBWOOFER MILLER Kriesel MX 125 200w 2 x 12in drivers, black, superb sound (£1500) £750. Valve amplifier, 50wpc, integrated, four line inputs, volume control, quality construction, excellent sound, (£1500) £500. Tel: Allan 0117 952 1341 or 01179 556 555 (Jul/I)

AUDIO RESEARCH LS9 pre-amp, boxed, manual, remote, as new, £850. AVI S2000MC CD player, boxed, remote, as new, £475. Tel: 01782 397 971 (Staffs) (Jul/I)

RATA TORLYTE turntable support £195. Mullard EL84's, ECC81's, EF86's RCA and Mazda ECC83's, Raytheon and Tungsol 8814A's (ECC82). All Avo tested. Hitachi speaker cable £30. Wanted: Audionote Kit One. Tel: 0113 255 9475 (Jul/I)

EXPOSURE NEW Classics XXIII preamplifier (£1400) £750, XXVIII power amplifier (£1400) £750, interconnects incl. Also Kimber Select KS-1021 0.5m interconnects (£470) £270. Tel: 020 7609 2764 or Email: robinhull@macunlimited.net (Islington) (Jul/I)

SONY SCD1 SACD/CD player. This sought after high end model is Sony's ultimate statement. Stunning SACD/CD replay with variable digital filters. Pristine condition. 11 month Sony guarantee. £2099. Tel: 07979903989 (Bristol) (Jul/I)

ROGERS LS7 speakers, walnut, boxed as new with Atacama stands, £200. Tel: 01777 704 705 (Notts) (Jul/I)

SNELL K SPEAKERS £250. Matching Huygen K4 stands £145. 8-12 watt valve amplifier £215. Audionote AWV interconnect £175. Mullard and Brimar ECC83's, ECC88's, ECC82's, Avo tested. Wanted: Cogan Hall interconnect Aleph 3/30. Tel: 0113 255 9475 (Jul/I)

SONUS FABER Electa Amator 2's Excellent: £1700. Townsend speaker Seismic Sinks 480 x 390 mm: £ offers Plinius SA250 MK4 Power & M16 pre with phono: £5500. Sony SCD1 £2500 ono H:01789 263515 M:07831 095680 (Jul/I)

AUDIO RESEARCH SP9, valve hybrid pre-amplifier (black). Classic amplifier offering a spacious, detailed, powerful sound. Willing to demonstrate. £900 ono. Please ring Phil on 01254 812 881 or 07957 420202 (Lancashire) (Jul/I)

WANTED: DENON POA 4400A Power amplifiers, must be vgc. Tel: 02476 395 228 or 02476 348 894 (Jul/I)

ROKSAN CASPIAN CD Player in good condition, upgraded to Mk2 spec. £350 ono. Contact Richmond on 07900 398 888 or Email: richmond@go4.it (Malvern, Worcs)

SONUS FABER Cremona speakers £3500. E.A.R. V20 integrated amplifier £1500. Aloia PST II.0li pre-amp, Aloia 15.0li power amplifier 60 x 60 watts 4 box system £1800. Tel: 020 8531 5979 (Jul/I)

SCANSPEAK HIGH End units. Models 8545. Carbon bass/mid two pairs, 'retail' (£100) each. D2905/9500 treble one pair 'retail' £80 each. Unstarted project. Boxed! 'Guaranteed! Unused' Cost £560. Sell £280. Tel: 01382 552 072 (Jul/I)

FOR SALE: Roksan Xerxes turntable with SME arm board, very good condition, little use £250. Nagra reel to reel recorder £450. Tel: Matt 07775 560 357 or Email: a.hankinson@clara.net (Jul/I)

IMPULSE H2 for sale. Horn loaded, floor standing, high sensitivity speakers. £1000 ono. Tel: 07974 274 615 (Jul/I)

AUDIO NOTE ANJ-SPX black silver wired with dedicated cast iron stands (£1900) £799. Audio Note OTO-SE line immaculate condition (£1190) £550. AN-L 2x 4m factory terminated cable £300 (£150) Tel: 07855 444 054 anytime (Jul/I)

TEAC VRDS T1 transport £275. Cambridge Dacmagic £75. Marantz PM66 K1 Signature amplifier £175. Above retro fitted IEC sockets. Marantz PM40 SE amplifier £95. Rega Planar 3/RB300/K9 £175. All mint 0141 357 5308 (Glasgow) (Jul/I)

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NAIM 92	N/A	195
NAIM CDI MK2	N/A	695
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NAIM 250 OLIVE SERVICED	1910	895
NAIM FLASH 2 NEW	350	250
NAIM SNAIC BLACK 5 PIN	70	40
NAIM BURNDY BLACK	260	150
NAIM 140	750	350
NAIM 72	N/A	295
PATHOS LOGOS	2700	1795
PROAC TABLET REF 8 CHERRY	750	395
QUAD 67 CD	N/A	450
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THETA PROGENY	1100	395
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FROM JUNE 2004 ISSUE

REVOX A77 Half track low speed, fully serviced and aligned 01.03.04. Metal chassis, rack mount, £200. Revox A77 Half track high speed, fully serviced and aligned 01.03.04. wooden case, minor scuff marks, £300. Tel: 07710 82 82 86 (Brighton) (Jun/I)

FOR SALE: Kelly speakers KT3 £575. Tel: 01249 661084 (Jun/I)

DENON DCD 3520 flagship CD player, balanced/RCA outputs. Weighs 19kg (£1000 new) £225. Denon DAP-550 digital analogue preamp (£850 new) £200. Denon TU-380RDS tuner (£200) £95. DRM 800 tape deck £70. Tel: 01634 387 686 (Jun/I)

AUDIO SPECTRUM Hermes transmission line loudspeakers. Rosewood veneer, twin SEAS pro bass drivers, down to 20Hz. £800. Tel: Hartley 01872 262 398 evenings. (Jun/I)

PARASOUND HCA 2200 MkII dual mono power amplifier. 220 watts per channel, massive power supplies. £775. Tel: Hartley 01872 262 398 evenings. (Jun/I)

NAIM CDI MkII, mint, boxed, can dem. £795 ono. Naim CDSII XPS, mint, boxed. £3500 ono. Tel: 07971 127859 or 0121 422 4371 after 7pm (Jun/I)

WORLD AUDIO Design KLS3 Gold MkII speakers, external crossovers £300 ono. Nottingham Analogue Tracer Mk4 cartridge, ideal for valve phono. £150 ono. Audax tweeters Two 25 MI pair £30 ono. Tel: 01235 850 393 (Jun/I)

TUBE TECHNOLOGY Seer preamp, upgraded internals by Audio Links £350. Musical Fidelity MA65 stereo power amplifier, separate power supply also Audio Links upgraded £150. NAD C270 power amp standard £225. Tel: 07956 453 226 (Jun/I)

KLS3 GOLD Mk2 speakers £475. Dynavector DV10X5 cartridge, less than 20 hours use New arm forces sale, £175. Hovland interconnect Gem 2, 0.6m £ 00 (cost £280). Tel: 01730 815 171 or mobile 07834 340 372 (Jun/I)

HI-FI/RECORD FAIR. Sunday 30th May 2004. 11.00am to 4.00pm. £3. 9.30am early entry £10. At Egham Sports Centre, Vicarage Road, Egham, 5 mins M25, Junction 13. Tel: 07944 909 209 for details (Jun/I)

NAIM AUDIO HiCap power supply, olive green, 1998, unmarked mint condition, SNAIC lead, manual and box, £445 ono. Tel: 023 8090 5264 or 0795 2067738 (Jun/I)

QUAD ESL57's, very late black pair, recent Quad service, unmolested, excellent. I doubt you would find a better pair. £750. Tel 0113 257 7793 (Leeds) (Jun/I)

NAIM HI-FI System Sale, CD2 CD player, NAC 82 pre-amp, Hi-Cap power supply, NAP 250 power amp, SBL loudspeakers (cherry), QLN Projekt equipment rack (cherry). Complete system purchased new from Grahams HI-FI in December 1997. Mint condition, very low usage, boxed with manuals. For prices please ring Mark 01708 224 319 or 07813 332301 (mobile) (Essex) (Jun/I)

EPOS ES30s, boxed, mint condition, little used. 89dB sensitivity, sound beautiful with valve, eg. Kit34 and transistor amps. £1250. Tel: 07793 749 178 (Kent) (Jun/I)

EXPOSURE XX amplifier £250. Proac Studio 100 speakers £250. One owner from new. Excellent condition. Tel: Rod 01728 747 387 anytime. (Woodbridge, Suffolk) (Jun/I)

EAR 864 pre-amplifier £950, 534 power amplifier, balanced, £1550, under 2 years moderate use, both units recently serviced by manufacturer, as new, boxed, the pair £2400 (£3800). Tel: 01872 862 712 (Jun/I)

CHORD CHORUS XLR balanced leads (£200). superb build quality. Immaculate. Boxed. One metre. Two pairs. Asking £110 per pair. Good deal if you buy both. Tel: 01285 810 233 evenings (Jun/I)

SONUS FABER Cremona speakers £3500. E.A.R. V20 integrated amplifier £1500. Aloia PST II.0li pre-amp, Aloia 15.0li power amplifier 60 x 60 watts 4 box system £1800. Tel: 020 8531 5979 (Jul/I)

SCANSPEAK HIGH End units. Models 8545. Carbon bass/mid two pairs, 'retail' (£100) each. D2905/9500 treble one pair 'retail' £80 each. Unstarted project. Boxed! 'Guaranteed! Unused' Cost £560. Sell £280. Tel: 0 382 552 072 (Jul/I)

LEGENDARY K5881 Mk2 WAD valve amplifier. Superb. Fully upgraded. Schottky rectifiers, Black Gates, PIOs. New valves + spares. £495. PASII pre-amp + Alps Blue. £95. Tel: 01202 896 242 after 8pm/weekends or Email: nroberts@iee.org (Jun/I)

INCATECH CLAYMORE amplifier £125. Ruark Sabre speakers with stands, boxed, £150. NAD 402 FM tuner £60. Nytech CTA 252XD receiver £70. All in excellent condition. Tel: 01722 334 694 (Jun/I)

WANTED: DENON POA 4400A Power amplifiers, must be vgc. Tel: 02476 395 228 or 02476 348 894 (Jul/I)

MAGNAPLANAR SMGA panel speakers, fantastic sound, great condition £350. Audio Analogue Bellini - Donizetti pre-power amplifiers, silver, recent overhaul £600. All with boxes, manuals. Tel: Ian 01480 811 697 or Email: ian.weitzel@btconnect.com (Jun/I)

LEAK TROUGHLINE 3 Stereo FM tuner, good condition, £85. Ruark CL10 speakers, under 1 year (£900) £395. Musical Fidelity XLPS phono stage, unused £85. Audiolab 8000A £160. Tel: 01661 871 010 (Jun/I)

NAIM 82 pre amp £1125. Naim 180 power amp £525. Pair 135 mono amps £1750. Hi-Cap power supply £390. All latish models, mint condition, boxed, manuals, leads. Tel: 01825 722 936 (Jun/I)

RUARK EQUINOX black ash, cableway, dedicated stands, classy monitor, very open sound, easy placement, RRP £2200, bargain £850, plus Rogers Studio 1 still excellent £250. Tel: Kevin 01245 251 235 (Jun/I)

PAIR MERIDIAN 605 monoblock power amplifiers for sale at £750. Croft Epoch Elite preamplifier for sale £550 pair. Shahinian Arc speakers for sale £750. Tel: Nigel 01823 324 243 (Taunton) (Jun/I)

QUAD ESL63, black, excellent condition, serviced by Quad 1999, boxed, £900. Upgraded 988. Townsend Glastonbury, good condition £400. Pair Quad 50E mono amps £170. Quad 34 405-2 grey, mint, boxed £350. Tel: 01446 418 207 (Jun/I)

AUDIO NOTE KI (Kit) 300B valve amp, professionally built. Arcam CD72 CD player. Loth-X Ion speakers. All in excellent condition, boxes. £495 ono. Tel: 01444 471 285 (Jun/I)

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Linn	LP12/Lingo/MoklVII - nr mint, atomosia, boxed	999
Linn	LP12/Lingo/ItokVIII/Asaka - nr mint, rosenut, boxed	1199
Linn	LP12/Valhalla/Akito - vgc, black	599
Linn	LP12/Valhalla/LVX - vgc, black	499
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Linn	Itak 12" - ex, black, apparently one of only 20 made	999
Logic	Tenipo Electronic/LVX vgc	149
Michell	Gyrodec SE - Best Trade ins	ON DEM
Michell	Gyrodec/RB300 vgc, gyro power ps, Orbe plaiter, smoked case	1049
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Musical Fidelity	XLP5 v3 - display, nr mint	179
Musical Fidelity	XLP - nr mint	119
NAD	5120 - ex, wacky placky	79
Origin Live	Rega Arm mods - Amazing value	ON DEM
Project	Debut - ex display, black, boxed	89
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Rega	Planar 2/RB200 - ex wood plinth original	119
Rega	Planar 3/RB300 - vgc/ex	179
Rega	Planar 78/RB250/Mono Cart - ex/ex	175
Revolver	Revolver/LVX - ex/ex	119
Roksan	Tabriz zi - nr mint	199
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Thorens	TD150 - great starter deck	69
Thorens	TD160 - vgc, smart silver model	149
Townsend	Elite Rock Mk2 - c/w plinth and lid, nr mint	399
Townsend	Elite Rock Mk2/Excalibur - c/w plinth and lid, nr mint	649
Transcriptors	Skeleton/Vestigal - ex/ex	799
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Voyd	Voyd - beautiful 3 motor deck, light ash, stunning	799
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Castle	Howard - ex, mid oak	549
Castle	Kendal - nr mint, new model in light ash	195
Celestion	5000 - vgc, ribbon standmount	249
Celestion	7000 - fair/good, huge ribbon and twin bass bargain!	379
Celestion	DL6 - ex, black, boxed	75
Dynaudio	Audience 10 - ex, boxed, black	149
Epos	M15 - nr mint, light cherry, boxed	449
Epos	ES11 - fair, 80s classic	99
Epos	ES14 - nr mint, boxed 80s classic c/w dedicated stands	325
Gallo	5.1 - ex display, boxed, gorgeous!	999
Heybrook	HB100 - vgc, superb vfm	79
KEF	103.2 Ref - nr mint, boxed	199
KEF	Coda 8 - nr mint	80
KEF	Q3 - nr mint, dark cherry	199
Leak	2030 - nr mint,	79
Linn	Kan - ex, boxed with stands	279
Linn	Kaber - ex, boxed, bi or triwire, black	399
Magneplanar	SMGb - vgc, oamted, boxed, stands, open panel sound	299
Mission	763i - ex, black floorstander, boxed	119
Mission	70 centre - ex display, boxed	69
Mission	77ci - ex display, boxed	99
Monitor Audio	56 - nr mint, boxed	299
Monitor Audio	Studio Centre - ex display, boxed	299
Monitor Audio	R700MD - nr mint, black	149
Moracunt Short	MS308 - ex display, boxed silver baby sub	69
Moracunt Short	912 - ex display, boxed	149
Moracunt Short	914 - ex display, boxed	199
NEAT	Critique - ex, walnut, boxed	299
NEAT	Mystique 2 - nr mint v. underrated floorstander, boxed, light ash	349
NEAT	Petite - Best trade ins	ON DEM
Proac	One sc - ex display, boxed, fantastic miniature	799
QED	Aria - ex display, boxed mini surrounds	39
QUAD	ESL63 - nr mint, just back from Quad service with new boxes	1499
Rega	Kyte - ex, wood finish	119
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Sequence	400 - ex, cherry/grey floor or wall hang with plinths	149
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Tandberg	Studio Monitor - Ex, large standmount	499
TDL	Studio 1 - vgc, wood finish transmission line	249
TDL	Near Field Monitor - nr mint, boxed, mahogany	79
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Whartedale	505.2 - nr mint boxed, black standmount	75

Acram	Delta 280FM - ex, black	79
Acram	Alpha 7 - ex, black	99
Acram	Alpha 8 - ex, black	149
Acram	T21 - ex display boxed, silver	179
Acram	T61 - ex display, boxed, silver	149
Cyrus	FM7 - tuner, black, digital, presets, nr mint	229
Cyrus	Original Mission tuner - vgc	99
Denon	TU260L tuner - ex, black, digital, presets	59
Marantz	ST4000 - ex display, boxed, black	99
Marantz	SD4050 - ex display boxed, twin cassette, black	89
Nakamichi	580 cassette nr mint, black	99
Nakamichi	BX125 vgc, black	129
Rotel	RT930aux - ex, black	59
Rotel	RT02 - ex display, boxed, silver	199
TAG McLaren	T20 - ex display, boxed	699
Teac	TX3000 tuner - ex, digital, presets	69
Teac	V1010 cassette - ex, 3 head	75
Technics	STG90L tuner - ex, digital, presets	89

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Arcam	Alpha 8SE - nr mint, remate	349
Arcam	CD62 - nr mint, boxed, silver, remate	179
Arcam	CD72 - nr mint, silver, remate	279
Arcam	DV27 - ex display, nr mint, remate	999
Arcam	CD3500 - ex, silver/black	279
Cyrus	Dad1 - nr mint, black, remate	199
Cyrus	Dad3 - nr mint, black, remate	275
Cyrus	Dad7 - nr mint, black, remate	399
Denon	PSX-R - nr mint, black	249
Kenwood	DVD1000 - nr mint, remate, boxed	149
Krell	DP1100 - ex, v. underrated	89
Marantz	CD-DSP - ex, clear and smoked lids, stunning	1499
Marantz	CD60 - ex, remate	69
Marantz	CD46 - ex, remate	49
Marantz	CD63SE - nr mint, remate	99
Marantz	CD52SE - ex, remate	69
Marantz	DV4100 - nr mint, remate, boxed	99
Marantz	DV4100 OSE - nr mint, remate, boxed	129
Meridian	200 transport and matching dac - ex, superb combination	449
Meridian	200 transport - ex, Trichord mod, excellent	349
Micromega	Stage 4 - ex, sweet sounding machine	299
Micromega	Optic - nr mint, remate	129
Musical Fidelity	X10D - nr mint	119
Myryad	T20 - black, nr mint, boxed, remate, bargain!	249
NVA	The Transparent Statement - vgc, crated, remate...ultimate NVA	1749
Pioneer	CLD SB15 - Laserdisc, vcd, cd, PAL, NSTC	119
Ratel	RCD965BX - ex, black, remate	119
Sony	CDP335sd - ex, manual, remate	129
Sony	MDP850D - nr mint, remate, laserdisc, VCD, CD, PAL, NSTC	149
Teac	CDP4500 - ex, remate	89
Teac	DVD3000 - nr mint remate	149
Yamaha	S530 - nr mint boxed DVD, matches HTR amp below	89

Atacama		
Audiocoust	Diamond Interconnect - ex, 0.5m	ON DEM
Audio Synthesis	Silver Blue Interconnect - ex, 1m	149
Audio Technica	Electronic stylus cleaner	39
B&O	2200 system - ex, turntable, cassette and tuner, inc speakers	199
Beyer	DT231 galactic - new	30
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Ixas	1014 - new 1m interconnect	15
Ixas	1014 - new 5m interconnect	25
LAT International	AC2 Powercord - ex, 0.75m	49
Linn	Classik - ex display, silver	699
Mission	Stance - ex display, silver	49
Nordost	Flatline Gold - new, while stock lasts...	5/m
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QED	Silver Anniversary biwire - new, while stock lasts...	5/m
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Target	TT1 - turntable wallshelf	49
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Tivoli	Pal - ex display	89
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Amplifiers		
Arcam	Alpha 7R - ex, as above with remate	149
Arcam	Alpha 10 power nr mint, boxed	349
Arcam	A65 - nr mint, boxed remate, silver	179
Arcam	A65+ - ex display, boxed, remate, silver	199
Arcam	P75 - ex display, remate, silver	199
Audiolab	8000A - ex, black	249
Audiolab	8000A - ex, black, boxed	229
Audiolab	8000S - nr mint	329
Audiolab	8000C - nr mint, late boxed	249
Audiolab	8000P - nr mint, late boxed	449
Audiolab	As above - for the pair	649
Audion	Silver Knights - Stunning boxed valve monoblocks	1199
Creek	CAS4040 - ex, boxed	79
Cyrus	PSX-R - nr mint, black	249
Exposure	X integrated - nr mint, boxed, black	199
Harman Kardon	Citation 17 and 19 - vgc, boxed	399
Harman Kardon	PM655 - nr mint, variable capacitance phono stage	119
Krell	2x KMA100 - ex	2495
Leak	2100 - vgc, c/w 2300 tuner	99
Linn	Pretek - ex, black	149
Linn	LK1/Dirak - ex, black, mm/mc exceptional vfm	199
Magnum Ref.	MP300 & 2x MF125 - ex, ex, mm/mc, fabulous!	479
Marantz	PM66SE Ki - nr mint, boxed	149
Marantz	PM6010 Ki Sig - nr mint boxed, black	199
Marantz	1072 - vgc, champagne finish	99
Meridian	SR4200 - ex display, boxed black av amp	149
Mission	605s - ex pair boxed monoblocks	795
Musical Fidelity	Cyrus One - ex, boxed, black late model, mm/mc	119
NAD	E100 - vgc, remate, piano black	199
NAD	352 - ex display, boxed dark colour	249
NAD	302 - nr mint, great value	89
NAD	3020i - nr mint, renowned entry level integrated	79
Naïm	Naït 1 - ex, phono	149
Pioneer	A400 - ex, phono	119
Primare	30.1 - nr mint, boxed	799
Quad	405/2 - nr mint	249
Quad	405 - nr mint, early brass heatsink version	179
Quad	405 - ex, standard brown version	199
Quad	303 - vgc	99
Quad	33/303 - nr mint	175
QED	C300/P300 - Pre/Power, nr mint, proverbial steel at	179
Rega	Luno - nr mint, black, boxed, better than a Brio or Mira	179
Rotel	RTC950L - nr mint pre with built in tuner, remate	125
Rotel	RB03 power - ex display, boxed silver	199
Rotel	Phase 2 - nr mint, boxed, blue marble styling	299
Sony	STR-D8940 av amp - vgc, DTS 5.1 etc	199
Sugden	AU41 pre/power - ex, black	499
Trio	2x L-05M - ex, rare and gorgeous!!!	749
Yamaha	DSPa3090 - ex, monster av amp was £1500!	249
Yamaha	HTR 5550rds - ex, grey fronted av amp [matches S530 above]	149

Call 01325 241888 and don't be frightened of the machine.

If you want to pop in, we usually open the shop only on Saturdays, 10 till 5, unless there's something better to do, so please please check before travelling!

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RUARK EQUINOX Speakers with dedicated stands. Stands include external crossovers and bi-wire terminals. Rare chance to buy these renowned speakers. Mint condition in maker's boxes £750 ono (over £2000 new. Tel: 023 8073 8935 (Jun/I))

SPENDOR SPI speakers, walnut, boxed, stands included, perfect £225 ono. Thorens TD150 turntable fitted with SME Series IIS arm and Ortofon MC205 cartridge £195 ono. Tel: 01959 523 794 (Sevenoaks) (Jun)

LYNWOOD MAINS Conditioners (two). The Advanced £50. The Mega £150. Nordost Silver Shadow digital interconnects, 2@ 0.6mti; £250 ea. ono. Tel: 01249 821 288 (Jun/I)

AUDIOLAB 8000S integrated amp, pre out, remote control, good condition. Can deliver. £235. Tel: Allan 07966 331 080 or Email: allanjturner@btopenworld.com (Tamworth, Staffs) (Jun/I)

ROKSAN XERXES 10 turntable. Rosewood finish. Tabriz arm with Corus Black cartridge. DSU and XPS3.5. Nearly 5 years old. Very light use. Vgc. £795. Tel: 01582 423 791 (Beds) (Jun/I)

RADFORD STA25 Series 3. Excellent condition. Sounds superb following recent agent service. One careful owner since 1969. Matching SC22P (rare self powered version) included for retro enthusiast. £975. 01752 402 273 (Jun/I)

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WANTED FOR Celestion Ditton 25 loudspeakers - Tweeters HF1300 and Super Tweeters HF2000. Must be new units. Tel: 01424 433 901 or Email: dfield11@yahoo.co.uk (Jun/I)

FOR SALE: L/S chassis in pairs: Wharfedale 8inch bronze RS/DD £60. Wharfedale 12inch 3010 loudspeakers £80. Leak 4 1/2" mid-range units (400-3k) £30. Celestion HF1300 tweeters £40. Celestion 3k crossovers units £20. Coles 4001 super tweeters £40. Rank/Wharfedale QS800 crossover units £50. Atacama Nexus 6 silver loudspeaker stands (new) £50. Leak Stereofetic FM tuner (teak sleeve) £50. NAD 3020 Series 20 amplifier £90. Rotel RQ-970BX phono equaliser (as new) £90. Offers. Buyer collects - post and packing at cost. Tel: 01444 413 782 or Email: adepat@warwick53.freemove.co.uk (Mid-Sussex) (Jun/I)

CASTLE RICHMOND II, solid teak speakers, 25 watts, fully reconditioned by manufacturer £175. Goodmans Module 90 tuner, amplifier £30. Sony cassette deck TC1865D £30. Tel: 07970 842 529 (near Chester) (Jun/I)

MARANTZ CD6000KIS, gold, mint, £275. Arcam Alpha 9 CD, HDCD, dCS Ring DAC, mint, £350. Sony 3000ES system, CDP3000ES, ST-S300ES, MDSJ3000ES, TAF3000ES, cherry Kef Cresta2 stands, £895. Tel: 0114 286 0635 (Jun/I)

JBL TI 5000 speakers, 3 years old, perfect condition £1500. Bryston 4BST, 3 years old, black, £1000. Bryston BP20, 3 years old, black £500. Tel: 07773 788 317 (London) (Jun/I)

B+W CM2 standmount speakers, rosenut veneer finish, excellent sound and as new condition, 6 months old. Cost £550, accept £225 ono. Upgrading to 705's. Tel: 0116 2E4 9087 (Jun/I)

PYE MOZART serviced £400, tuner £50. Quad QC24 pre-amp £375. AVI S2000MP pre-amp (£1300) £395. Tag McLaren DAC20, mint £500. Pink Triangle Cardinal (new laser) with Da Capo various filters £1000. Tel: 01363 83072 (Jun/I)

SILVER INTERCONNECTS (Campaign Audio Design) with locking Cap16 phono plugs. Two 1m pairs at £45 (£210 new) per pair. One .5m pair £30. Superb. Chord Signature upgrade. Tel: 01752 773 369 (Jun/I)

EAR-YOSHINO 834P phono-stage, MC/MM, two years old, fitted genuine NOS Mullards, lightly used, £295. Professionally built passive preamp. three inputs, rare Panasonic pot £145 (£280). Tel: 01424 203 192 (Jun/I)

FOR SALE: Various mains transformers and chokes and some 5U4G, 5R4G, some new some NOS s/h all tested good. Tel: John 07946 302 815 or Email: chairman@sdars.org.uk (Jun/I)

NAKAMICHI DRI serviced 12/02, £340. Sony TCD3 portable DAT £100. Revox G36, electrical fault £80. Quad FM2 (FM3 casework) £60. Wanted: Metal formula cassette tapes blank or recorded. Tel: 01242 231 766 (Jun/I)

FOR SALE: Roksan Xerxes turntable with SME arm board, very good condition, little use £250. Nagra reel to reel recorder £450. Tel: Matt 07775 560 357 or Email: a.hankinson@clara.net (Jul/I)

UNISON RESEARCH Unico integrated amplifier £350. Kimber select interconnects, balanced 0.5m, KS1121 £180, KS1130 £250. Tel: 01782 633 088 (North Staffs) (Jun/I)

TWO LINN LK140 Power amps £750. Active Cards £60. Wakonda Pre Amp mc/mm £350. SME P.U. Arm £60. Sure 75E mm Cart £20. Tel: 01270 882 647 or Email: john@hope34.fsnet.co.uk

AUDION GOLDEN Knights 300B monoblock amplifiers £1000 ono. Tel: Bill 01274 611620 or 07711 428 195 (Jun/I)

DENON AVC A1D (£2000) £600. Denon DVD 3300 (£1000) £400 or both for £900. Ecosse Reference MS-2.3 speaker cable 2x 9ft £100. MS-2.2 1x of 9ft used for centre channel £50. Tel: 0141 646 2545 after 6pm (Jun/I)

QUAD ILL'S piano black, unused £295. Arcam 170.3 CD transport plus AudioAlchemy D.D.E. converter plus AudioQuest Video Z £225. Dieis Solitaire speakers £70. Ruark Broadswords £200. Tel: 01722 430 532 (Salisbury) (Jun/I)

GOLDEN DRAGON 2A3 Triodes plus valve bases (x8). Approx 30 hours use only. £100 (£200) Tel: 07811 195 327 day, or 01935 432 417 evenings. (Jun/I)

IMPULSE H2 for sale. Horn loaded, floor standing, high sensitivity speakers. £1000 ono. Tel: 07974 274 615 (Jul/I)

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Ash	Meltdown	£12.90
Bees	Free The Bees	£TBC
Charlatans	Up At The Lake	£15.90
Eric Clapton	Me And Mr Johnson (Classic Records)	£24.90
Gomez	Spilt The Difference	£18.90
Graham Coxon	Happiness In Magazines	£TBC
Isobell Campbell	Time Is Just The Same	£5.90
Jimi Hendrix	Studio Out-takes Volume 1	£15.90
Keane	Hopes And Fears	£17.90
McLusky	The Difference Between Me & You	£13.90
Morrissey	You Are The Quarry	£15.90
Neil Young	Greendale - 3LP set (Classic Records)	£TBC
Norah Jones	Feels Like Home (Classic Records)	£26.90
Orb	Bicycles & Tricycles	£14.90
Patti Smith	Trampin	£18.90
PJ Harvey	Uh Huh Her	£TBC
RJD2	Since We Last Spoke	£14.90
Sonic Youth	Sonic Mouse	£14.90
Supergrass	Are 10 (Best Of) Double 10"	£TBC
Young Heat Attack	Mouthful Of Love	£11.90
Zutons	Who Killed The Zutons	£12.90

ALBUM OF THE MONTH

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NEW ROCK, POP AND AUDIOPHILE REISSUES:

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Billie Holiday	Recital (Speakers Corner)	£19.90
Black Sabbath	Technical Ecstasy	£TBC
Damned	Stiff Singles - Ltd 7" box set	£TBC
Eddie Henderson	Comin Through	£15.90
Fred Neil	Do You Ever Think Of Me	£TBC
Janis Ian's	Billie's Bones (Alto)	£26.90
John Renbourn	Lady And The Unicorn	£TBC
Link Wray	Swan Singles 63-67 (Sundazed)	£TBC
Max Romeo	The Coming Of Jah (Earmark)	£18.90
Motorhead	Born To Lose - Ltd 7" box set	£TBC
Oscar Peterson Trio	Plus 1 (Speakers Corner)	£19.90
Peter Gabriel	Us (200g Classic Records)	£39.90
Ramones	Live 1978	£TBC
Stone The Crows	Stone The Crows	£14.90
Tim Buckley	Dream Letter Live London 68	£17.90
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ARCAM DV88 DVD PLAYER	£1,000.00	£679.00		D+N
ARCAM FMJ A22 AMP	£1,100.00	£679.00		D
ARCAM FMJ A22 Inc DAVE AC3/DTS processor	£1,850.00	£895.00		N
AUDIO RESEARCH LS16 PRE AMP - BLK	£3,500.00	£2,195.00		D
CELESTION - C2 - Floorstanders	£499.00	£299.00		D
CELESTION C1 - Compact speakers	£199.00	£114.00		D
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CYRUS 7 AMP	£700.00	£479.00		D+N
CYRUS AV MASTER - PROCESSOR	-	£100.00		D
CYRUS DVD7	£1,000.00	£599.00		D
SUGDEN Bijou system (Pre/Power/CD - no spks)	£2647.00	£1795.00		D
AVANCE TECHNOLOGIES Active Subwoofer	£1200.00	£695.00		N
MARTIN LOGAN SCENARIO	£2,498.00	£1,629.00		D
Musical fidelity XCan V2 new	£129.00	£89.00		N
MERIDIAN DSP1500 Subwoofer	£1350.00	£895.00		D
MERIDIAN 556 - 2 CH POWER AMP	£995.00	£649.00		D
MERIDIAN 556 Power amp	£995.00	£595.00		D
MERIDIAN 562v.2 Controller	£1,500.00	£995.00		D
MERIDIAN 568.2 mm Smartlink (as new)	£4,305.00	£2,995.00		D
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LINN Kairn (brilliant PSU) Pre Amp	£1400.00	£ 795.00		D
LINN ESPEK	£2500.00	£1695.00		D
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PROCEED PMDT DVD PLAYER.VGC/LIGHT USE	£5,495.00	£2495.00		D
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SONUS FABER SIGNUM SPEAKERS	£1,250.00	£799.00		D
VIENNA MALHER (Beech)	£6000.00	£3295.00		D
TAG MCLAREN DPA32R (Digital pre inc DAB)	£1,990.00	£1,189.00		D
TRICHORD GENESIS CD PLAYER	£500.00	£150.00		D
VIENNA BEETHOVEN Speaker (Beech)	£2,500.00	£1,750.00		D
VIENNA MOZART Speakers (Beech)	£1,500.00	£1,050.00		D
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PURE EARTH and dedicated mains (electrical) circuits design and installation service. Contact Mains Doctor 07989 200 961, Email: mainsdoctor@yahoo.co.uk Website: www.mainsdoctor.co.uk We install for all audio and video applications (Feb05/1)

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Email: vwirelesslondon@aol.com (Dec04/1)

AUDIOPUBLIC, 78 Otley Road, Headingley, Leeds, 0113 217 7294. Yorkshire's newest Hi-Fi retailer, stockists of Naim Audio, Rega Research, Conrad Johnson, Sugden, Dynavector, (cartridges and amplifiers) and many more. Please call for advice. (Jul/1)

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EX DEMONSTRATION Klipsch speaker systems, KSB 2.1 £200, KG 3.5 £350, KG 4.5 £450, KG 5.5 £550. Heresy £750, all tested. Tel: Midland Radio Supplies on 0121 430 7817 or Email: guyholdsworth@onezel.net.uk (Sep/1)

KONDO SPEAKER cables 3m pair £1995. 1m pair £650. Kondo interconnects 1m pair £850. Shunyata ex-demo only for sale in UK, Mk1 Black Mamba £310. Mk1 Python £360. Mk1 Taipan £350. Stax 4070 Earspeakers and 007t Energiser £1950. Hoyland HPI100 pre-amp £3000. Forsell CD Transport and DAC £4995. Accuphase DP55 CD player £2095. Dynavector 17D2 MkII £395. Accuphase E307 £2875. Tel: 01923 352 479 www.angelsoundaudio.com (Jul/1)

NEW VALVE Amps; powers £260; matching preamp £190; other valve related goodies at www.audioclassics.co.uk or telephone 01942 257525 for more information. Dealer enquiries welcome. (Jul/1)

FARADAY SOUND Low density concrete enclosure loudspeakers. Rock solid bass without cabinet vibration. Standmounted, bookshelf, subs and floorstanders. We also sell cabinets and advice. See www.faradaysound.co.uk for photo's and reviews. (Aug/1)

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MUSICAL FIDELITY A3 CD PLAYER	£430.00
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SCORPIONS LOVEDRIVE

1979

This is, in part, due to the well-honed studio chops of Dieter Dierks, now better known as the guy who may well make it difficult for the music industry to progress the new Dual Disc format on this side of the pond due to his DVDplus patents, but at the time a producer of some repute. Back in the day the recording had a realistic punch which has only been enhanced by the careful remastering given to the entire catalogue at the turn of the millennium. There is a real sense of "everything goes up to eleven" but when has that approach ever been more appropriate than in emphasising the creamy combination of Jabs' Strats with the Gibsons of one Schenker or the other, or both?

The other extremes here are the meat-headed (in the best sense of the word) drumming of Hermann Rarebell, and the demented screaming of singer Klaus Meine. The strenuous efforts of the latter would result in him having to deal with nodules on the vocal chords a mere two albums later, but if you want to hear some of the best rock screaming short of Ian Gillan, this is really the album to go for. The slightly stilted nature of some of the English language may raise the occasional smile, but that is almost part of the charm of the album.

I did attempt to convince some people at EMI that the rise of The Darkness should make it a real no-brainer to give some of the groups from which the Lowestoft rock gods draw their inspiration - such as The Scorpions, UFO and the Michael Schenker Group - the high resolution treatment, but at the moment this would still appear unlikely. It's a real shame, as the genre is under-represented in the new formats area, and under-regarded in any form.

If you have any affinity for well-recorded metal you should check this record out, particularly given that it is available for little more than the cost of a few pints. Trust me - this is one you will listen to again and again... **PC**

Occasionally, one can listen to a favourite album from twenty or more years ago and be extremely disappointed. The Scorpions'

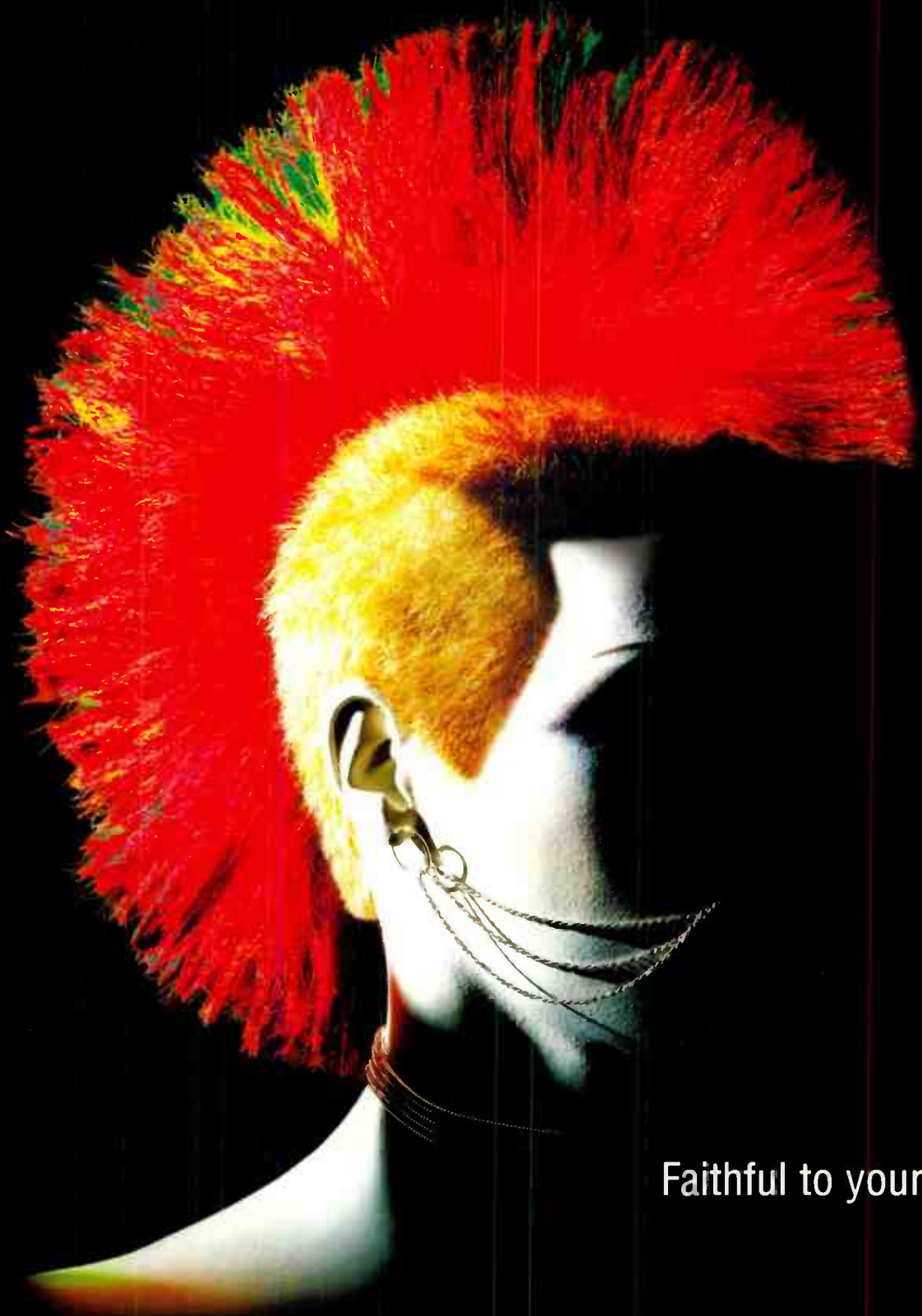
'Lovedrive' is not such a disc. In these days of The Darkness, some may still find the appeal of well-played metal inexplicable but there is a reason for their success, and there is a reason why 'Lovedrive' is arguably the peak of what has been a very long career for the Scorpions - the impressive effect of being able to tell that a band recorded such intense heaviness live on the floor!

As with many Scorpions albums, at the time the appeal of 'Lovedrive' to an impressionable 13 year old was partially the highly suggestive Hipgnosis cover art. Whereas the sleeve of its successor 'Animal Magnetism' has a frankly obvious vibe, that of 'Lovedrive' is inexplicably perverse ("what's wrong with sexy?"), and in a parallel way, whereas the latter album has a straightforward muscularity, the preceding true classic has an elegant melodicism which was never demonstrated as well during the career of the band, either before or since. It is also slightly unfair that the Scorpions have been tainted by the indelibility of 'Winds Of Change' in the memory of anyone who was

around in 1991 - much like Bryan Adams' 'Everything I Do...', that track is single-handedly capable of eradicating any memory of the good stuff for the uninitiated.

Lovedrive was a transitional album in the Scorpions' history, following as it did the initial career peak and lead guitarist (Uli John Roth) swansong of the live Tokyo Tapes. Despite the recruitment of the reliable Matthias Jabs as a replacement, the fact that the ever-wayward Michael Schenker (brother of eternal Scorps rhythm guitarist Rudolph) was twiddling his thumbs after recording the seminal UFO live album 'Strangers In The Night' resulted in the extremely gifted younger brother rejoining the band and supplying lead parts on nearly half of the eight tracks featured here, before he went AWOL again.

Recorded in late 1978, the tracks featuring Michael are among the most piledriving [steady on, Patrick! Ed.], including the storming title track, the similarly pulsating 'Another Piece Of Meat', and (alongside Def Leppard's 'Switch 625'), the most impressive instrumental of the period 'Coast To Coast'. But even without the younger Schenker the remaining five tracks kick in a way that today's regimented, 'Protools' metal (The Rasmus?) could never do.



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