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WORLD



DIY SUPPLEMENT No.77
INSIDE THIS ISSUE

GOLDEN EARS

Tim de Para's tubular belles



NEW RESOLUTIONS

top DVD-A & SACD players tested

ADVANCED DIGITAL SPECIAL

Pioneer style system
Townshend Maximum
The Software Parade
DVD-A versus SACD
Mastering Secrets
Tannoy Eyris DC1



REFERENCE STANDARD

Clearaudio's classic reviewed



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CONTACTS: Mon-Fri 9am-5pm

EDITOR

David Price
tel/fax: +44 (0) 1275 371 386
e-mail: editorial@hi-fiworld.co.uk

DESIGN EDITOR

Faiza Chunara
tel: +44 (020) 7625 3129
fax: +44 (020) 7328 1844
e-mail: adproduction@hi-fiworld.co.uk

PRODUCTION EDITOR

David Noble
tel: +44 (020) 7625 3134
fax: +44 (020) 7328 1844
e-mail: classifieds@hi-fiworld.co.uk

WRITERS

Dominic Todd
LJK Setright
Haden Boardman
Albert Lee
Chris Parker
Patrick Cleasby

ADVERTISING

Mike Ballance
tel: +44 (0) 1908 616 116
fax: +44 (0) 1908 218 836
e-mail: advertising@hi-fiworld.co.uk

ACCOUNTS

Sharon Mehlhorn
tel: +44 (0) 20 8841 8892
fax: +44 (0) 20 8841 9144
e-mail: accounts@hi-fiworld.co.uk

WORLD AUDIO DESIGN

Technical Manager – Nick Lucas
www.worldaudiodesign.co.uk

tel/fax: +44 (0) 1908 218 836
e-mail: nick@worldaudiodesign.co.uk

PUBLISHER

Noel Keywood
e-mail: publisher@hi-fiworld.co.uk

PRIVATE & TRADE CLASSIFIEDS

tel: +44 (020) 7625 3134
fax: +44 (020) 7328 1844
e-mail: classifieds@hi-fiworld.co.uk

SUBSCRIPTIONS

tel: +44 (0) 20 8841 8892
fax: +44 (0) 20 8841 9144
e-mail: subscriptions@hi-fiworld.co.uk

BACK ISSUES

David Noble
tel: +44 (020) 7625 3134
fax: +44 (020) 7328 1844
e-mail: backissues@hi-fiworld.co.uk

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Our Agents in Malaysia

Millennium Hi-Fi & AV
Simon Chang
Showroom & office, 500-1-3 First Floor
Wisma Indah (Shen Court), Jalan Tun Razak
50400 Kuala Lumpur, Malaysia
Tel: 603 9283 8171 Fax: 603 9281 3762
e-mail: info@millennium-audio.com

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david price

It ain't easy being an alienated audiophile. For many years, it felt like I was the last lone voice fighting for vinyl in a sea of CD. Throughout much of the eighties and nineties, most hi-fi magazines treated 'analogue' like an annoying irrelevance, and those who still 'believed' in it as "flat earthers".

Defying digital was some sort of psy-

chological condition – like being in permanent denial.

Yet my objection to this thrusting new hi-fi world wasn't that it was digital, but that it wasn't digital enough! My problem with Compact Disc was not its laser pickup or even those infernally fiddly 'jewel cases', but its antique 16bit, 44.1kHz resolution. Even when it was launched in 1982, CD was technically backward. The choice was made to go for 16/44 on the grounds of cost and ease of production, rather than the "pure, perfect sound forever" that was so falsely claimed.

So, in the late nineties it was great to hear of not one but two forthcoming digital music formats - DVD-Audio and Super Audio Compact Disc - and fascinating to see how the industry justified them by doing an 'about turn' to dismiss CD as a flawed, sonically imperfect music carrier... an exercise in spin that not even Peter Mandelson would have attempted!

So here we are in the mid 'noughties', with the latest generation of 'DVD universal' machines capable of dramatically better sound than any 16bit apologist could ever have imagined. This month's supertest on p12 rates the latest and greatest machines, which really never have been better. Then, to prove that like punk music, CD is not in fact dead, we test MEL Audio's Rechav II – an Italian disc spinner with a difference on p40.

Vinyl is thriving. Like the new digital formats, microgroove records are ultra-high resolution music carriers with a massive bandwidth that goes way beyond the limits of human hearing. On p11 we sample Goldring's great new GR1 turntable costing £140, while on p36 we try Clearaudio's stunning Resolution deck at thirty times that – and judge that both are brilliant value.

Who would have thought LP could survive to take on CD's successor!

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.

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contents

reviews

SOUND BITES 11

First reviews of Goldring's brand new GR-1 turntable and Wireworld interconnects.

digital

HIGH RESOLUTION SUPERTEST 12

Noel Keywood puts the latest and greatest DVD-Audio and SACD players from Denon, Marantz, Panasonic, Pioneer and Sony against one another in this super audio supertest.

MEL AUDIO RECHAV II 40

This is one of the most eccentric CD players ever, and it hails – of course – from Italy! Some won't like the looks but most should love the sound, says David Price.

vinyl

CLEARAUDIO REFERENCE 36

This stunning 'symphony in Perspex' is more than just a pretty face, as David Price found when he put it against a top spec Linn LP12/ARO in a £35,000 system...

amplifiers

EAR 864/890 34

If any amplifier is suited to the fast, spry sound of high resolution digital audio, this is. Mike Ballance loves its delicate and warm, yet truly muscular, character.

loudspeakers

TANNOY EYRIS DC2 52

Albert Lee casts his gaze upon Tannoy's latest mid-price, wide bandwidth floorstander...

TOWNSHEND MAXIMUM 55

Are Max's new supertweeters the answer to the high resolution hi-fi buff's prayers? David Price thinks so!

tuners

SUGDEN FM MASTER 59

LJK Setright is rather taken by the alluring sound of Sugden's new wireless.

systems

PIONEER NS-DV990 50

With DVD-Audio and SACD playback, a discrete display and stunning NXT flat panel loudspeakers, this is more than just your average lifestyle system, says Patrick Cleasby.

features

TALKIN' ABOUT THE RESOLUTION 20

David Price details the differences between Compact Disc and the new high resolution digital audio formats (DVD-A and SACD), and discusses their relative merits.

MASTER MIND 24

From engineering Mike Oldfield's 'Tubular Bells' to mastering some of the best new SACD releases, Simon Heyworth's career has been a long and illustrious one. Patrick Cleasby asks him about the tricks of his trade.

OBITUARY: PETER WALKER 57

Noel Keywood remembers the life and times of the great man behind Quad.

THE SOFT PARADE 71

Patrick Cleasby rounds up the latest high resolution multichannel digital music software releases.

ADVANCED NOTICE 74

Apple's iTunes is the best computer audio music software available. Patrick Cleasby shows how to get the best from it.

PAGE 50



PAGE 36



PAGE 52



supplement No 77

DIY NEWS 93

All the latest from the weird and wonderful world of Do-It-Yourself hi-fi.

THE ELECTRIC TOWN EXPERIENCE 94



Clive Meakins visits Tokyo's Akihabara district, famous for its hi-fi and electronics stores. Even the markets sell electronic components, he found.

ARE YOU SITTING COMFORTABLY? 99

Dave Stocks creates a standalone remote control device.

BUYING GUIDE

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competition

Win Sugden's superb HeadMaster preamplifier/ headphone amplifier in this month's great competition.



PAGE 40



PAGE 26



PAGE 12



regulars

NEWS 7

NEXT ISSUE 9

What's going on in March 2004!

MAIL 42

The team get to grips with your comments and queries from hi-fi land...

HI-FI WORLD KITS 64

Solder in one hand, glue in the other, satisfy your creative urges with a World Audio kit!

HI-FI WORLD LIBRARY 68

A comprehensive selection of titles covering audio, valve amplifiers, loudspeakers, solid state electronics and more.

COLUMNS 63, 79, 81

Words from the front, from the team...

SUBSCRIPTIONS 60

Spare yourself the frenzied riot as you struggle with the hordes to claim the last copy of *Hi-Fi World* in the newsagent - Subscribe today!

SPECIALIST HI-FI DEALERS 70

The perfect mix - excellent coffee, a comfortable sofa, and someone who really knows how to guide you through the world of hi-fi.

DIAL-A-DEALER 76

Look before you leap, or alternatively listen before you buy. These are the people to talk to.

MEET YOUR MAKER 80

Not a call to the spiritual, but a list of manufacturers detailing who makes what, and how to get in touch.

WORLD CLASSICS 83

Brilliant designs that have stood the test of time, listed.

WORLD STANDARDS 88

Our fave raves - the latest and greatest from the world of contemporary hi-fi.

MARKETPLACE 103

CLASSIFIEDS 117

The definitive place to find classic audio components.

BACK ISSUES 124

ADVERTISERS INDEX 129

OLDE WORLDE 130

David Price remembers Sansui's classic SR222/II, the best looking affordable turntable ever made.

Kandy

It's not all
black and white.



Roksan, for those with a little more grey matter.

email:news@hi-fiworld.co.uk

news

CHEAP AS CHIPS

Arcam's budget CD spinner range has always been extremely competitive, giving a 'smooth and sweet' sounding alternative to the mass produced Japanese machines. These days, as the CD separate market shrinks, the Far Eastern companies have mostly deserted the sector anyway, but that doesn't mean there isn't a demand for top budget fare. Arcam's DiVA CD73 claims to be precisely this. The £399.90 machine boasts "a significant leap forward in real world CD performance and delivers the best value in quality CD players." With the latest Wolfson WM8740 24/192 multi-bit sigma delta DAC and quality components throughout, it's an



impressive spec, but the killer punch is its upgradeability – send it back to your dealer and Arcam will upgrade it to the higher CD83T or 93T specifications for a modest fee. Finishes are silver and black. Call 01223 203 203 or click on www.arcam.co.uk for more information.

YEAH BABY

With styling cues from its classic 1960s TR130 transistor, Bush's new TR2003 DAB portable radio sports a grey, soft-touch rubberised case – complete with matching handle. The latest Digital Radio technology is complemented by a built-in FM tuner. Mains or battery power options complete this groovy package, making it some of the most 'in gear' in town. Find it in your local high street emporium...



SAMPLE THIS

Aside from the 1812 Overture (SACD-60541), Telarc's best selling SACD is its SACD Sampler 1, released last year. Now, the label has a follow up, cunningly entitled Sampler 2, featuring more of some of the best extracts from the last year's hybrid recordings made in multi-channel discrete surround sound, featuring some of Telarc's top classical artists including Paavo Jarvi, Erich Kunzel, Benjamin Zander, Donald Runnicles, Robert Spano and many others. Telarc now has over 70 Hybrid SACDs (playable on conventional CD players too), and is notable for having issued more new DSD multi-channel recordings on SACD than any other label, majors included. For more info, click on www.telarc.com.

GO WHEST!

Whest Audio's DAP-10 'ultra-sonic ghost-buster' is said to be 'an entirely original way of obtaining better sound from digital sources'. The unit sits between the CD player or DAC and amplifier, and has absolutely no effect from 0Hz to 34.99kHz, whereupon it is claimed to work on the 'audio ghost signals' exhibited by all digital sources. These are low-level 'reflections' of ultra high frequency information (harmonics and ambience), which are a degree or two out-of-phase. Despite being above our audible range these signals have a deleterious effect on audio frequencies. The DAP-10 is said to bring these 'ghost signals' into alignment, giving better low frequency definition, greater resolution, improved midrange transparency and high frequency detailing. Housed in a non-ferrous alloy case, it costs a very real £899. For more information, contact Activ Distribution on 01635 291357 or point your browser at www.activdistribution.com.



IMAGE LIMITED

Pro-ject snazzy new Phonobox Limited Edition celebrates the sale of no less than 100,000 Phonoboxes to date! The LE has been upgraded using selected components of higher tolerances, a gold plated finish and handcrafted presentation case, plus an authentication certificate containing its specific production number. Price is £65, but hurry as only 500 LE models are being made. For details, go to www.henleydesigns.co.uk.



A NEW CHORD

The Chord Company Signature Digital is a new digital interconnect, that follows the very successful Signature RCA from last year. It uses a unique twin conductor configuration. The Oxygen-free conductors are produced with specially treated (ultra-cast) copper, and used in combination with a gas foamed polyethylene dielectric and are surrounded by an extremely effective carbon/ silver plated-braid screening system. The Signature Digital is available fitted with Chord's own low-mass, gold-plated RCA plugs or Military grade BNC plugs and costs £200.00 for a one-metre length. For details, call 01980 625700 or email info@chord.co.uk.

TOWER RECORD?

Elac's new Cinema F20 Micro Tower Speaker (£499.95pr) is said to look superb and deliver quality sound. They're intended as the front speakers in 5.1/6.1/7.1 home cinema systems, or can be used as front and surround in more powerful set-ups, or 2.1 stereo speakers with any Elac Subwoofer. Each micro-tower is solidly built from extruded aluminium with four powerful alloy cone woofers and a wide dispersion dome tweeter. A built-in bass filter allows them to be driven directly from the amplifier, making installation easy. The tweeter is a wide dispersion 25mm silk dome tweeter, the woofers are 80mm long-throw designs wired in in-line. Size is 900x88x102 mm, weight is 6kg each. Click on www.elac.com for more details.



AV, ANOTHER ONE

NAD has a new AV receiver. The £999.95 T763 claims more 'flexibility and power' than the outgoing (and very fine) T762, with 6x100W simultaneous minimum continuous power into 4 or 8



ohms, a high current Holmgren toroidal power transformer, the full complement of Dolby decoders (including Digital EX, PL II) and DTS NEO:6 and Matrix 7.1, HDCD and NAD's very own EARS (Enhanced Ambient Recovery Circuit). There's a revised heat management system, along with new volume control circuitry. Vital statistics are 435x170x423 and a shelf bending 20.7kg weight. For more information, call 01908 319360 or point your browser at www.nadelectronics.com.

THE NXT THING

After a few adventures in specialist hi-fi, NXT SurfaceSound flat panel loudspeaker technology is percolating down to budget lifestyle audio systems – an application for which it seems ideal thanks to compact dimensions and discreet good looks. Right after Pioneer's svelte 5.1 NS-DV990 multichannel movie system comes news of TEAC's first ever NXT-enabled package. The MC-DX10 is a 2.1 CD system featuring two NXT satellite speakers which can be wall mounted or placed on a desk, with a 15-watt subwoofer with a five-inch driver. NXT now has more than 250 licensees for its technology. For more information, click on www.nxtsound.com.

TRANSMISSION

The forces behind the rise of digital radio (basically speaking, that's the government via the BBC) would like us to know just how well it's doing at their end. November 2003 saw a claimed 1.2 million new people brought into the BBC coverage area. That makes a total of 4.5million able to receive DAB and national digital radio coverage standing now at over 70% of UK population. This is because the BBC switched on four new national digital radio transmitters across the country in November 2003 as part of its commitment to increase BBC national digital radio coverage to 85% of the UK population by mid-2004. Over 1.2 million people in Sussex, Norfolk and Dorset have been brought into BBC national digital radio coverage. Seventeen new transmitters have been switched on since the BBC national digital radio expansion plan began in August, bringing a total of around 4.5 million new people into BBC national coverage. The four new transmitters added to the BBC national digital radio network in November were Whitehawk Hill (Brighton, West Sussex), Tacolnston (Norwich, Norfolk), Hastings (East Sussex) and Poole (Dorset). For advice on receiving BBC digital radio and to check coverage listeners can ring 08700 100123 or go to www.bbc.co.uk/digitalradio.

SCRATCH THAT

Denon's new DN-S3000 is one of the most intriguing CD spinners we've ever seen. The £599.99 machine is a purpose-built DJ deck that features a motor driven 7.5 inch 'scratching platter'. This has a jog wheel which is claimed to 'emulate the feel of a playing analogue turntable for scratching or searching'. On top, a 7 inch vinyl single can be placed 'for the ultimate in analogue turntable emulation!' Proof of the postmodern world in which we live, this has to be the first CD player that looks (a bit) like a turntable, works like a turntable and accepts vinyl discs - but still only plays CDs! It has a host of other features too, including MP3 playback with seamless looping, scratching (via the platter), sampling (with VBR encoding up to 320 kbps) and digital output socketry. Aspiring digital DJs should call Denon on 01234 741 200 or click on www.denon.co.uk



BOXING CLEVER

Denon's new £569.99 ADV-M71 is the first ever DVD system with Dolby Virtual Speaker, which delivers 'surround sound' from just two supplied speakers, instead of the usual five - just add a TV screen for a complete home theatre system. Its small size (210x95x367mm) makes it perfect for where space is at a premium, and it boasts a DVD player, tuner and multichannel amplifier, plus a JPEG photo viewer (through the TV display), MP3 CD playback and the option of matching subwoofer, cassette deck and



MiniDisc recorders. More information is available from Denon on 01234 741 200, or click on www.denon.co.uk.

FILTER TIP

If you're a follower of that old adage, 'big is better', then you'll find few that can compare to Monster's new HTS 1000 'Clean Power Circuitry Stage 2 v.2.0' Filters, claimed to provide excellent AC mains power line noise rejection. Featuring over 3415 joules (energy storage) of surge and spike protection, its 'Tri-Mode Protection circuitry' is claimed to provide superior results to the usual Metal Oxide Varistor (MOV)-based filters. The result is that the HTS 1000 automatically disconnects all connected equipment if hit by a serious surge, and the company's so sure about its efficacy that it has undertaken to replace up to £250,000 worth of equipment if damaged by an over-voltage condition when properly connected. Colour-coded sockets specially labelled for audio and home theatre systems are provided, plus heavy duty cord. Suggested Retail Price is around £200.00 (inc. VAT). For more details, contact Monster Europe on 01923 431 634 or click on www.monstercable.com.



CHINA'S E-TYPE!

A Chinese government backed consortium of businessmen and academics, plus two of that country's DVD manufacturers, has unveiled its very own rival to DVD, the Enhanced Versatile Disc. The new format is an audacious attempt to reduce what Chinese DVD makers regard as exorbitant patent royalties, which must be paid to a group of mostly Japanese electronics conglomerates whenever DVD hardware or software is manufactured. Over 100 domestic manufacturers produced around 30 million players last year, according to Chinese state media, while the country exported 20 million players in 2002, about 70% of the global DVD market. The new format also aims to avoid the country relying too heavily on 'foreign technology', so it can become an innovating force in the world consumer electronics industry rather than a mere copyist.

Royalty payments totaling 2.7 billion yuan (\$325.3 million) have hit the profits of China's DVD makers, as each player manufactured costs them \$2 in royalties, and 500,000 yuan in licensing fees is also payable. By contrast, the new EVD requires no licensing fees to be paid to foreign CE companies. The move to develop the new format was prompted when a number of Japanese electronic giants, including Sony and Toshiba, pressed Chinese companies for \$9 in retroactive royalties for each player exported. The Chinese government was sufficiently concerned to contribute 10 million yuan, which was one quarter of the total R&D costs. So far, just 5 of the country's 100 DVD makers have signed up to EVD production, including SVA Electronics, one of China's biggest with an annual output of about 5 million, according to Reuters. Up to 1.8 million EVD players would be manufactured in 2004, with 3 million in 2005 and 9 million in 2006. The machines sell for approximately twice the price of existing DVD machines. The Chinese Ministry of Information Industry will begin to decide whether to adopt EVD as the new national industry standard later this month, although no decision date has been announced.

TWO MORE

It's tough being a CD player manufacturer. Time was when you could design your player around an established transport and chipset and expect supplies to last way beyond the commercial shelf life of your machine. Now though, with the ascent of DVD, it's getting increasingly hard to source bespoke, high quality CD transports from the likes of Philips and Sony as - frankly - that's not where the money is anymore. Creek Audio (like many) has recently suffered from this phenomenon, the result being that a perfectly good CD spinner (its CD50) has had to be discontinued, as its Philips Shortloader mechanism has been discontinued. Creek says that, "Originally when designing the CD50 we had been led to believe that we could continue to source this vital part for at least a year. Regrettably this changed with very short notice". The upshot is, yes - you've guessed it - the new CD50 mk2. It boasts "significant changes", and Creek naturally contends that it's better even than the old machine. Watch this space and we'll let you know, but meanwhile the new machine is now in the shops and will set you back £850. Experience suggests it should be well worth a listen.

WEBWATCH

veritable fest of classic kit, just a click of your mouse button away... <http://www.retrohifi.co.uk>

HARD STUFF

Toshiba Europe Storage Device Division (SDD) has announced a 40GB 1.8 inch hard disk drive, snappily entitled MK4004GAH. This credit card-sized item weighs only 62g and has 200g of operating shock resistance, making it ideal for a new generation of HDD based portable music systems. For more info, click on:

www.toshiba-europe.com/storage.



next issue

The March issue is packed with exotic and unusual kits.

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Back to the future with this classic cartridge.

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Eastern European amplification at its best.

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GOLDRING GR1 TURNTABLE

£140 ●●●●£

Not since the early seventies have we seen a turntable bearing the name of Goldring. It's a surprising move, but the company has sensed a resurgence in the vinyl market through selling its worthy range of cartridges, and the GR1 is the result. Look at it and, well, you'd swear it was a Rega – but I couldn't possibly comment. Suffice to say that it comes with a Goldring Electra cartridge and an excellent tonearm that looks rather redolent of the RB250 (but uses less closely toleranced bearings and a Goldring GR1-specific armbase). There's also a plinth that looks like a low calorie version of that fitted to a Rega P2, a 12-pole Airpax AC synchronous motor (the Regas use Linn-style 24 pole affairs) and a cheapo plastic dustcover. Compared to the Planars it feels distinctly cheap and cheerful, but the innate quality of the arm and cartridge simply can't be denied. Then when you remember it costs a



piffing £140 (little more than a G1042 cartridge!), it seems remarkable value before you've even set ears on it.

Think of the GR1 as a latter day Pioneer PL12D. It's an unashamed entry-level turntable that comes fitted with a good pre-aligned cartridge (hurrah!), and which does the job with far greater élan than, frankly, it should. To prove the point, I put it through £10,000 worth of Trichord phono stage, MF Audio passive preamp, Quad 909 power amp and Quad 989 electrostatic loudspeakers. It should have sounded God-awful, but it didn't. Compared to my Michell GyroDec/SME IV reference, you get an obviously thinner and more two dimensional

sound – but that aside, it was amazingly musical. It has real zest and gusto. There's a tiny bit of wobble on pianos, but this is rarely obvious, while the wonderfully direct sound (that simply gets you in the groove of the music) is. It's remarkable for the money. The Rega decks are obviously better, but this isn't really a rival – as it's a 'plug and play' design for vinyl first timers or nostalgists. What made me smile was how well it compared to my Meridian 507 CD player reference – the latter was far more polished, but the Goldring was demonstrably more musical. Brilliant – can't wait for the 'audiophile' GR2 and the forthcoming £50 phono preamp! www.Goldring.co.uk

WIREWORLD OASIS 5 INTERCONNECTS

£99/M ●●●●£

All that glitters is not gold...

Despite the fact that everyone and his dog seems to think that glinting and gleaming 'gold' phono plugs assure superior sonics, it's actually the reverse. Don't believe me? Well T-Cut off the cheap and nasty gold plating on your favourite pair of interconnects, clean them with isopropyl alcohol and be amazed! You see, gold is a poorer conductor than copper, and unless it's 100% pure (unlikely) it oxidises all too easily to make matters worse. So what impressed me about these Wireworld interconnects is their use of plugs with centre pins and ground contacts made from silver-clad tubular oxygen free copper (and the silver plating is so thick it



represents 10% of the weight). This has three times the conductivity of gold, nickel or brass. Teflon is used for the insulator and the silver solder used further improves the signal transfer. The cable itself has a 30 strand OCC conductor, with a 48 strand OFC shield in single layered spiral configuration. DuPont Teflon forms the outer dielectric.

The result is uncanny openness and smoothness. It's disarmingly neutral, in a way that few others (such as VdH and LFD cables at over twice the price) are. There's an eerie lack of glint and sheen – no

chrome plated midband, spitty treble or leaden bass here! Rather, the music flows forth largely untrammelled, with tremendously accurate tonal colouring. Bass is wonderfully liquid – not boomy or overblown, but natural and fluid sounding. The result is an extremely self effacing and transparent cable. It's not the sort of thing you can buy to 'tune' a system that's fundamentally flawed, but assuming you've got a good match then this will let its flavour flood out. A seriously big hitter for the money, and as such comes heartily recommended. www.wireworldaudio.com

New Resolutions

We live in exciting times. Hi-fi is moving to a new paradigm of high resolution digital audio which, perversely, is designed to sound more 'analogue'. And with it comes multichannel, a bolt-on extra that's essential for some, and an irrelevance to others. In this month's supertest, we've lined up five of the latest and greatest DVD-Audio and/or SACD players, for your pleasure. Back in 1985, Noel Keywood was the first journalist to measure large amounts of distortion from low resolution Compact Disc, so who better to assess these high resolution pretenders...?



Denon DVD 2200



Marantz SA17 S1



Panasonic DVD S75



Pioneer 868 AVi



Sony SCD XB790

Today we're faced by two competing formats: DVD-Audio and Super Audio Compact Disc. Choosing between them is impossible. It isn't a matter of sound quality, but the music. Buy one and you will find yourself unable to listen to your favourite album that has just been re-released on the other. So called 'universal' players that handle both DVD-A and SACD eliminate this difficulty. They also play CDs and video DVDs, so you can throw almost anything at them and they will play it. Does that make them a 'jack of all trades' and master of none? Possibly, but the good ones are now very good - a cast iron investment in modern audio.

There's a lot of hot air about how bad SACD and DVD players sound with CD, but beware. They may well not be as good as a Marantz CD6000 KIS with CD, but some now get close enough in my experience. CD isn't so good in any case and the world is, thankfully, moving on. Both DVD and SACD can be more engaging.

SACD is a Sony technology that Philips backs, an extension of CD if you like. Pure SACD is audio-only but many players handle DVD video too, but not DVD-A discs, a significant limitation. SACD players will play CDs of course. Hybrid SACD discs will play on ordinary CD players, giving them flexibility; they can be used in the car and at home for example, but because they are expensive to produce, single layer SACD discs have appeared that only play on SACD players, a compromise to SACD's flexibility and confusion for the buying public.

DVD-A discs at present only play on DVD-A capable players (at

full resolution, although they contain a DVD video compatible area that conventional DVD video players can play at lower resolution), but not CD players. This limitation may be overcome soon with double-sided discs. DVD-A players themselves play CD, DVD video as well as DVD-A, but not always hybrid SACD discs.

SACD sounds good in a convincing way - that is, smooth and natural. It is a little flawed technically though. To an ear that likes analogue and finds CD a little relentless and DVD more so, SACD is worth listening to, no matter what the arguments. Whilst SACD is a multi-channel format some discs, like Eleanor McElvoy's 'Yola', carry stereo. SACD players can, in any case, be set to mix down surround-sound to give a stereo output.

Run as a stereo player, SACD gives two channels of audio with minimal distortion and an analogue bandwidth that reaches 90kHz or so - way better than CD. You don't get optional stereo and surround high resolution mixes on SACD but you don't need a telly and a remote to select one or the other either.

With DVD you do need a TV, and some patience, to select the stereo mix most discs carry. Alternatively, DVD players can be set to mix down stereo from 24/96 surround-sound. DVD Audio has within its specification super quality stereo (24/192) and this should rival or surpass SACD quality. At present 24/192 material is rare but this is likely to change. In truth, 24/192 digital is the future and even SACD is commonly derived from 24/192 PCM sources. Which is why we have looked closely at it here. Enjoy our roundabout of the cutting edge of modern audio...

HIGH RESOLUTION SPECIAL ISSUE

GROUP TEST	12
TALKIN' BOUT THE RESOLUTION	20
MASTER MIND	24
PIONEER NS-DV990	51
TANNOY EYRIS DC1	52
TOWNSHEND MAXIMUM	55
COMMENT: NOEL KEYWOOD	63
THE SOFT PARADE	71
ADVANCED NOTICE	74
COMMENT: DAVID PRICE	79

DENON DVD-2200 £499

Denon's new DVD-2200 is a hybrid machine offering DVD-A and SACD playback. The company claims exceptional performance from the internal

24bit/192kHz converters and our measurements clearly showed this is a very advanced player even, as Denon say, with Direct Stream Digital (DSD) from SACD. It outputs Component Video for Progressive Scan TVs, or there's the usual Scart socket for RGB and sound direct to a TV, plus an S-Video connector alternative for those without Scart.

A whole host of discs types can be accommodated, including DVD R/RWs, CD-Rs and RWs recorded normally (PCM) or with mp3 compression. Video CDs and JPEG picture CDs are also handled. With DVD Video the 2200 will work with Dolby Digital surround-sound or DTS, or 24/96 stereo. It can handle all DVD-A formats; 24/96 surround-sound and 24/192 stereo. With SACD it doesn't replay the text data, but this apart it otherwise does an amazing job, clearly resolving over 100dB of dynamic range across the audio band in a way even 24/192 PCM could not manage. I didn't know SACD could be so good until I saw what the 2200 did under test; even Sony's dedicated SACD player in this group couldn't beat it!

However, loudspeaker delay times cannot be set with SACD, but they can with DVD-A via the analogue outputs to compensate for differing distances from the listening position. Speaker size (i.e. bass management) can be selected and level from each speaker adjusted for SACD and DVD-A. If a digital I-Link connection to a receiver is used for Dolby Digital or DTS then the receiver must make these compensations. A whole variety of DVD test patterns were applied and the picture was fine. A DVD-RW recorded on a Sony computer drive played successfully, showing good MPEG decoding on detail in colour like grass and trees, as well as smooth resolution of movement.

SOUND QUALITY

I have been using Denon's DVD-2900 for some time and



recognised the sound from this player as in the same mould. Whilst the 2900 isn't quite a Marantz CD6000 KIS it is sufficiently tidy, clean and dynamic to offer a satisfactory alternative. The 2200 reviewed here is similarly a fine CD player, with just a little less of the solidity and fine detailing of its more expensive brother. Meaning it reaches a high standard as a CD player. Classical strings were smooth, vibrant and almost sumptuous. Piano had weight and flowed nicely. There wasn't quite the rock solid timing of the 2900 and its sense of grip, but this seems of little importance in a player that can do so much else.

With DVD-A surround sound (24/96) the 2200 has great definition. Toy Matinee's 'Things She Said' had sparkle and zest, if with a little less of the bottom-end solidity of the 2900. All the same, the Denon is clean, revealing and fast, showing what DVD-A can do. With 24/192

stereo its advanced measured performance was discernible in a degree of clarity, detailing and timbral resolution that was breathtaking. If you want jaw-dropping stereo, this Denon has it!

SACD can get almost magical, like highly tuned LP, and with Linn's SACD of Barb Jungr singing Steve Miller's 'The Joker' I wondered whether I had ever heard digital sounding so smooth and natural, yet at the same time open and dynamic. It was a great performance, one that carried through into Roxy Music's 'Avalon' and Telarc classical recordings; strings were rich and well separated, kettle drum had power yet there was that characteristic easiness SACD possesses. The Denon gives quite a bright picture, but one that grabs you with its sense of life and activity. Only the Pioneer challenged this player – but at much higher price. The DVD-2200 is a fantastic package for top quality stereo or surround sound.

MEASURED PERFORMANCE

The Denon gave impressive results with CD, with low distortion and a flat response and excellent EIAJ dynamic range. However, 192kHz DVD audio was flat to 91kHz and SACD rolled off gently to -9dB at 100kHz, so the 2200 has bandwidth. Whilst the PCM code of DVD was producing rising distortion below -60dB, SACD measured 0.04% from 0dB to -100dB – an great result. Our figures here include noise. Jitter was minimal with no components in the audio band irrespective of signal. The DVD-2200 is a fine all-rounder. NK

Frequency response (-1dB)

CD	5Hz	-	21.1kHz
DVD-A	5Hz	-	91kHz
SACD	5Hz	-	31kHz

Distortion	CD	DVD	SACD
-6dB	0.001%	0.0002%	0.0004%

-30dB	0.003%		
-60dB	0.23%	0.12%	0.1%
-90dB	26%	2.1%	1.2%
-100dB		17%	5%

Separation (1kHz) 84dB

Noise (IEC A) -107dB

Dynamic range 110dB

Output 2.1V

**VERDICT**

DVD Audio and video, plus SACD, all with superb performance. Fine sound and low price make this a great package.

DENON DVD-2200 £499

Hayden Laboratories Ltd.

+44 (0) 1753 888447

www.denon.co.uk

MARANTZ SA-17S1 £1400

VERDICT ●●●●

A specialised CD player, but with SACD too. Peerless sound quality with CD and very good with SACD, but expensive.

MARANTZ SA-17S1 £1400

Marantz Hi-Fi UK Ltd.

☎ +44 (0) 1753 680 8687

To call this large is an understatement; it's a veritable soccer pitch. A chunky fascia carries a large, ornate SACD badge, the draw looks as if it's hewn from solid metal (although in fact isn't), the controls have a good feel. This is a top flight SACD and CD player, as the copper plated internal parts testify. It does not connect to a TV. Instead there is a text display of disc information and it can be switched to read the SACD in surround mode or stereo mode, or work as a CD player. So if you want high quality stereo this player offers it.

The centre channel can be distributed into left and right to eliminate the centre loudspeaker within a surround sound set up. Marantz realises that loudspeakers can be unwanted in the home and 'phantom centre' (as they call it) is what we get from stereo in any case. It's cinema that needs a centre channel, mainly to link dialogue to picture for off-axis listeners. With audio the centre speaker can hog the music, giving virtual mono at times; much depends upon mixing in the studio, but I tend to turn the centre channel down to compensate.

Talking of which, Marantz gives an elaborate explanation of ITU (International Telecommunication Union) recommended loudspeaker placement in the handbook, which draws attention away from the fact that this player has no loudspeaker level or time compensation onboard. It must be done in the receiver/amplifier. The Marantz SR6300 receiver I used adjusts only level on its 6.1 inputs; luckily my loudspeakers are equidistant. In a home where the rears are at either end of the settee this isn't so good. Time compensation makes the surround picture sound more cohesive.

SOUND QUALITY

I wondered how I was going to cope with this player when it seemingly had so little to offer in comparison to the Pioneer and Denon, both of which also do a fine job with SACD and CD too, as if to give the SA17-S1 nowhere to go. I put on



Celine Dion's 'I'm Alive' and nearly fell off my chair. I've heard this track through many a good CD player, but what this made of it in comparison to all that went before was a shock. The main and most surprising feature was an almost reverberant acoustic surrounding her vocals and an associated sense of depth and space that I really don't expect to hear with CD. Yet this player made stereo from CD sound as capaciously deep as surround sound. I was transfixed, which is unusual for a long term, slightly hard bitten reviewer who has heard it all! This player impressed in the way a big single-ended valve amp impresses – something is happening that isn't quite believable. Whilst Celine Dion's voice was vibrantly alive and seemingly very close it was so densely etched, instruments fell back in well defined layers, each with seemingly perfect placement. The Marantz is also very tight in its timing, fast yet supple and deep in its bass delivery and sweet in its

handling of fine treble.

It was all so vivid and engaging I did feel that there was just the slightest element of euphony in the colour scheme on offer, which gave a forward although engaging sheen to the midband. This seemingly enhanced detail and there was undoubtedly fantastic resolution too, especially of orchestral strings – a difficult test for any CD player. The Marantz has resonant bass too – from Toni Braxton through to Wagner, this player worked wonders with CD.

Which leaves me to contemplate its performance with SACD. Here the SA17-S1 was smooth and relaxed, atmospheric too, but in comparison to the Denon DVD-2200 not as dramatic. It lacked the real clarity and insight of the Denon and its strong detailing. A sturdy performance that was pleasantly smooth and much like the current crop, it nevertheless didn't have the resolution SACD deserves to appreciate what it can do, I felt.

MEASURED PERFORMANCE

	CD	SACD
The Marantz had a smooth CD frequency response that reached 21.2kHz. SACD pushed this out to 40kHz (Standard) or 55kHz (Custom) before rolling down to -20dB at 90kHz. The Marantz should sound smooth enough with both, but Custom makes little difference.		
Distortion	-6dB	0.002%
	-30dB	0.005%
	-60dB	0.3%
	-90dB	5%
	-100dB	1.8%
With CD this player produced little distortion and with SACD distortion levels were one-tenth that of CD and the lowest of the group. Jitter was negligible with just the smallest amount of programme related noise visible, measuring just 20pS or so.		
The SA-17S1 delivered excellent results with CD and SACD. NK		
Separation (1kHz)		105dB
Noise (IEC A)		-113dB
Dynamic range		111dB
Output		2.3V

Frequency response (-1dB)
 CD 2Hz-21.1kHz
 SACD 2Hz-40kHz



PANASONIC DVD-S75 £120

The Panasonic needs a large shelf space to accommodate its 430mm width and 303mm depth. Unlike the Marantz though, it doesn't look so imposing. It's also different in playing DVD-Audio and Video but not SACD - although it did play the CD layer of many hybrid SACD discs. The Panasonic's forte lies elsewhere though - it is a 24/192 stereo player and measurement showed it has an extended response as a result - much more so than your average DVD. It will handle Panasonic's own DVD-RAM discs from DVD cameras and video recorders, but only when they have been removed from their caddy. It won't play DVD-RW discs Panasonic say, but it played mine, recorded on a Sony computer drive with a DV signal from a Panasonic camera! It will also play DVD video, DVD-R, video CD, CD and CD-R/RW, WMA and MP3 as well as JPEGs.

The rear panel carries CVBS, Scart and S-Video sockets for a TV, plus Component Video for connection to a 480P compatible progressive scan TV or monitor. Most UK TVs have Scart, which uses RGB for a good picture, and the connection carries audio too. S-Video also gives good results and is used outside Europe, whilst Component gives best quality but only quality modern TVs can accept it. Audio is output through the usual analogue surround-sound sockets, and there are both electrical and optical digital outputs for compressed digital as well as CD PCM. DVD Audio, however, is available only via analogue as usual. Panasonic provides loudspeaker level setting (+/-6dB) through the analogue outputs (i.e. with DVD-A) and time (distance) compensation with this machine, although the latter are of limited resolution with the rear speakers, with differences of 2m, 4m and 6m closer than centre front compensated for. There's bass management too of course.

SOUND QUALITY

This player sailed through a long range of specialised DVD video tests from Rohde & Schwarz, and similarly did well



with advanced audio tests. Over the years of listening to Panasonic products I've found they never offend, but also they never quite sparkle. This player was much the same, but with DVD-A quality so intrinsically high it matters little except to the fastidious. The strings of Berliner Staatskapelle were pleasantly conveyed with a smooth ease that would raise no eyebrows. I know that this Teldec recording can sound a bit edgy at times, but not with the DVD-S75. Toy Matinee's 'Things She Said' sounded large and powerful, but with less sharpness than normal - not necessarily a bad thing. With 24/192 stereo the player displayed remarkable depth and naturalness, more like quality SACD, if with a tad less sweetness. Randy Newman's 'Texas Girl' had a smoothness and ease of rendition that was relaxing yet entrancing at the same time. I fancy that, in spite of the excellent depth perspective here, there was a little more to

come. But the Panasonic can rock: panned bass in Foreigner's 'Juke Box Hero' had real power as it moved around me; this player puts power and a sense of scale behind music.

With CD the player's softness of grip started to show. It sounded soft and easy, fulsome too with plenty of fat bass but a tendency to sit on dynamics. It sounded nice and impressive in a simple way, but the track wasn't viscerally demanding as it is from a player like Denon's DVD-2900. Classical strings were set in much the same picture, but with CD that at least makes for easy listening.

The DVD-S75 is a lovely all-rounder in typical Panasonic fashion, at an amazing price. It doesn't get the best out DVD-A, yet it is still a fine choice for many listeners, simply because it never really offends. That is, unless you want real top notch dynamics, timing and resolution, in which case others have more to offer.

VERDICT ●●●£

Real ability and fine measured performance for an unbelievably low price. Impressive in its own way, if not truly audiophile like the others players.

PANASONIC DVD S75 £120

Panasonic (UK) Ltd

+44 (0) 1344 862444

MEASURED PERFORMANCE

The Panasonic has some high frequency roll off with both CD and 192kHz DVD audio, with CD -1dB at 18kHz and DVD -4.4dB at 90kHz. In use it will sound softer than rivals like the Denon as a result of this. Linearity was mediocre with CD but good with 24bit DVD, a little better than the Denon at low levels in fact. With negligible jitter (20ps or so) in the audio band the DVD-S75 measures well with DVD but is mediocre with CD. It will have a soft but smooth sound. NK

Frequency response (-1dB)

CD 5Hz - 18kHz
DVD-A 5Hz - 45kHz

Distortion -6dB CD 0.002% DVD 0.0002%

-30dB	0.012%	
-60dB	0.37%	0.1%
-80		0.56%
-90dB	27%	
-100dB		2.8%
Separation (1kHz)		106dB
Noise (IEC A)		-125dB
Dynamic range		103dB
Output		2.1V



PIONEER DV-868AVi £799

VERDICT ●●●●●

Advanced performance, superb sound and direct I-Link and HDMI digital outputs make this the all-round class of the field right now.

PIONEER DV 868AVi £799

Pioneer GB Ltd.

+44 (0) 1753 789 789

www.pioneer.co.uk

Like the Panasonic this handles just about every modern format thrown at it, except Panasonic's own DVD-RAM, so perhaps the 868 isn't truly agnostic after all! All the same it does resolve DVD-RW and did spin up a test DVD-RW burnt on a Sony computer drive without problems, with perfect MPEG 2 picture quality and good 16/48 PCM sound. Colours were solid and natural. The player also did well with a lengthy DVD picture test sequence from Rohde & Schwarz.

Like the Denon, the Pioneer hooks up to just about everything, including HDMI compatible plasma TVs (see David Price's column on p79), and is very easy to adjust. Loudspeaker output level and time delay can be set, and there is a digital I-Link output for high resolution audio for a compatible AV amplifier such as Pioneer's own VSA-AX10i. It outputs Component Video, for progressive scan quality through a suitable TV or monitor. All displays and digital outputs can be turned off for best audio quality, and all loudspeakers can be adjusted for output level and time delay. Pioneer makes this easy by giving everything in absolute distance, rather than differences. Again like the Denon, but more so, this player is easy and fast to set up and re-adjust if necessary. The handbook is also easy to understand, unlike Panasonic's for example.

SOUND QUALITY

I listened to this player before measuring it and knew what to expect from its sound: SACD had real extension and Barb Jungr's 'The Joker' was captivating in a very obvious manner. The Pioneer has conspicuous clarity and an almost shiny quality to its sweet treble detailing. The amount of detailing and activity within the percussion work on this track was superb, a fine example of what SACD can do with a fine original recording. Brian Ferry's vocals on 'Avalon' were sublime; this is the sort of performance that justifies SACD and modern high resolution sound. It isn't to be missed no matter how



much you want to resist!

With top quality 24/192 DVD Audio the Pioneer was again sublime, showing just how worthwhile it is to get these new formats right. Whilst 24/192 will always sound good, Randy Newman's voice hung in space on Texas Girl and piano had a degree of timbral richness and depth just not possible with CD with Jolly Coppers on Parade. It was lovely to hear. This is real hi-fidelity – and it's stereo!

With 24/96 surround sound the DV868AVi displayed similar abilities, with superb clarity, strongly delivered highs and a tight grip on tempo. The Pioneer was much like the Denon here, if with a better resolved bass lines and a little more sweetness in its treble. Vocal harmonies - always more obvious with surround sound – were free from muddle, individual contributions being easy to resolve. The Pioneer is a classy performer here.

With CD the 868 was again a player with plenty of basic

resolution, providing fine insight into strings of the LSO behind Ashkenazy's piano. Here the Pioneer shows itself to again quite brightly lit, but not bright, insightful and capable with piano, in that it could capture both body and tone, as well as the sort of delicate inflexions that are so important in a piece like Rachmaninov's Piano Concerto No2. With a richly resonant brass section and grumbling basses in the background the 868 showed it was a talented enough performer with classical on CD. I find Denon DVD-2900 good enough to remove any urge to swap back to a Marantz CD6000 KIS, and the DV-868AVi was similar in this respect. This is a real audiophile player, make no mistake. SACD and DVD Audio sounded superb and CD thoroughly excellent also. Good picture quality was a bonus. The DV-868AVi is top notch in terms of sound quality, and it is easy to set up and use. An excellent package with lots of abilities.

MEASURED PERFORMANCE

The Pioneer had a slow roll off in its DVD A response (192kHz sample rate), reaching 51kHz (-1dB) and -7dB at 90kHz. With SACD bandwidth fell slightly to measure 44kHz (-1dB). With CD the response was ruler flat, likely to give a fairly bright sound.

The player was very linear with all formats, key -60dB distortion figures being 0.2% for CD, 0.04% for 24bit DVD-A and 0.05% for SACD. These are good figures all round. Jitter was negligible, with small peaks around 20pS.

The DV-868AVi is very linear and measures well with all formats. NK

Frequency response (-1dB)

CD	5Hz	-	21.1kHz
DVD-A	5Hz	-	51kHz
SACD	5Hz	-	44kHz

Distortion	CD	DVD	SACD
-6dB	0.0004%	0.0006%	0.001%
-30dB	0.004%		
-60dB	0.2%	0.04%	0.05%
-90dB	5%		0.4%
-100dB		5%	3.2

Separation (1kHz)	122dB
Noise (IEC A)	-120dB
Dynamic range	111dB
Output	2.03V



SONY SCD-XB790 £249.99

This is an audio player only, with no video output – it offers CD replay and SACD but nothing else. With no video connection the XB790 connects up easily, having one pair of stereo outputs, a set of analogue surround-sound outputs and both optical and electrical digital outputs. The latter carry CD code only; they do not output SACD data, notionally to prevent copying. SACD carries text and the XB-790 gives a running text display when a disc is started, or anytime a text button is pressed. It delivers either 5.1 surround sound or stereo (mixed down) from the SACD layer of a hybrid disc, or stereo from the CD layer. It's interesting to hear how the 1970s PCM of CD compares with the modern Direct Stream Digital (DSD) code of SACD. The latter is less bland and clattery - SACD gives a larger, more expressive sound, although recording quality can vary widely between discs.

Adjusting an SACD player without the aid of a TV display isn't the easiest thing to do. Philips combines SACD with DVD Video and this eases setting up. With the XB790 loudspeaker level adjustment must be carried out using the front panel text display and a jog knob. It's fiddly but for most users I guess this is a one-off process and not too taxing. The machine has an on-board test signal generator (pink noise) that allows the output of all surround loudspeakers to be equalised. However, time delay cannot be adjusted to compensate for differing distances from the listener. Purists with a set of matched loudspeakers all at the same distance from the listening position might want to go for Direct mode.

SOUND QUALITY

For any long term reviewer of Sony products, especially their CDs and amps, the XB790 is a surprise. The bright sound of so many of their products doesn't exist here - quite the reverse in fact! With SACD this player is creamy smooth and laid back; it won't frighten the horses. 'Atmospheric' is another adjective I could use,



Barb Jungr's 'The Joker' filling the room in a delightfully easy yet evocative fashion. Small percussive details were beautifully resolved, ringing out sweetly, but with the extra resolution SACD has. I was aware with Eleanor McElvoy's 'Yola' that the Sony is a little thicker and more dense in its textures than the cleaner and altogether more sprightly Denon. Some of the smoothness could be construed as, perhaps, a little less than full resolution. However, since SACD is generally engaging at this level it didn't seem that way except when the two were directly compared.

Christina Aguilera's 'Stripped' CD was tight as a drum and resonantly powerful in its bass drive. The Sony has precise treble and an atmospheric depth that is quite beguiling; it is by no means Marantz CD6000-like, but then it isn't like other Sonys I've heard either! It's almost as if Sony have reappraised

what CD can do and should be doing, coming up with a sound that will definitely appeal to UK sensibilities, with its smoothness and delicacy. The hard, relentless sound has been replaced by something altogether more refined; I was fascinated by the XB790 in this respect. It played CD beautifully, but differently. But then having developed DSD it must have occurred to Sony's engineers that perhaps CD could be wrung for more than just the crash and bang that PCM so often seems to suffer. Whatever, from Celine Dion through to Wagner the XB790 did a superb job with CD, truly sounding more like LP in possessing a sweetness and easiness of presentation quite different from the norm. Personally, I loved it, but the XB790 is more smooth and atmospheric than vivid and revealing, Denon style. It's a great player though.

VERDICT ●●●●£

A brilliant SACD player with excellent performance on CD and an unusually gentle yet impressive sound.

SONY SCD-XB790 £249.99

Sony UK Ltd.

+44 (0) 1923 816 000

www.sony.co.uk

MEASURED PERFORMANCE

Sony's SCD-XB790 displayed slight treble roll off with CD impulse, but was flat to 20kHz with a steady tone. SACD rolled off above 36kHz to -19dB at 80kHz. Or, balance then I would expect a soft sound from both formats, especially CD where Sony appear to be using extra processing.

Distortion levels were low with CD and SACD. This is a very linear player and will have a smooth delivery both form CD and SACD.

Programme related jitter existed, not in large quantities, but not down to Denon or Pioneer levels either.

This is a good player but it does not quite get the best from SACD. It is linear with CD though and everything suggests it will sound smooth. NK

Frequency response (-1dB)

CD 5Hz - 21kHz

SACD 5Hz - 36kHz

Distortion	CD	SACD
-6dB	0.0005%	0.0003%
-30dB	0.005%	0.001%
-60dB	0.12%	0.01%
-90dB	3%	0.6%
-100dB		4%

Separation (1kHz)	110dB
Noise (IEC A)	-113dB
Dynamic range	111dB
Output	1.95V



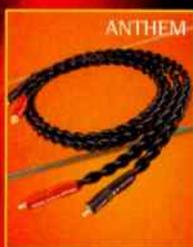
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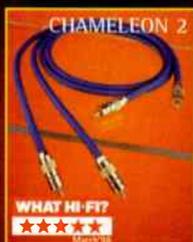
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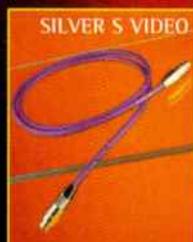
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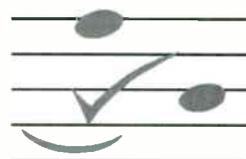
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CD: ACCUPHASE, ACCUSTIC ARTS, AUDIO SYNTHESIS, Bel Canto, dCS (ELGAR, DELIUS PURCELL, VERDI), MERACUS, SUGDEN, WADIA. **VINYL:** BASIS, CLEARAUDIO, CROWN JEWEL, DNM, GRAHAM, THE GROOVE, LEHMANN, MICHELL, SUMIKO BLUE POINT SPECIAL, TRANSFIGURATION. **AMPLIFIERS:** ACCUPHASE, ADVANTAGE, BEL CANTO, CAT, DNM, GAMUT, HOVLAND, NAGRA, SONNETEER, SPECTRAL, SUGDEN. **LOUDSPEAKERS:** AUDIO PHYSIC, BKS, ETHOS, NEAT, TOTEM, VERITY AUDIO. **TUNERS:** ACCUPHASE, MAGNUM DYNALAB. **CABLES:** ARGENTO, CHORD CO., DNM, NORDOST, SILTECH, VERTEXAQ, YAMAMURA CHURCHILL ETC. **SUPPORTS:** ARCICI, KINABALU, STANDS UNIQUE

The Right Note

Music in the home



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Conclusion

For a reviewer who's been assessing hi-fi for too long to remember, the step up in sound quality offered by both DVD-A and SACD from CD is exciting. I could not choose between these new formats, although technically DVD has it and you'll find most engineers gravitating toward it. Initially I did too, because the supersonic noise of SACD looks bad on a spectrum analyser, but with audio it's important to listen and not just believe test instruments. And in this group both the Denon and Pioneer did an excellent job with SACD; I found them exciting to listen to. We all know Roxy Music's 'Avalon', but never with the sort of clarity and delicacy available from SACD, which produces less distortion on low level signals than DVD. I believe this is perceptible, since SACD does sound just incredibly naturally smooth, as well as solid and dynamic.

Not that anyone could accuse high resolution 24/192 DVD-A of sounding distorted. Rather, it is translucent and able to portray timbral detail like no other. It's early days to make definitive judgements, since few original 24/192 recordings currently exist. As new material becomes available, 24/192 DVD-A in glorious stereo will be something to listen to. The Denon, Pioneer and Panasonic players can all resolve 24/192 stereo and of these three I found both the Denon and Pioneer were equally dramatic in much the same way, with the Panasonic lagging behind as a little bland in comparison, but then the Panasonic is a staggeringly low £120 - I could barely believe this!

The Sony and Marantz players offered SACD and CD only. The Sony is a nice all rounder, doing a great job with CD and SACD for just £249. It has one of the easiest deliveries I have ever heard from CD, lucid but placid too. It's quite unlike a Sony, and all the better for it in my view! Entrancing in a simple fashion, it is delicately clear yet brings a great sense of depth. Sony has something special under the hood in this one

and it is well worth listening to if DVD leaves you cold.

I didn't get the expensive £1,400 Marantz until I heard it playing CD; then it became clear. Forget the CD6000 KIS - the SA17-S1 is far and away the best CD I have ever heard. Its resolution of CD was uncanny, seemingly able to get from the silver disc a sound that just isn't there. The SA17-S1 reminds me of how valve amps can sound different with different chassis metals, copper being the most prized. Well, the Marantz SA17-S1 has copper everywhere inside and this seems to me yet another example of Ken Ishiwata's knowledge and dedication in audio. As a result this player has the sweetest yet most atmospheric sound I've ever heard from CD. It isn't timbrally neutral but it is so detailed and refined, whilst at the same time being quite vivid, that even CD becomes quite an exceptional experience. Its ability to pull out piano and clearly convey its size and timbral range was both a delight and a beautiful experience. The SA17-S1 performs magic with CD; it is an extraordinary player, even by the highest standards. It consummately and magnificently exceeds them.

If you want the very best from CD and good results from SACD the Marantz SA17-S1 is the one to go for. For a less spectacular performance yet one that is lovely all the same, the next choice is the Sony SCD-XB790. If video turns you on however, then neither of these audio-only players will do. Whilst Panasonic's DVD-S75 is a good all-rounder and inoffensive it cannot match either the Pioneer or Denon players, both of which are in a class of their own. It's hard to choose between these two. The Pioneer is ahead in usability and features, it produces less distortion and gives a smoother sound than the Denon. All the same I liked the brighter and more dramatic SACD sound from the Denon and DVD-A was extraordinary. Both offer great results with DVD-A and SACD, but the Denon costs around £480 and the Pioneer around £800. For value the Denon

has it, but if you want direct digital connectivity then the Pioneer is the one to go for; it is the more specialised of the two.

High resolution audio is looking good, and I'm a complete convert. Some of these players sounded spectacular, way better than CD, and if you want it in stereo, they do it.



Denon DVD 2200



Marantz SA17 S1



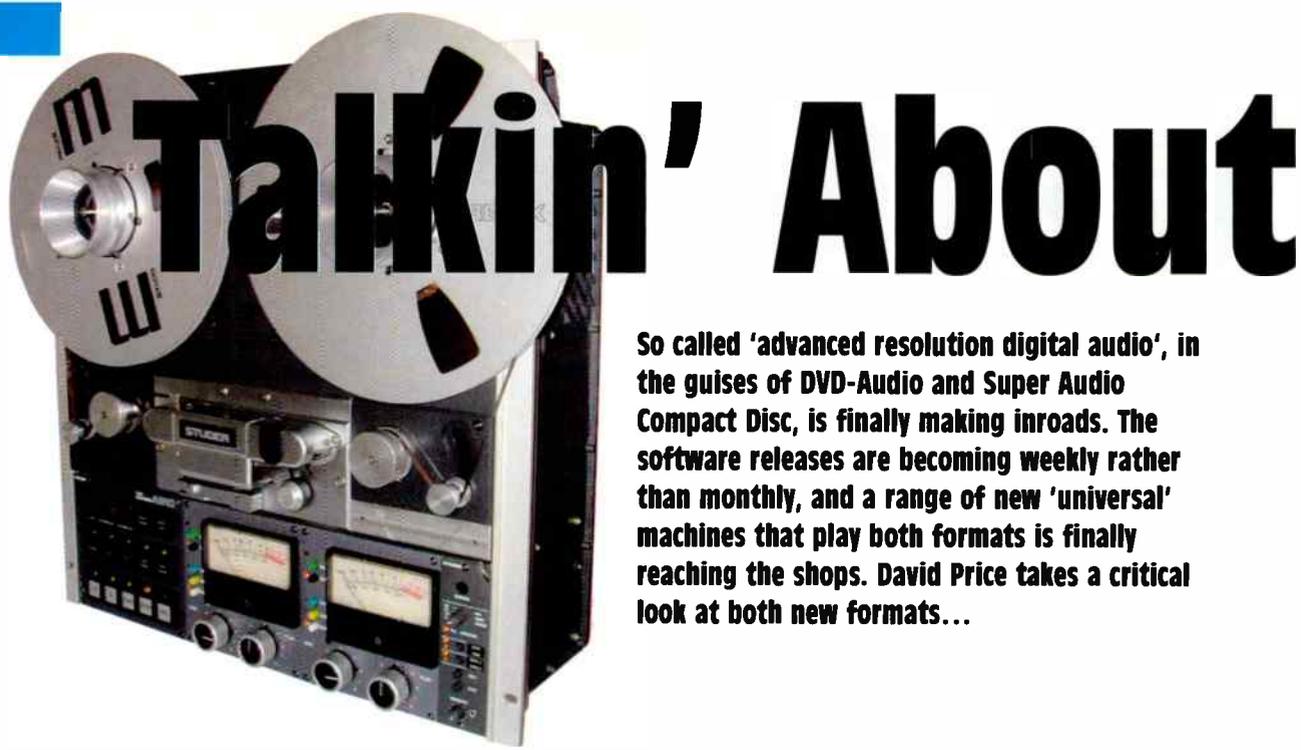
Panasonic DVD S75



Pioneer 868 AVi



Sony SCD XB790



So called 'advanced resolution digital audio', in the guises of DVD-Audio and Super Audio Compact Disc, is finally making inroads. The software releases are becoming weekly rather than monthly, and a range of new 'universal' machines that play both formats is finally reaching the shops. David Price takes a critical look at both new formats...

The phrase "pure, perfect sound, forever" still resonates around the audio industry. This is how Philips - co-developer of Compact Disc - described its brand new sixteen bit digital music format back in 1983. Amazingly, a single glimpse of the new 'laser disc' spinning at over six hundred times a minute was enough to bedazzle most music buyers, who unquestioningly accepted its makers' wishful claims about its sonics.

What followed was the sorry spectacle of the music industry repackaging and reissuing much of its back catalogue - often with very little care for the quality - and selling it at twice the price it had previously charged for plain old vinyl LPs, justifying it all with glib phrases like 'crystal clear digital sound'.

When chart vinyl LPs cost around £5.99, CD discs originally cost £10, and then soon went up to £12 a piece, only to stay that way for most of the eighties. It took a while for sales to pick up (just 300,000 discs were sold in Britain in 1983; source: BPI) but in 1989 CD had its watershed year. After holding steady

at around the 51 million mark for most of the eighties, LP sales dived to 37.9million. At the same time, Compact Disc sales soared from 29.2 to 41.7 million. The market had changed, and digital audio was our destiny...

Round about this time though, the almost universal view that it sounded 'perfect' began to change. Since the format's inception, some musicians, audio engineers and vinyl junkies had been saying that far from sounding just like the original mastertape, CD was a poor approximation. Musicians - from Neil Young to Lenny Kravitz - insisted on recording in analogue studios, arguing that digital was 'soulless' and 'analytical'. Then, amazingly, in 1996 sales of LP records started rising again. While no one disputed CD's convenience and ease of use, it was clearly not the universal panacea its makers had claimed. The race was on to find a new digital coding system that could offer a much wider window on the music.

East Asian markets. But thanks to its inherent flexibility, it was renamed Digital Versatile Disc and given a new, additional role as a possible music carrier.

Any new digital audio system would need to store far more data than the 700MB that CD was capable of. Back in 1983 this had seemed a massive amount of information but twenty years on it was paltry. The new DVDs, by comparison, offered anything from 4.7GB for a single sided, single layer disc to 17GB for a double sided dual layer disc. Finally in February 1999, something happened that could prove important for the future of recorded music - the final DVD Audio Disc Version 1.0 specification was announced.

Impressively far reaching, it offered high quality digital sound in a number of formats, including 16, 20 and 24 bit resolution PCM, with sampling frequencies spanning 44.1, 48, 88.2, 96, 176.4 and 192kHz. At its top 24bit, 192kHz resolution, DVD-Audio would have dramatically better performance than Compact Disc. Whereas CD has a theoretical frequency response of 20Hz-21kHz and a dynamic range of 96dB, DVD-A gives 2Hz-96kHz and 144dB of dynamic range - like the difference between a Lada and a Lamborghini!

There was also a multi-channel mode running at up to 24bit, 96kHz resolution, giving up to six channels of surround sound with over 74 minutes on the lowest capacity single-sided, single-layer DVD disc. This was all possible thanks to the

MAKING MOVIES - THE BIRTH OF DVD-A

In the mid nineties, ten leading consumer electronics companies came together as the DVD Forum to work on a new Digital Video Disc. The group, comprising Matsushita, Mitsubishi, Pioneer, Toshiba, Hitachi, Sony, JVC, Thomson, Time-Warner and Philips originally had the intention of replacing Laser Disc, which had proved enduringly popular in South



DVD FORMATS	
DVD-Video	playback only video
DVD-ROM	read-only data storage
DVD-RAM	read-write data storage
DVD-R	re-recordable video
DVD-Audio	playback multi-channel audio

DIGITAL DISC COMPARISONS	
MD	0.14GB
CD	0.65GB
DVD single sided, single layer	4.7GB
SACD single sided dual layer	8.5GB
DVD double sided, dual layer	17.0GB

The Resolution

dramatically enlarged storage capacity the new DVD discs had, plus the provision for 'lossless packing'. Developed by Meridian's Bob Stuart, Peter Craven and the late Michael Gerzon, Meridian Lossless Packing (MLP) allowed music data to be stored in a compressed form which could be subsequently decompressed during playback with no quality degradation.

SUPER SONIC - SACD ARRIVES EARLY

While DVD-Audio was an unexpected – albeit very welcome – offshoot from a project to replace Laser Discs, Sony and Philips were also planning an upgrade to their ageing and now brilliantly successful baby, CD – a technology whose patents would one day expire, leaving the two giants without a major source of revenue. To wit, Super Audio Compact Disc (SACD) was announced – a bespoke audio format used the DVD platform but was not compatible with DVDs.

Confusingly though, it didn't offer obviously superior or inferior specs, because it used a completely different digital coding system to that found in both DVD-A and CD.

Rather than the Pulse Code Modulation (PCM) system, where 16, 20 or 24bit samples are taken at high speed, the new Direct Stream Digital (DSD) approach took far smaller 1bit samples at a far higher speed of 2.8224MHz. This gives a frequency range of up to 100kHz (better than DVD-A) and a dynamic range of 120dB (not quite as good).

Like DVD-Audio, SACD offers impressive multi-channel capability, but unlike its rival format, it doesn't need to drop the quality when carrying surround sound information. Six full channels of high resolution audio playback can be provided, along with a separate, studio-mixed 2 channel version of the same music on the same disc. Playback can consist of 3 channel, 4 channel, 5 channel or S.I channel, depending on what the artist/producer wants to achieve musically. Furthermore, with

the hybrid disc option, an additional CD layer will offer the same recording in CD quality, for replay on conventional CD players.

TWO TRIBES

Like the proverbial London buses, after over a decade and a half of yearning for a serious sonic rival to LP, suddenly two came along at the same time. And of course, hi-fi being what it is, they were incompatible, forcing buyers to make a decision about which format to invest in. Comparisons between early machines were fascinating. The first raft of DVD-Audio players from Denon sounded profoundly different to the first generation SACD machines from the likes of Sony. Although the lack of parallel software releases (on both DVD-A and SACD) prevented direct comparisons, enthusiasts began to characterise SACD as warmer and sweeter sounding than DVD-A – in some way akin to LP. The latter seemed apparently more dynamic and crisp – almost like a 'turbocharged' CD. The fact that companies famous for a more beguiling sound, such as Musical Fidelity, migrated to SACD, while the likes of Meridian – with its characteristically open and neutral flavour –

went with DVD-A only reinforced the point.

Ultimately though, the sound of the formats is determined by both the theoretical attributes of the digital coding technique and the quality of the studio mastering. DVD-Audio's Pulse Code Modulation (PCM) coding system gives a very wide bandwidth and excellent resolution and dynamic range, but generates unwanted signals around its sampling frequency (44.1kHz in the case of CD, 192kHz for DVD-A). Were this not completely eliminated from the audio signal, it would play havoc with a hi-fi's electronics, so a very heavy 'brick wall filter' is applied, which simply chops off all the signal above half the sampling

In the beginning, advanced digital players were either/or. Marantz's SA-1 is probably the best SACD spinner ever made, but it won't play DVD-A...



CD

16 bit, 44.1kHz sampling frequency
Two channel stereo at 6.144Mbps
'enhanced' multimedia capability
SCMS (Serial Copyright Management System) built into subcode
96dB signal/noise ratio, 20Hz-20kHz frequency response

DVD-AUDIO

16, 20 or 24 bit PCM at 44.1, 48, 88.2, 96, 176.4 or 192kHz sampling frequency
Up to six channels with a transfer rate of 9.6Mbps maximum. MLP option.
Supplemental information storage, including album title, song titles, artist data, artist discography, plus URLs
No regional coding, unlike DVD-Video
Optional audio format facility (i.e. SACD)
Not compatible with conventional CD or DVD video players
optional 'watermarking' (copyright protection) encoded into the musical data
144dB signal/noise ratio, 2Hz-96kHz frequency response

SACD

1bit DSD at 2.8224 MHz sampling frequency
Up to six channels with a transfer rate of 2.8Mbps – option of carrying both multi-channel and two channel mixes on the same disc
Hybrid disc option offering 16/44 PCM stereo playable on any standard CD player
No 'watermarking' - copyright protection is kept separate from musical data
120dB signal/noise ratio, 2Hz-100kHz frequency response

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Sam Tellig - Stereophile, Nov 2003



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frequency. In the case of CD, this is 22kHz (i.e. 44.1kHz/2), and with DVD-A at maximum resolution it's 96kHz.

The trouble is that this is a bit like using a hammer to crack a nut, as the filtering just lops off the top of the audio signal, and because it's notionally above the limit of human hearing, it's assumed it's inaudible. Marantz's Ken Ishiwata argues this creates all sorts of problems, which can be perceived as midband harshness and a lack of smooth, natural treble. This is obvious with CD (it has a 'brightly lit' upper mid, even with the best of players), but even 24bit, 96kHz DVD-A shows a slight metallic ting in the treble and loss of atmosphere. 192kHz is obviously smoother still, but some commentators such as DPA's Rob Watts have ventured that to truly get around PCM's inherent limitations, a sampling frequency of 'at least 384kHz is needed'.

SACD uses Direct Stream Digital, however, which works in a way that doesn't require it to chop off all the music's extended high frequencies. By taking tiny 1 bit samples at dramatically higher sampling rates, it gets round the need for brick wall filtering. This means it can offer an incredibly wide range without any intrusive effects of filtering, giving a more natural high end performance - in theory, at least.

Digital experts like Professor Malcolm Hawksford of Essex University have said that the system simply doesn't work at high enough sampling frequencies to give decent resolution. He says this is particularly obvious in the treble range, which is - of course - where the ear is most sensitive. While DSD achieves better than 20-bit PCM performance at low frequencies, further up the range the resolution goes right down. Rob Watts told us that, "most of DSD's 2.8 million pulses per second are needed just to reach 16bit standard, let alone better it".

Another problem is more practical - not all SACD players are pure DSD. Some 'DVD universal' players convert DSD to PCM for digital signal processing!

HEAR AND NOW

Both formats are flawed in theory, then. But the fact is that the early SACD releases, and the players themselves seemed to be more euphonic and 'agreeable' sounding. Some DVD-A spinners, by comparison, could be quite acerbic. The advent of the dual format 'universal' players show that SACDs

THE SOFT MACHINE

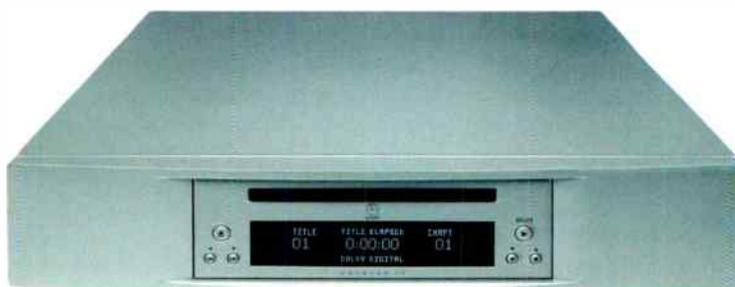
Unsurprisingly, Sony Music has been very much behind SACD, while Warner Brothers (WEA) has been the driving force behind DVD-Audio. Universal Music Group (UMG) originally pledged its support for SACD but has just shipped its first DVD-Audio titles. EMI has released a good few DVD-As, and has now subcontracted DTS Entertainment (famous for its premium quality DVD-A surround mixes) for more production, with EMI taking care of the global distribution. Other than its famous Elvis Presley 'Best of' release, BMG has been quiet on the high res release front, but is now launching a raft of new music titles featuring both 'classics' and new music (such as Foo Fighters, Outkast, etc.). There are over 250 titles right now, but this isn't enough to prompt most people to buy into the new technology, which in turn doesn't predispose software companies and labels to launch new high resolution discs. Still, some artists have got behind the format. Frank Zappa's latest release comes only on DVD-Audio, while Graham Nash's 'Songs for Survivors' was released only on DVD-Audio in the UK. REM's greatest hits compilation has come out simultaneously on DVD-A and CD. Meanwhile, Sting's new 'Sacred Love' SACD has become the most successful ever multi-channel surround sound recording within days of release, shipping more than 600,000 copies. Things are happening apace, but it's still very early days for 'advanced resolution digital audio' all the same.

consistently sound more 'analogue-like', which happens to be how most people like their music. Still, the mastering quality of both DVD-A and SACD releases can vary dramatically - some discs of either type are quite poor transcriptions, and others quite superb, with little obvious correlation between the sound and the format!

Ultimately, the relative technical and sonic merits of these two formats is for audiophiles to pontificate across bar tables the world over. What really matters is whether the general, music buying public take to either format. The advantage DVD-A has is its 'installed base' of DVD players - at the end of 2003, there are around 12.2 million machines in the UK. These will all play DVD-A discs, but not at full 24/96 (or 192) resolution. By contrast, a world total of 4 million SACD machines is expected by April

2004. The fact is that SACD is a more specialist, niche format selling to those who want to replace their music CDs, whereas DVD-A tends to sell to those who want to get serious music from their existing DVD machines. So with the numbers stacked against them, why do Sony/Philips persist with SACD? A noble love of a sonically superior format, perchance? Well, cynics point out that while DVD-A discs can be copied relatively easily - certainly the DVD video section of the discs, which DVD-A also uses - SACD's copy protection is still nigh on impossible to 'crack', making it a dreamboat for a music software industry that's been left on the ropes by CD piracy and MP3 ripping. While selling SACD machines is very much an uphill task, it makes a whole lot of sense for the 'music manufacturers'...

...we're now witnessing the rise of DVD universal players, such as Linn's Unidisk, which read DVD-A and SACDs - but some SACD purists aren't convinced...



Master Mind



Patrick Cleasby talks to Simon Heyworth about the past, present and future of high resolution digital audio mastering.

It takes a brave soul to nail his colours firmly to the mast of a new format. From the baptism of his new concern 'Super Audio Mastering', you might think that Simon Heyworth is one such man, as the name might be taken to imply that SACD mastering is the only game here. As ever, the truth of the matter is not so black and white, and while it is undoubtedly true that Simon is a keen advocate of Direct Stream Digital, he's pragmatic enough to use whatever tool is appropriate for a given job.

Simon is well known in the music industry for what are essentially three separate career phases. From engineering the original 'Tubular Bells'; through to over a decade spent as a digital mastering and restoration guru while at Chop 'Em Out (later Sanctuary Mastering); and finally the nascent operation in rural Devon, coupled with regular trips to fellow DSD proponents Galaxy studios in Belgium, Simon has always been at the forefront of technical advancement.

In the relaxing environs of Simon's mastering room we discussed his move into the world of DSD, and his subsequent pursuit of the best means by which to harness the abilities of DSD to capture, retain, and sometimes create that

sense of "air" (a phrase he uses repeatedly) which makes listening to a good, well-mastered recording a magical experience. Having been convinced by Sony's early live demos of DSD technology, Simon rapidly moved into pioneering mode.

PIONEERING STUFF

"I said to David Kawakami at Sony, 'David, how would you like to do Tubular Bells in Surround?' I could get the original quad mix - I had already made some investigations and spoken to EMI, who said, 'What? You mean we can put this out on a disc? What's it called? Super Audio CD. What a good idea!') I went over to Sony's test site at Airshow Mastering in Bolder, Colorado, and worked with Gus Skinas, who looked after all the early DSD stuff for Sony, and I stayed there for four or five days, having taken the 4 track master over. Airshow's engineer David Glasser and Mickey Hoolihan from 'Wind over the Earth' (A next-door hi-fi business) provided some great kit. A four track Ampex with Ayre Acoustic preamps, we also used Millennia EQ.

Putting an SACD together at this time was really proprietary technology, essentially using the prototype Sony Sonoma DSD workstation. It was 'will it, won't it' work, flying by the seat of your pants.

I did it just like mastering a vinyl album, but straight onto DSD using Meitner converters. The more I did this, the more I realised this was how it was all going to go, and having experienced surround in American studios I bought my M&K monitors. I thought this was the future, and bought loads of DTS discs in America. I was thinking, 'I'm going to enjoy the next 10 years, it's going to be really interesting because we're going to hear all these amazing recordings exactly as they were meant to be, we're going to listen to some fantastic performances and get off on them'. It's about performance, people playing real stuff in real air, and somehow we're able to capture that again, analogue tape does it and so does DSD".

MAKING MAGIC

Then along came the 'One Giant Leap' DVD-Video, and Simon trails his comment with, "this may sound completely mad"... "We mastered it, it came off a DA-88 (multitrack 16/48 PCM device regrettably much beloved by the film and DVD industry for porting 5.1 mixes around - PC) so we D-A'd it with dCS conversion, and then we went analogue, and recorded all the digital audio, mastered, onto the Sonoma. At the same time we came out again,

downsampled to 48k at 24bit onto a SonicStudio HD workstation. But, what had happened here? Well, we had actually gone DSD, and if you A-B'd between the original and the finished thing suddenly it was all real people playing real instruments again, which it wasn't at 16/48. So you tell me - what's going on? I have no idea. But all I know is that it sounds much better, and suddenly it's all there again, and what is more important everyone else could hear this and enjoy it. Suddenly the project took on a renewed enthusiasm".

THE FUTURE

"I believe that DSD will become pretty much core technology for mastering facilities, and that this what we will be using. People may not know it and people may not care really, but that is what we are using here. We have a number of projects where we just go straight to DSD and just downsample to 44.1 stereo for CD, either using SBM direct or using the dCS 974 DSD to 44.1 conversion with noise shaping or dither or whatever."

There's a school of thought in the audiophile community which subscribes to the view that a DSD end-product should be untainted by any PCM stages in its production and vice versa. While Simon accepts that in some DSD classical recordings this may be achievable, real life in the rock world means that new surround projects can come in for mastering as six channels of DSD, be processed in the analogue domain and then returned to DSD for submission to replication and archiving. Equally, jobs arriving as 24/96 PCM might easily end up being spun out to analogue tape if listening reveals that an analogue stage might breathe that magical air into the recording:

"The purists may not like some of this, but I'm afraid that it's the reality of life. What's being produced now in Pro Tools, etc. sounds absolutely fabulous, there's no doubt about it, and some projects, weirdly enough, don't need to be taken back into the analogue domain, depending on the type of recording, you may want to keep it in the digital domain and just upsample it if you're going to go SACD. We have done everything, done it every which way, I've done 24/96 mastered digitally, using Z Systems EQ and dynamics control, then upsampled to DSD using the DCS 974, and that's the end of it, done, finished. We've also done 24/96 that perhaps sounded a bit crunchy and needed a bit more analogue so we went into the analogue world using valves and Class A electronics".

THE JOY OF ANALOGUE

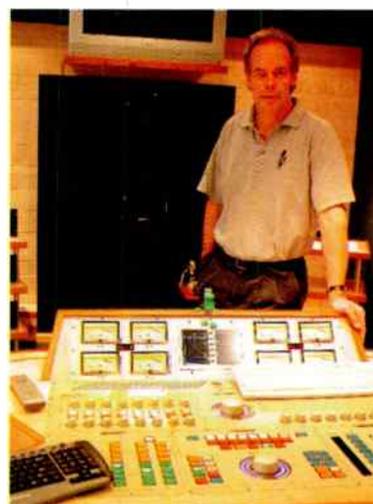
Simon feels that after a period of stasis,

the market for transferring legacy analogue recordings to the new high resolution formats has led to a resurgence of development in the world of analogue electronics, taking many cues from the hi-fi world. "There wasn't much being done until DSD really started – the electronics companies producing good quality kit started going. "Right, we need to really think about it, so let's get into this and make it more hi-fi".

This has led to Simon having his Ampex fitted out with Aria electronics, currently the only one of its type in Europe, meaning that analogue to digital transfers can be done without losing any of that analogue magic or that the bouncing of digital masters to analogue can introduce. While I was in the studio I heard newly remixed legacy material played straight out of the Aria, and it was goosebumps time. I also heard recent Aria-to-DSD transfers of legendary previously-thought-lost first generation masters playing straight out of the Sonoma, and there is a spine-tingling realism listening to 35 year old music on Simon's TDL stereo monitors. We used to listen to such treasures in a nasty 80's technology-mangled approximation, and we can now hear it not just as if it were recorded yesterday, but as if there was a bass clarinet player in your living room!

As far as 21st century recordings go, I got a preview blast of Feeder's new SACD which sounds like it is going to be a very impressive proposition, and I also heard the master of one of Simon's Galaxy-related projects, German trumpeter Christoph Titz' new hybrid multi-channel disc 'Magic' on newly formed dedicated SACD label Parashoot Records (www.parashoot.de), an album of diverse musical styles with a very discrete mix and a lovely warm analogue sound, as the mix was ported using analogue tape. Definitely one to seek out.

Despite disavowing the existence of a format war, it is apparent that working out where to stand in the current environment of titles which can be SACDs in Europe while being putative DVD-Audios in the States, can give Simon the impression of being piggy in the middle. He sensibly skirts any potential for tension by describing his operation as merely one of service provision. People get what they ask for, be it SACD masters, high resolution PCM files for DVD-Audio or Dolby Digital encoded for DVD-Video. The central tenet in all this work is simply that the best endeavours are made to use the best path at all times, and decisions are always made using the best bits of analogue kit available – ears and brains.



Great **HI-FI** WORLD'S COMPETITION Giveaway

WIN **SUGDEN'S FANTASTIC HEADMASTER HEADPHONE AMPLIFIER/ PRE AMPLIFIER** WORTH £600 IN THIS MONTH'S SUPER COMPETITION!

Competition Questions

[1] What is a Sugden Headmaster?

- [a] A senior scholastic person called Sugden
- [b] A headphone amplifier/ preamplifier
- [c] A box of chocolates
- [d] A slice of cheese

[2] in this context, what is sculpted?

- [a] the HeadMaster's casework
- [b] a Grecian Urn
- [c] the figure of Angela Jolie
- [d] the brow of Tom Cruise

[3] What has Teflon inserts?

- [a] Tony Blair
- [b] Alistair Campbell
- [c] Peter Mandelson
- [d] The HeadMaster's phono socketry

[4] What top preamp does the Headmaster compare with?

- [a] the Linn LK1
- [b] the Naim NAC12S
- [c] the MF Audio Passive Preamp
- [d] the NAD 3020A's pre-amp section

February Competition
Hi-Fi World Magazine
Unit G4 Argo House
The Park Business Centre
Kilburn Park Rd.
London NW6 5LF

Here's a great chance to win one of the most interesting and unusual bits of kit we've reviewed in months. Sugden's Headmaster is a Pure Class A preamplifier with remote volume control, that doubles as one of the very best headphone amplifiers around. In Hi-Fi World's review last month, David Price was most impressed – here's what he said...

"The HeadMaster gets all the stops pulled out. The sculpted casework (measuring 230x265x82mm and weighing 3.5kg) is precision engineered from high quality aluminium. Inside, the

amplifier configuration is pure Class A, constructed completely from discreet components. The inputs are selected through a logic operated relay circuit to keep the input signal paths as short as possible. The relays used are twin gold contact bifurcated crossbar types with a claimed contact resistance of less than 0.05 ohms. These relays are used in all Sugden high end preamps. The single ended phono connectors are all high quality individual, gold plated connectors with Teflon inserts. A basic plastic-finished remote control completes the package.

The MF Audio passive preamplifier I usually use – and very fine it is too – was elbowed aside and the gleaming Sugden plugged in. I found it brighter than the MF, which is itself very much on the dull side of neutral. The Sugden errs very slightly the other way – it's smooth and sweet alright, but quite 'well lit' and will certainly brighten up any sullen sounding power amp or speaker. There's a lot of detail, grip and incision – and it rather confirmed suspicions that the MF tends to sit on dynamics ever-so-slightly (as indeed do all passive preamps, methinks). Kraftwerk's 'Tour de France Etape 1' proved brilliantly



engaging with my reference Quad 909. Indeed it gave it 'a kick up the pipe and slippers', if you get my drift. With more life and bounce than the MF Audio (no mean feat, considering the latter's £1,499 price tag), it really sang. There's certainly none of that saccharine sweetness that you get from classic class A designs like Musical Fidelity's A1 – the HeadMaster doesn't smooth down rough edges one bit. The result is quite a forensic sound – it keeps digging for detail and dynamics, rather than serving up a contrivedly coloured sound. At £599 it is excellent."

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

Hi-Fi World Competition rules and conditions of entry

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

CONGRATULATIONS

...to Mr. Anthony Symcox of Stoke-on-Trent, Staffs, the winner of our December 2003 competition. A Roksan Radius 5 Turntable is on its way to you!

Sevenoaks SOUND & VISION



Sevenoaks Sound & Vision stocks a wide range of Hi-Fi separates, DVD players, amplifiers, speakers, plasma screens, LCD televisions and projection systems from all the leading manufacturers.

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0% interest free option* is available on most products.

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

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NEW STORES NOW OPEN



STAINES & WEYBRIDGE

We are pleased to announce, the new stores in Staines and Weybridge are now open. Contact details for these stores are as follows:-

- **WEYBRIDGE**
43 CHURCH STREET,
THE QUADRANT
01932 828525
- **STAINES**
4 THAMES STREET
01784 460777



www.sevenoakssoundandvision.co.uk

WINTER SALE

20/12/03 - 31/01/04

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www.sevenoakssoundandvision.co.uk

CHRISTMAS OPENING HOURS

SUNDAY • 21 DECEMBER
MOST STORES OPEN

CHRISTMAS DAY
ALL STORES CLOSED
HAPPY CHRISTMAS!

BOXING DAY
ALL STORES CLOSED

SUNDAY • 28 DECEMBER
MOST STORES OPEN

NEW YEAR'S DAY
ALL STORES CLOSED
HAPPY NEW YEAR!

MANY STORES WILL CLOSE EARLY ON CHRISTMAS EVE AND NEW YEAR'S EVE

PLEASE CONFIRM OPENING HOURS BEFORE TRAVELLING

SUNDAY OPENING

Many of our stores are open on Sundays during December and January.

FOR UP-TO-DATE INFORMATION, PLEASE CALL YOUR LOCAL STORE OR VISIT OUR WEBSITE.

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BRIGHTON
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HOLBORN
HULL
IPSWICH
KINGSTON
LEICESTER
LEEDS
LINCOLN
LIVERPOOL
MAIDSTONE
MANCHESTER
NEWCASTLE
NORWICH
NOTTINGHAM
OXFORD
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PLYMOUTH
POOLE
PRESTON
READING
SEVENOAKS
SHEFFIELD
SOLIHULL
SOUTHAMPTON
SOUTHGATE
STAINES **NEW**
SWANSEA
SWINDON
SWISS COTTAGE
TUNBRIDGE WELLS
WATFORD
WEYBRIDGE **NEW**
WITHAM (ESSEX)
WOLVERHAMPTON

PLEASE SEE PAGE 7
FOR ADDRESS AND TELEPHONE
NUMBER DETAILS

20/12/03 - 31/01/04



HI-FI SEPARATES

MICHELL GYRO SE
TURNTABLE / RB300 TONEARM
SALE £1049.95



WHAT HI-FI?
SOUND AND VISION
Best Buy
2003
HOME CINEMA AWARDS

"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."

SALE CLAIM £50 TOWARDS THE
CARTRIDGE OF YOUR CHOICE*



SALE SYSTEM PRICE
£949.95

PRICE EXCLUDES CABLES & STANDS



WHAT HI-FI?
SOUND AND VISION
Best Buy
2002

PRO-JECT 1 XPRESSION
TURNTABLE (BLACK) SALE £209.95



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

WHAT HI-FI?
SOUND AND VISION
Best Buy
2003
HOME CINEMA AWARDS

SALE INCLUDES FREE GOLDRING EXSTATIC CLEANER*

ARCAM CD73T CD PLAYER £399.95



WHAT HI-FI?
SOUND AND VISION
Product
of the year
2003
HOME CINEMA AWARDS

SALE INCLUDES FREE INTERCONNECT CABLE WORTH £60*

HI-FI SYSTEM 1 SAVE £149



FREE
PRO-JECT DEBUT II TURNTABLE*

ROTEL
RCD-02 CD PLAYER
RA-02 AMPLIFIER
B&W
DM601 S3 SPEAKERS

Rotel electronics and B&W speakers are natural partners for each other, giving excellent sound quality and stunning looks. So what better than this combination of class-leading detail with an even and robust sound.

But at Sevenoaks we always aim to offer you more and this means What Hi-Fi? Sound and Vision's Award-winning Project Debut II turntable is thrown in FREE.

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

experience more

experience more

experience more



MARANTZ

CD5400 CD PLAYER

SALE £119.95 SAVE £30



MARANTZ

PM7200 AMPLIFIER

SALE £269.95 SAVE £60

"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."



PURE DIGITAL

DRX-702ES ANALOGUE/DAB TUNER

SALE £299.95 SAVE £30

£

PRICING POLICY

We always try to ensure our prices are highly competitive.

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

0%

FINANCE OPTION*

Spread the cost of buying.

0% finance option is available on the vast majority of products we stock.

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

Please Note: Some products may not be available at all stores. Please call before travelling. *Cable Offer - From range available in-store. Not in conjunction with any other offer. Advertisement valid until at least 31.01.04, E&OE.

HI-FI SYSTEM 2

MUSICAL FIDELITY A3 CD PLAYER & AMPLIFIER

MONITOR AUDIO

SILVER S8 SPEAKERS

One of our most popular systems at an amazing sale price. Full-scale dynamics with a lightness of touch makes this combination stand out.



SYSTEM PRICE
£2399.95

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

SAVE £379

MISSION

780 SE SPEAKERS

SALE £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? Feb 03
SOUND AND VISION

★★★★★

SALE INCLUDES SPEAKER CABLE
WORTH £50 FREE OF CHARGE*



MISSION

782 SE SPEAKERS

SALE £899.95

"Well, with the exception of the alderwood-veneer finish, these floorstanders look identical to the standard model, although there's a new tweeter and crossover design. One of the advantages of the three-way configuration is that each driver deals with only a narrow section of the frequency range, and the designers optimise each unit to perform its respective task. Mission's

engineers have excelled in this area: these elegant floorstanders sound beautifully balanced and few rivals under £1000 can match their wonderful levels of clarity. The 'special edition' tag is overused but these talented floorstanders are bona fide sonic stars."

WHAT HI-FI? June 03
SOUND AND VISION

★★★★★

INCLUDES SPEAKER CABLE
WORTH £100 FREE OF CHARGE* **SALE**



SAVE £169

HI-FI SYSTEM 3

ROKSAN

KANDY KD1/III CD PLAYER
KANDY KA1/III AMPLIFIER

QUAD

11L SPEAKERS

SALE SYSTEM PRICE
£1399.95
PRICE EXCLUDES CABLES & STANDS



If you're after detail and excitement in your music then this system's for you. Here we've combined the Quad 11L speakers - Product of the Year 2002/2003 - with Roksan's double Award-winning Kandy KA1/III amplifier and its ideal partner, the Kandy KD1/III CD player.

Awarded five stars in a recent What Hi-Fi? Sound and Vision group test, the Kandy KD1/III CD player was described as "offering a great array of talents - team it with its amp stablemate and you have something close to the ideal visual and sonic combination."

But don't just take our word for it; come in for a listen.

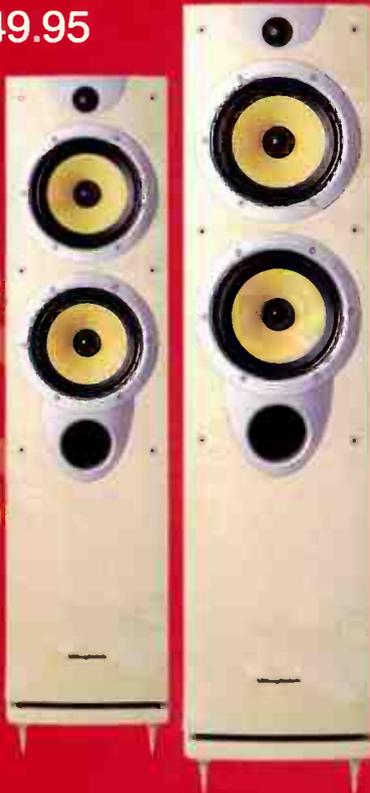
HI-FI SYSTEM 3 - NOT IN CONJUNCTION WITH ANY OTHER OFFER OR PROMOTION

**WHARFEDALE PACIFIC
EVOLUTION 30 SPEAKERS
SALE £649.95**

"Evolution? This is more like a revolution: Wharfedale's new range is more than an upgrade of its Pacific series.

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

You'll have gathered by now we love the Evolution 30s. They're beautifully made and great all-rounders."



SALE INCLUDES SPEAKER CABLE WORTH £80 FREE OF CHARGE*

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HI-FI SYSTEM 4

SAVE £399

**CYRUS CD8 CD PLAYER & 8 AMPLIFIER
MONITOR AUDIO SILVER S6 SPEAKERS**

Another very popular combination that's more than the sum of its already talented parts - and that's before you've examined the upgrade options. The CD8 is a magnificent player (Best Buy - What Hi-Fi? Sound and Vision Awards 2003) and like most Cyrus products its performance can be maximised with the addition of a Cyrus PSX-R power supply

The beautifully crafted Silver S6 speakers from British speaker specialists Monitor Audio complete the package.

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



SALE SYSTEM PRICE
£1999.95
PRICE EXCLUDES CABLES & STANDS



experience more

experience more

experience more



LINN CLASSIK ▽ MUSIC SYSTEM (EX SPEAKERS) SALE £749.95 SAVE £100

The Classik sounds simply marvellous. Boasting fine impact and drive, it retains its grip even as it thumps out rock and pop 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.



YAMAHA CDR-HD1300 CD-RW/HD RECORDER SALE £499.95 SAVE £30



PIONEER PDR-609 CD-RW RECORDER SALE £159.95



DENON DM31 ▸ UD-M31 CD RECEIVER SALE £184.95 SAVE £45

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: DMR-M31 MINICD RECORDER / DM-M31 CASSETTE DECK
MSRP INCLUDES SPEAKERS



HI-FI SYSTEM 5 SAVE £169

ARCAM CD73T CD PLAYER & A65 PLUS AMPLIFIER MONITOR AUDIO BRONZE B2 SPEAKERS



SYSTEM PRICE
£799.95
PRICE INCLUDES SPEAKERS & FRAMES

Arcam and Monitor Audio 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 Monitor Audio's beautifully balanced 'Best Buy' Bronze B2 speakers. According to What Hi-Fi? Sound and Vision (Awards 2003), these compact speakers "Sound superb... Speakers don't get much better than the B2s."

HI-FI SYSTEM 5 - NOT IN CONJUNCTION WITH ANY OTHER OFFER OR PROMOTION



Sevenoaks SOUND & VISION

WINTER SALE

20/12/03 - 31/01/04



PRODUCT RANGE

An outstanding selection of products are on display and available for demonstration at all Sevenoaks Sound & Vision stores. However, some products may not be available at all stores.

Please call to check availability before travelling.

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Michell TechnoDec	£ SALE
Project Debut Phono S/B	£ SALE
Project Debut II (Black)	£ SALE
Project Debut II (Colours)	£ SALE
Project 1 Xpression FREE EXSTATIC CLEANER*	£209.95
Project RPM4	£ SALE

TUNERS

Arcam DIVA T61	£ SALE
Cyrus FM X	£ SALE
Denon TU260L MKII	£99.95
Marantz ST4000	£ SALE
Pure Evoke 1 DAB	£89.95
Pure DRX-701ES DAB	£ SALE
Pure DRX-702ES Analogue/DAB	£299.95

CD PLAYERS

Arcam DIVA CD73T FREE £60 INTERCONNECT*	£399.95
Arcam DIVA CD82T	£ SALE
Arcam DIVA CD93T	£ SALE
Arcam FMJ CD33T	£ SALE
Cyrus CD6	£ SALE
Cyrus CD8	£ SALE
Denon DCD485	£119.95
Linn Genki	£ SALE
Linn Ikemi	£ SALE
Marantz CD5400	£119.95
Marantz CD177/H M	£ SALE
Meridian 507	£ SALE
Musical Fidelity A3.2	£ SALE
Musical Fidelity A308*	£ SALE
Musical Fidelity Tri-Vista SACD	£ SALE
Quad 99 CD-P	£ SALE
Roksan Kandy KD1 MKIII	£ SALE
Roksan Caspian M	£ SALE
Rotel RCD02	£ SALE
Rotel RCD1072	£ SALE

RECORDERS

Pioneer PDR609 CD-RW	£159.95
Sony RCDW3 CD-RW	£169.95
Yamaha KX393 Cassette Deck	£99.95
Yamaha KX580SE Cassette Deck	£179.95
Yamaha CDR-HD1300 CD-RW	£499.95

AMPLIFIERS

Arcam DIVA A65 Plus	£ SALE
Arcam DIVA A80	£ SALE
Arcam DIVA A85	£ SALE
Arcam DIVA A90	£ SALE
Arcam FMJ A32	£ SALE
Cyrus 6	£ SALE

Cyrus 8	£ SALE
Cyrus Pre X Pre	£ SALE
Cyrus Mono X Power	(Each) £ SALE
Denon PMA355	£189.95
Linn Kolector Pre	£ SALE
Linn LK85 Power	£ SALE
Marantz PM4400	£ SALE
Marantz PM7200	£269.95
Musical Fidelity A3.2	£ SALE
Musical Fidelity A3.2 Pre	£ SALE
Musical Fidelity A3.2 Power	£ SALE
Musical Fidelity A308	£ SALE
Musical Fidelity Tri-Vista 300	£ SALE
Quad 99 Power	£ SALE
Roksan Kandy KA1 MKIII	£ SALE
Roksan Caspian M	£ SALE
Rotel RA-01	£ SALE
Rotel RA-02	£ SALE
Rotel RA-1062	£ SALE

SPEAKERS

Acoustic Energy Aegis Evo One	£ SALE
Acoustic Energy Aegis Evo Three	£ SALE
Acoustic Energy AE1 MKIII (From)	£ SALE
B&W DM303	£ SALE
B&W DM601 S3	£ SALE
B&W DM602 S3	£ SALE
B&W 705	£ SALE
KEF Q1	£ SALE
KEF Q4	£ SALE
KEF XQ1	£ SALE
Linn Katan	£ SALE
Linn Ninka	£ SALE
Mission m31	£ SALE
Mission 780SE £50 FREE CABLE*	£349.95
Mission 782SE £100 FREE CABLE*	£899.95
Monitor Audio Bronze B2	£ SALE
Monitor Audio Silver S1	£ SALE
Monitor Audio Silver S6	£ SALE
Monitor Audio Gold Reference 10	£ SALE
Monitor Audio Gold Reference 20	£ SALE
Quad 11L	£ SALE
Quad 12L	£ SALE
Quad 22L	£ SALE
Ruark Epilogue II	£ SALE
Wharfedale Pacific Evolution 30 £80 FREE CABLE*	£649.95

HI-FI SYSTEMS

Denon 201 Ex Speakers	£499.95
Denon DF101 Ex Speakers	£299.95
Denon DM31 Ex Speakers	£184.95
Linn Klassik Music Ex Speakers	£749.95
Onkyo CS210 Ex Speakers	£ SALE
Teac Legacy 600 Ex Speakers	£199.95
Teac Reference 300 Ex Speakers	£449.95
Teac Reference 500 Ex Speakers	£569.95

DVD SYSTEMS

Denon ADV-M71 Ex Speakers	£ SALE
Denon ADV1000 Ex Speakers	£ SALE
Jamo DVRS0/A305PDD	£ SALE
Jamo DVRS0/A355PDD	£ SALE
Linn Klassik Movie Ex Speakers	£1299.95
Linn Klassik Movie D1 Ex Speakers	£ SALE
Onkyo DR-S2.2 Ex Speakers	£ SALE
Panasonic SC HT1000	£ SALE
Pioneer NS-DV99	£ SALE
Teac Legacy 700/LS-L800 Speakers	£849.95

DVD PLAYERS

MAKE & MODEL	REGION 2	MULTI REGION
Arcam DIVA DV78	£ SALE	£ SALE
Arcam DIVA DV88 Plus	£ SALE	£ SALE
Arcam DIVA DV89	£ SALE	£ SALE
Cyrus DVD8	£ SALE	£ SALE
Denon DVD-1400 Universal	£ SALE	£ SALE
Denon DVD-2200 Universal	£ SALE	£ SALE
Denon DVD-2900 Universal	£ SALE	£ SALE
Denon DVD-A1	£ SALE	£ SALE
Harman Kardon DVD21	£ SALE	£ SALE
Harman Kardon DVD25	£ SALE	£ SALE
Marantz DV4300	£189.95	£189.95
Pioneer DV360	£89.95	£109.95
Pioneer DV464	£89.95	£119.95
Pioneer DV565A Universal	£179.95	£209.95
Pioneer DV668Av Universal	£ SALE	£ SALE
Pioneer DV868Av Universal	£ SALE	£ SALE
Tag McLaren DVD32FLR	£ SALE	£ SALE
Teac DV50	£ SALE	£ SALE

Toshiba SD330E	£79.95	£99.95
Wharfedale DVD M3	£69.95	£69.95
Yamaha DVD-S540	£ SALE	£ SALE

DVD RECORDERS

MAKE & MODEL	REGION 2	MULTI REGION
Panasonic DMR-E50 DVD-R	£269.95	£299.95
Philips DVDR70 DVD+RW	£249.95	£249.95
Philips DVDR75 DVD+RW	£ SALE	£ SALE
Philips DVDR80 DVD+RW	£ SALE	£ SALE
Pioneer DVR3100S DVD-R/RW	£ SALE	£ SALE
Pioneer DVR5100HS DVD-R/RW	£ SALE	£ SALE
Sony RDR-GX7 Recorder	£ SALE	£ SALE
Toshiba RD-XS30 DVD Recorder	£549.95	£ TBA

A/V AMPLIFIERS RECEIVERS & PROCESSORS

Arcam AVR200 A/V Receiver	£599.95
Arcam AVR300 A/V Receiver	£ SALE
Arcam AV8/P7 A/V Pre/Processor/Power	£ SALE
Cyrus AV8 A/V Processor	£ SALE
Denon AVC-A1SR A/V Amplifier	£ SALE
Denon AVC-A11SR A/V Amplifier	£ SALE
Denon AVR1604 A/V Receiver	£ SALE
Denon AVR1804 A/V Receiver	£ SALE
Denon AVR2803 A/V Receiver	£529.95
Denon AVR3803 A/V Receiver	£ SALE
Harman Kardon AVR2550 A/V Receiver	£ SALE
Harman Kardon AVR5550 A/V Receiver	£ SALE
Harman Kardon AVR8500 A/V Receiver	£1499.95
Marantz SR4400 A/V Receiver	£ SALE
Marantz SR5400 A/V Receiver	£369.95
Onkyo TX-SR501E A/V Receiver	£ SALE
Onkyo TX-SR601E A/V Receiver	£ SALE
Onkyo TX-NR900E A/V Receiver INC KEF1005*	£1499.95
Pioneer VSX-C301 A/V Receiver	£ SALE
Pioneer VSX-C501 A/V Receiver	£ SALE
Pioneer VSX-D812 A/V Receiver	£329.95
Pioneer VSX-AX3i A/V Receiver	£679.95
Pioneer VSX-AX5i A/V Receiver	£949.95
Pioneer VSX-AX10i A/V Amplifier	£2199.95
Rotel RSX1065 A/V Receiver	£ SALE
Rotel RSP1066/RMB1075 A/V Pre/Power	£ SALE
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Balance Of Power

Looking for a valve pre-power amplifier combination with guts and grace? The EAR 864/890 combo has both – plus balanced inputs for a better sound. Mike Ballance listens in...



Valve amplifiers often boast output powers well out of line with modern expectations. For listeners who insist on power, they're a no-no, since they commonly manage 40watts tops. The EAR 890 uses the Yugoslavian El KT90 beam tetrode power valve – four per channel in paralleled push-pull - to deliver a claimed 70watts per channel. That's enough to drive most loudspeakers to high volume in most rooms. It's a lot more than rivals, especially for a design that boasts balanced inputs which can offer improved sound quality. This then looks like an amplifier that has both power and performance, a rare combo with valves!

Both the 864 preamplifier and the 890 power amplifier are sturdily built and attractively finished with good quality chrome plated steel chassis. These days valve amps come in all shapes and sizes, many over styled to an extent where their purpose seems more to make a visual statement than to produce a sound unmatched by transistors. Then there are the functional types that place the valves in a cage that hides the amplifier's greatest asset and differentiating feature. The EAR

units tread a well-wrought middle path by being both eye-catching yet at the same time reasonably functional in form. The valve cages in particular look a lot more attractive than most.

The 890 power amplifier is fairly straightforward in operating principle. This is a normal push-pull amplifier with two valves in parallel per channel for increased power handling, so each channel has four output valves. The KT90 is not expensive, so replacement will not cost an arm and a leg, as it does with 300Bs for example. Auto bias is used, so bias adjustment isn't necessary if a valve goes. The output transformer is wound to feed 8ohm and 16ohm loudspeakers, a curious choice nowadays. Today's loudspeakers use 4ohm bass units married to 8ohm tweeters, giving a nominal impedance

of 6ohms. The ideal output is 4-6ohms, since valve amps work better with a load that is higher than ideal, rather than lower. Indeed, the manual states, "The majority of modern loudspeakers are either 4ohm or 8ohm..." in the section describing monoblock operation.

The balanced input of the 890 feeds an input transformer which gives a normal unbalanced output into the input stage. The unbalanced input is purer since it avoids the transformer. All the same, the benefits of balancing are still gained in the signal line and in any source that uses a real balanced output. The 864 preamp has a line drive output transformer with both balanced and unbalanced windings able to feed the power amp.

The 864 preamplifier gives a normal amount of gain, so it can be



EAR 890 Power amplifier



EAR 864 Pre amplifier

used with just about any power amp. On-board is a valve phono stage able to accept all Moving Magnet cartridges and a step-up transformer for Moving Coil cartridges. These are all arranged in a conventional unbalanced manner, as are the CD, Aux, A/V and Tape inputs. There is, however, one balanced input that again uses an input transformer, intended for the few sources available offering balanced outputs.

In theory an all-balanced amplifier feeding a balanced line is the way to go, because what is known as 'common mode' noise and hum cancel themselves out, giving a clearer sound. However, in real life balancing what is at heart unbalanced introduces unwanted complexity in the signal path, so whether there is benefit depends upon factors such as cable quality.

SOUND QUALITY

So what about the sound, something I assessed with a pile of CDs and also some original master tape DATs. Wow, what a performer! A first impression was of a slightly 'dull' sound, lacking in treble sparkle. That one was short lived when some higher frequencies came along - higher notes on the violin and especially cymbals showed that when higher frequencies were presented to the amplifier, it produced them. So what was missing? I think it must be a brittleness or even harshness with other amplifiers that was simply not present with this combination. It took a little while getting used to the sound, but it was so relaxing that it was hard to stop one music item and try another.

I found a piano solo conveniently available on Radio Three at the time

of listening. I had the feeling that I was listening to a 'specific' piano, and not just 'any' piano. Switching to a well-known CD of piano music confirmed that there was more inner detail than I have ever heard before. Feeling that I was looking into the music, peering through the window as it were, I tried choral music. More than ever it was easy to apply the 'cocktail effect' and listen just to the alto, or the tenor, and hear clearly what they were singing. I've found this easy to do with some choirs in the live situation, as the eye helps identify the different melody lines. Never have I done it so easily with no visual clues.

Dynamic range is another area where this amplifier surprised me. After setting up a well-known CD with the volume set at the usual listening level on a quiet intro. I was expecting a louder sound when a sharp drum strike was due to arrive. But hey, when it got there, I nearly fell off the chair. Somehow it was louder and there was more blackness between the notes, leaving less clues that a loud sound was about to happen. Immediate in its delivery, but not bright, this is an amplifier I can relax with. Yet it can be

up tempo, depending on the music.

Overall then, this is a superb product. A beautifully balanced design with all the benefits, but none of the traditional drawbacks, of a valve amplifier. It's delightful to cast your eyes upon, but don't let its good looks fool you - this is a not the chintzy, over styled bit of fluff that many (even high end) tube amplifiers often are. This is the real deal - a brilliant sounding device at a price that some audiophiles can just about afford.

VERDICT ●●●●●

Consummately powerful and smooth but immediate sound with all the clarity and detail of a classic valve amplifier.

EAR 864	£1528.95
EAR 890	£2386.26
EAR Yoshino Ltd.	
www.ear-yosh.no.com	

THE EDITOR SAYS:

This is one of the best valve pre-power combos I've come across. It has the classic high end tube attributes of sweetness, spatiality and delicate timbral detailing, but there's also a monster kick there too. It's a velvet glove over an iron fist. As such, it's incredibly practical as it should drive almost any speaker, yet give you that wonderful valve sound we constantly talk about in this journal. Sonically, it has wonderful tonal openness - it's warm alright, but doesn't colour things that aren't too much. Rather, it just gives the subtlest of rosy patinas to everything it touches. Although its fulsome bass makes it sound obviously 'tubular', in truth it's probably far less 'coloured' than most transistor amplifiers, which make everything grey and misty instead. Soundstaging is a joy - real three dimensional stuff, and there's a tremendous grip to rhythms which, allied to fine dynamics and super cohesion in the midband, makes for an extremely engaging listen. Can't wait to get it into our next tube amp supertest...

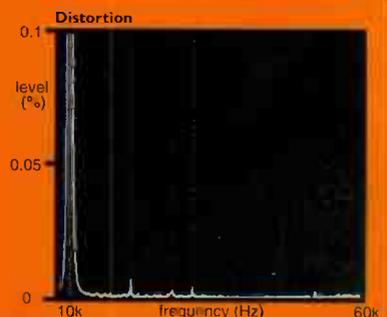
MEASURED PERFORMANCE

The EAR 890 power amplifier uses KT90 power pentodes in paralleled push-pull to give a relatively high output power of 72watts (8ohms) - a lot for a valve amplifier. Distortion levels were very low at normal power outputs, measuring just 0.006% in the midband. Only at high frequencies did the amplifier have difficulty, producing 1% distortion at rated output, 10kHz. This may be detected as some hardness in the sound at high listening levels. Bass should sound clean though, since there was little low frequency distortion from transformer saturation. Frequency response was very wide, reaching 60kHz (-1dB), good enough for modern formats.

The EAR 864 pre amplifier has a normal x2.6 gain, giving 386mV input sensitivity in conjunction with the power amp. Distortion was low and max output a high 12V. The phono stage had high input sensitivity of 1.3mV, good enough for high output moving coils. Equalisation gave slightly emphasised bass and rolled down treble, so LP will have a fulsome sound against solid-state stages.

NK

Power	72watts
CD/tuner/aux.	
Frequency response	5Hz-60kHz
Separation	40dB
Noise	-100dB
Distortion	0.01%
Sensitivity	386mV
Disc	
Frequency response	20Hz-35kHz
Separation	45dB
Noise	-68dB
Distortion	0.03%
Sensitivity	1.3mV
Overload	60mV



As far as high resolution audio is concerned, digital doesn't have it all its own way. It's perhaps one of hi-fi's greatest ironies that since the music industry tried to kill vinyl, there have been countless advances in turntable technology and design. David Price reckons Clearaudio's Reference turntable is one of format's greatest exponents. After putting it against a fully loaded, state-of-the-art Linn Sondek, he finds the differences are...



Clear To Hear

Let's face it, vinyl isn't where it's at anymore. While you and I may be religiously linked to the black art with a zeal that our friends and family can't quite understand, the recording industry doesn't see LP records as a major revenue stream anymore. In fact, there are many who've either forgotten about it completely or simply aren't aware of its existence (that's most people outside the outside world under thirty...).

Still, while the industry's corporate gaze is fixed on DVD-A and SACD (and whether these technologies will enable it to pull itself up off the floor after the onslaught of MP3 and CD-R), things are happening apace in the parallel universe of ye olde analogue vinyl LP. Outside the workaday fray of the mass market, there have been some amazing developments beyond the

purview of the commercial, digital audio-driven music business. As the old Chinese saying goes, "the mountains are high and the emperor is far away..." Vinyl refuses to die. In fact, it's getting ever better, as this stunning turntable shows...

This review was unusually poignant for me, as I decided not to involve my Michell Orbe turntable in the proceedings and opt instead to use what many regard as the ultimate expression of the Linn LP12 as a reference, the Naim Armageddon aspirated Sondek complete with ARO tonearm. This – for my money – is the most tuneful and rhythmic incarnation of the LP12. It is very probably the ultimate 'Linn', and back in 1989 was just about the best way to play vinyl LPs. The Clearaudio Reference, in order to justify its £4070 price tag (see box for full pricing information), had to deliver a knockout blow. And it did – almost!

Regular readers will know that I swear by Michell turntables. I believe both the GyroDec (at around £1000) and the Orbe (at approximately twice that) are comfortably superior to the ageing Linn. So much so that, I wondered, is there any point in spending more. Well, my experience of the Clearaudio Reference is such that, yes, I do now think there's real competition for the boys from Borehamwood. But as always with esoteric audiophile products, such a statement needs extensive qualification and elaboration!

Clearaudio has been going for sixteen years now. It's not a name that's particularly familiar on these shores, but in its native Germany, and indeed right across Europe, the brand has long been on the ascendant. The Reference is actually quite an 'old' design, having been in production for a good few years now. The review deck came fitted

CLEARAUDIO

Peter Suchy founded Clearaudio Electronic in 1978. A physicist and technical engineer, he began by building loudspeakers, followed by moving coil cartridges and then turntables. With over 60 patents registered, the company places much emphasis on innovation. It now makes turntables, phono cartridges, tonearms, amplifiers and accessories like absolute non-magnetic RCA-connectors and phase constant interconnects. Headquartered in Erlangen, Bavaria, Germany (also where BMW and Siemens can be found), the company sells to over 70 countries, with over 85 percent of its turnover achieved through export sales, with 32 employees.

with the company's own Unify 14" tonearm, costing a very reasonable £1015. While it makes a range of stunning Souther-derived parallel tracking designs, I'm of the opinion that this fourteen inch unipivot design is the stand-out model of the range. I'm not convinced by parallel trackers, but am enamoured and enraptured by unipivots, so pitting the Reference/Unify against the LP12/ARO (another unipivot I love) seemed simply irresistible!

And so to the Reference. It's the original turntable manufactured by Clearaudio, and follows the now commonly agreed 'state of the art' belt drive turntable paradigm inasmuch as it uses an acrylic base, inverted bearing and discrete motor. It offers 33.333 and 45rpm speeds, with the option of 78rpm. The bearing is made from bronze plated, hardened steel, the platter from 70mm thick acrylic. The total weight is 18kg, and the vital statistics are 500x400x240mm – it's a big beast!

The Unify tonearm is built around a unipivot sapphire bearing that sits on top of a precision hardened steel spike, and offers the usual VTA, anti-skating and azimuth adjustments. Its base is made from stainless steel, while the bearing housing is aluminium (presumably for light weight and rigidity), and a carbon fibre tonearm tube is used (for the same reasons). Both arm and turntable are exquisitely made –

we're talking Michell/SME quality here – which is about as good as it gets.

And now for my two cents. The Reference is not a suspended subchassis design, which is an interesting choice. Whereas Michell's Orbe employs a balanced, 3-point sprung suspension for acoustic isolation (with an aluminium subchassis and acrylic plinth), Clearaudio has opted for no suspension at all. Essentially, it's relying on the resonance-absorbing properties of the acrylic base (which links the main bearing and armboard), and the sheer mass of the deck, to kill bad vibes. This is – in my humble opinion – a less than ideal, but by no means fatally problematic, orientation. The point is that it makes positioning and supports absolutely critical if you're to achieve the best possible sound.

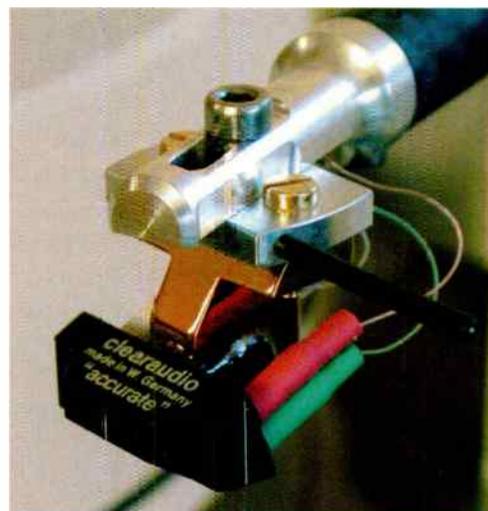
SOUND QUALITY

What really annoys me is this myth that vinyl is inherently somehow 'coloured', 'warm', 'euphonic' or 'sweet'. It is none of the above, but most of the hardware that plays it is. If you're a regular Linn LP12 listener, then you'll have come to accept your vinyl as in some way smoother and softer than your digital audio player. And you may well single this out as the thing you love about vinyl. Well, that's fair enough, but it's your deck you're listening to, and not your

records. The Clearaudio Reference shows unequivocally that this is the case.

Put against the reference LP12 (see box for full spec, but suffice to say that Sondeks don't get much better), the Clearaudio sounds quite stark. Whereas the Linn is a balmy, misty summer morning, the Clearaudio is a dazzlingly crisp and sharp autumn afternoon. By comparison, the Sondek sounds staggeringly veiled, coloured, dynamically limited and spatially compressed. There's quite a remarkable change in the sound. And in almost all cases, the difference is to the detriment, if not the shame, of the Linn. But there's one respect where the Linn is just as good, and indeed perhaps even ever so slightly better – and that is, yes you've guessed it, rhythms!

True to form, the LP12 showed that it is second to none when it comes to 'making music'. The listening kicked off with Chic's 'Good Times', whereupon the Linn served up a wonderfully engaging and rhythmical account of the masterpiece of seventies soul-funk. The rhythm section of Nile Rogers and Bernard Edwards – never bettered in my view – was sublime, with a tremendously propulsive bassline, wonderfully syncopated rhythm guitar playing and delicious





We're quite sad to notice

that a lot of our fellow retailers seem to have forsaken the ways of true two channel high fidelity and been seduced down the path of multi-channel surround sound systems. Sure, the films might be good, but the sonic merits of these digitally-processed many-speakered marvels can be summarised on the back of a postage stamp (not that we'll be seeing those for much longer the way things are going).
Meanwhile, truly decent sounding audiophile gear is blossoming, especially in the current climate of revival of the Vinyl LP.

We are your local...



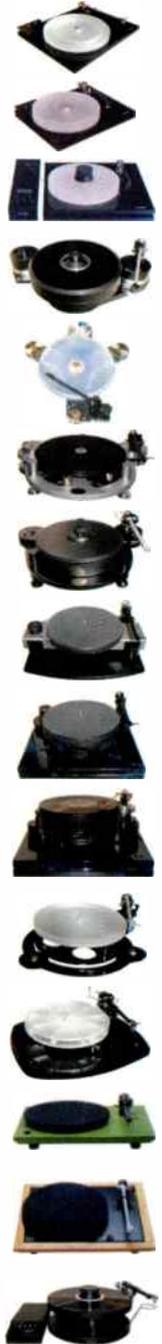
Duevel speakers are winning more and more friends as customers realise how brilliant these difficult to ignore speakers are!



The Shanling CD player is a superb example of the quality coming out of China nowadays.



From our old friends, EAR, comes the beautiful 864 MM/MC phono preamp



Another Chinese line, Consonance looks set to sweep aside better known brands both in styling and sound.



Stax, legendary headphone manufacturers, present their valve driven Omega electrostatic 'phones



The Klimo Beltaine monoblocks, from Germany, with outboard power supplies are about as purist audiophile as it gets!



The UK's very own Papworth, with their bargain Class-A valve integrated.

Benefits of dealing with Walrus (apart from the very best sounding gear) - We don't believe in "hard sell", you decide in your own time. In-house service on many items, sometimes while you wait. We understand audiophile equipment, especially vinyl playing and valve amps inside out, and have many years experience to draw on. Big accessory range. Interest Free Credit on many lines, subject to approval. And so on, and on ..



The Heart modified Marantz CD with tube output stage is a genuine bargain.



Aha! Bit misleading this one - The Sonneteer Byron CD - fabulous sound, and not a tube in sight!



From Serbia, the Korato line of valve amps are incredible value for money. Audiophile quality at pocket money prices (almost!).



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...Turntable Specialist!

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Walrus has never, ever, dreamt of being seduced by all this multi-channel nonsense, we prefer to leave that to others. Of course we like a good film as much as anyone, but we love realistically reproduced music much more. And as the ultimate, most engaging reproduction usually comes from vinyl sources amplified by a decent valve amp, this is what we unashamedly do. An ever increasing number of satisfied customers thankfully agree and tell us we are cutting edge in audio reproduction. Funny old world, eh?

We can't bear the thought of a little leftover space in our ads. Every last tiny corner has to be filled right up with useful information to maximise our investment in this costly medium. So we fill it up, further and further, till almost all the white is gone.

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





drum work with exquisite hi-hat work. Moving over to the Clearaudio, and the rhythm was also superb, the deck giving a wonderfully engaging and hypnotic sound. Still, in the final analysis, the Linn gave eleven tenths, while the Clearaudio could 'only' muster ten!

Round one to the LP12 then, by the thinnest of whiskers. If you're impressed by the Scottish stalwart, then so you should be. But rhythmic prowess aside, the German deck positively pasted it. In fact, it was quite an ear opener – and proof that, in the fifteen years since this Linn variant arrived, things have moved on apace. In some respects, the Clearaudio was just so much better it almost seemed unfair to compare.

'Good Times' sounded thick and fat and full with the Linn alright, but moving to the Clearaudio was like pulling a thick layer of wool from your ears. It was dramatically more speed stable (by contrast, I could hear the LP12 wowing – shocking!). The track's wonderful piano cadences had depth, scale, solidity and body – whereas the LP12 made them sound lightweight and cracked. Where the lead female vocals had sounded nasal and compressed through the Linn, the Clearaudio made them soar into space, and stripped off countless layers of colouration just as you unpeel an onion. Suddenly you could hear right into the original studio vocal both, hearing the girls' every breath and inflection. Tonally, they were more fulsome too, with a real and tangible sense of being there. By contrast, the LP12 made them sound like AM radio.

Moving to De la Soul's 'A Roller-skating Jam named Saturdays', the Clearaudio again showed its mettle. This track is laden with samples, and this deck could easily signpost the difference between these and studio-recorded instruments. As such its midband was quite exquisite, and

better – I believe – than I've ever heard from vinyl. Even the Michell Orbe seems less able to dig out ultra-low level detailing. Bass was also superb. Stronger than the Sondek by a good measure (although I still think the Orbe would have the advantage in terms of weight and wallop), it was nevertheless brilliantly fast and articulate. The drum machine generated kick-drum sound was real and tangible, whereas the Sondek softened the transients and sat on the dynamics, making for an altogether less impactful sound. Yet still the LP12 proved no less rhythmically enjoyable – all the same...

Yes's 'Owner of a Lonely Heart' showcased the Clearaudio's genius. It has an incredibly expansive stereo soundstage (to go with that amazing low level detail), making instruments jump way out of the speakers, and hang them far back too. Indeed I think the already impressively 'architectural' Michell would struggle to give such 'out of the box' images and expansive depth perspective. And again, by comparison I'm sorry to say that the poor old LP12 sounded like it was squeezing the music out of a letter box in between the two loudspeakers.

Crosby, Stills and Nash's 'Wooden Ships' best showed the brilliance of this deck – it was immensely insightful and three dimensional with it. The reference Linn sounded quite 'spaced out' by comparison, as if it had been smoking some of the 'jazz cigarettes' being passed round during the recording sessions. This, of course, wasn't an entirely unpleasant effect, but it was still plain old unreconstructed colouration by any other name. The Clearaudio, by contrast, retained the wonderful 'vibe' of the track but was so much more convincing in its portrayal of depth, scale and detail. Its treble proved particularly special, giving a deliciously steely hi-hat

sound in contrast to the Linn's veiled and nasal highs.

So, just in case you're still wondering, I found this turntable deeply impressive. It shows just how far the black art of vinyl reproduction has advanced of late. It's a real step up from Michell's already superb Orbe, offering even better midband and treble resolution, yet doesn't suffer from 'analysis paralysis'. Despite its forensic detail retrieval skills, it's still a deeply musical and engaging machine – very nearly as much as the best (in this respect) that ever was – the Linn Sondek LP12. It is almost flawless in every respect. £4,070 is a heck of a lot of money for any bit of hi-fi, but even if you own what you believe to be one of the best turntables around, the sum will still buy you a new record collection.

VERDICT ●●●●●

Almost peerless in its incision, yet brilliantly musical nonetheless, this is no less than one of the very best record players ever made.

CLEARAUDIO REFERENCE £4,070

Audio Reference

+44 (0) 1252 702 705

www.audioreference.co.uk

REFERENCE SYSTEM:

Naim NAC282/NAPSC PSU preamp
Naim HiCap
Naim NAP135 (x2) power amps
NHT SA3 amplifier
Clearlight Aspekt racks (x3)
Clearlight SuperPosition isolation platform
DNM speaker cable
Black Rhodium S300 speaker
NHT Model 3.3 loudspeakers

PRICES

Clearaudio Reference turntable	£4,070
Clearaudio Unify 14" tonearm	£1,015
Clearaudio Accurate cartridge	£2,860
Clearaudio Quadro clamp	£70
Clearaudio Basic Symmetry phonostage	£540

Linn Sondek LP12	£1,250
Clearlight Audio RDC LP12 base	£119
Naim ARO tonearm	£1,425
Clearaudio Accurate cartridge	£2,860
Naim Armageddon power supply	£775
Naim Prefix (K) phonostage	£475
Naim HiCap (power supply for Prefix)	£899

Space Oddity



Where else but from Italy could this amazing, UFO-shaped silver disc spinner come? SACD and DVD-Audio is all very well, says David Price, but many stereophiles still want a bespoke Compact Disc player, and this MEL Audio's Rechav II is most definitely one with a difference...

Let's face it, CD players are reaching the 'autumn' of their lives. The onslaught from DVD-Audio, SACD and indeed universal machines is such that fewer and fewer folk want old, unreconstructed 'CD separates' anymore. Those who do are invariably discerning audiophiles, who realise that – whatever the performance at 24/192 resolution – even the best DVD spinner can't play 16bit Compact Disc as well as a serious, purpose-designed CD machine. The result is that CD separates are becoming increasingly specialised affairs, as MEL Audio's new Rechav II proves.

Oh, and it's Italian, don't you know... Forget black boxes, this product is about giving both the 'feel' and the sound of an analogue disc player. Indeed, its creator, Enrico Lusuardi, rather ostentatiously calls it a 'digital turntable'. The long haired, stylishly attired fortysomething musician calls it, "a CD player through which the forsaking of the analogue system would not be too much regretted. It is characteristic for its circular shape, which reminds in its dimensions (33 cm in diameter) and in its way of use (opening of the

cover and manual insertion of the disc) the vinyl record and the analogue turntable, which I have always preferred and loved for its better sound quality." So there you have it – kind of a retro record player, done digitally.

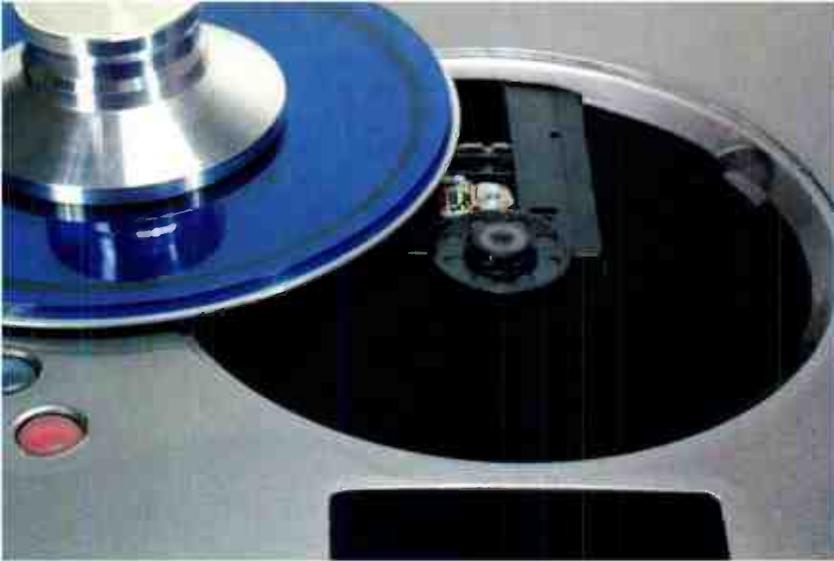
At 6kg, the Rechav II doesn't feel the most solidly built machine around – inasmuch as it doesn't come in a metal box. Rather, the largish spaceship-shaped case is fashioned entirely from MDF, for its anti-resonance properties, and painted rather lavishly in a host of colours including 'black Aston Martin', 'blue Bugatti', 'Orange Lamborghini', 'yellow Porsche', 'white BMW' and 'red Ferrari'. The finish is excellent, and it's definitely an eye catcher to boot!

On top of the machine can be found a host of blue backlit acrylic buttons, letting you select play mode, repeat mode, fader (which fades the music in and out – a nice touch), programme mode (with a maximum of 30 steps), and display mode. The supplied remote control adds a volume control to the aforementioned feature set. The blue fluorescent display is a simple Sony-derived affair which does the job well

enough, even if it does look a little cheap. In the middle of it all is the transport, again which looks Sony-sourced, complete with a rather neat self-centring disc stabiliser/lid. Round the back, a pair of RCA phono sockets, a coaxial digital output, 6.3mm headphone socket and power input can be found.

SOUND QUALITY

Well, with such madcap looks, you'd sort of suspect it of being something of a novelty item, wouldn't you – not capable of serious sonics? I did too, until I plugged it in and cued up a CD. The Rechav II is a machine with a sonic, as well as a visual difference, and proved deeply impressive at the price. Essentially, it has a smooth and open nature, very much in the vein of Meridian's excellent 507 (which is also a price rival), with a good (but not excellent) command of detail and fine soundstaging. Where it excels however, is its superb rhythms. It isn't one of those ultra tight, 'in your face' machines (in the mould of Naim's CDX2, or Linn's late lamented Karik III). Rather, it's delightfully beguiling. It works on gentle seduction, rather than socking you between the eyes. And the result is – I hate to say – a



WHAT'S IN THE NAME?

Taken from ancient Jewish and described in Ezekiel, 'Rechav' means 'celestial chariot' - a 'God's throne' that could do 'extraordinary deeds'.

REFERENCE SYSTEM

Sony CDP-X77ES/Trichord Clock 4 CD player
Marantz PM-17/II KI Signature integrated amplifier
Yamaha NS1000M loudspeakers

VERDICT ●●●●

Madcap looks hide fine audio engineering. The result is a pleasingly musical player with the accent very much on emotion and expression.

MEL AUDIO RECHAV II £935 (APPROX)

MEL Audio Design Group S.r.l.

☎ +39 0522 433368

www.melaudio.it

very 'analogue' sounding machine. Enrico was right all along.

I kicked off the listening with Simply Red's 'Say You Love Me' - not the world's greatest musical work I grant you, but its modern pop production values are very representative of what the Rechav II will have to play. My reference Sony CDP-X77ES (which thanks to its Trichord Clock 4 is one of the most incisive 16bit machines around) show the disc to be precisely this - late nineties AOR. Mick Hucknall's voice sounded a tad thin and edgy, while the drum kit sounded quite plastic and processed. The bassline was very tight, the notes starting and stopping with riflebolt precision. Moving to the MEL Audio, and the voice smoothed down a little, sounding more organic. Cymbals sounded less artificial, the Rechav II lending a little bit of much needed euphonic colouration here too. The bass was more imprecise, the notes exhibiting slower attack and more vague decay. The overall effect was that the Sony sounded quite 'mastertape-like', whereas the MEL was more musical

- and ultimately more pleasant to listen to.

Moving to 808 State's 'Lift', from their 'Ex:el' CD, and the Sony again showed an incredible technical ability, pumping out vast tracks of bass whilst retaining a vice-like grip on all the elements in the complex mix. Treble was very incisive, and there was a real three dimensional soundstage. The MEL subtly softened both frequency extremes, although its bass was very nearly as fulsome as the Sony's - which is indeed impressively powerful. The difference was that where the Sony could start and stop on a sixpence, the MEL was a little slower. Yet it never sounded leaden, but actually quite fluid and supple - almost, dare I say it, like an analogue turntable. Up top, the treble energy was down slightly, lacking the Sony's amazing glass-like clarity, but it was still quite open and certainly not obviously veiled or rolled off. In the midband, the Sony again gave a greater scale and more low level detail, with amazing speed and grip. Again, the MEL sounded ever so slightly slower but obviously more fluid. It was able to let the music ebb and flow in a more organic way, making for a very enjoyable rendition of the disc.

This, in fact, was the pattern that the whole audition period showed. Here's an extremely musical machine that's characterised by an ever so slightly warm upper midband and treble, and a strong full and dynamic bass that's just a little on the soft side. In the midband, it's a fine all-rounder, with a wide and well proportioned soundstage, strong dynamics, good detailing,

but most important of all, a naturally musical demeanour that seems to get into the groove of whatever music you throw at it, be it a Karajan recording of Beethoven's Fifth Symphony on DG or a classic BlueNote jazz reissue such as Lonnie Smith's 'Think'. Music just flows out of the Rechav II, and in conjunction with its nice warm tonal predisposition, you have a player that looks like it's from outer space but sounds utterly down-to-earth - in the best possible way. It's great to be able to recommend interesting, endearing, charismatic and oddball products from small manufacturers - and this is one such example.



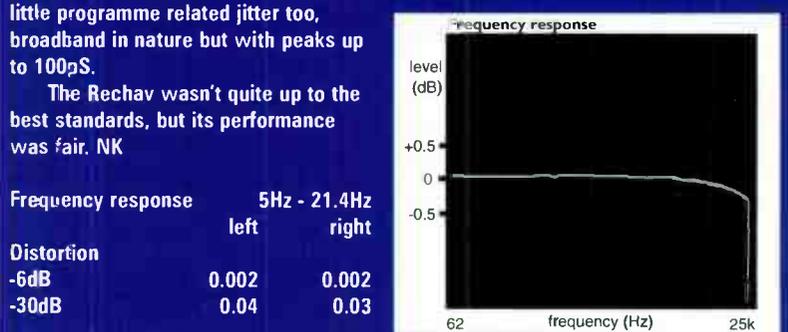
CONTACT

MEL Audio is an established Italian company, but does not currently have UK distribution. However, the player can be bought direct from the manufacturer (tel: +39 0522 433368, email: info@melaudio.it) at MEL Audio Design Group S.r.l, Via Filippo Re n.11/f 42100, Reggio Emilia, Italy.

MEASURED PERFORMANCE

This player has a smooth frequency response characteristic that displays a gentle roll down toward high frequencies, indicating a smooth sound free from brightness.	-60dB	0.4	0.43
	-90dB dithered	6	6
Linearity was not up to the best current standards, with distortion and quantisation noise quite obvious in an analysis. Higher distortion levels account for the poor EIAJ dynamic range figure of 101dB, when 110dB is not uncommon these days. There was a little programme related jitter too, broadband in nature but with peaks up to 100µs.	Separation	left	right
	1kHz	105	106
	20kHz	98	98

Noise (IEC A)	-108dB
Dynamic range	101dB
Output	2.4V



mail

Visit our website at www.hi-fiworld.co.uk or send your emails to letters@hi-fiworld.co.uk. Letter of the month wins a pair of Precious Metals Interconnects and one years FREE subscription to HI-FI World.



Letter of the Month



CRAFTING A CONNOISSEUR

With reference to the letter from Tim Vine, regarding his Connoisseur Craftsman (Connoisseur Query, Page 101, July 2003), I thought you might like to know about my recent refurbishment of an old Connoisseur BD1, with 10 inch platter, which I inherited in 1990. At the time I acquired this deck, it was lacking an arm and was missing the rubber stud, which starts the platter spinning in the right direction. The rubber suspension on the motor was also badly perished. At the time, I replaced the motor suspension, by using some 4mm square section neoprene; cutting three lengths of 4.5 cm and sticking them together with superglue, to roughly the dimensions of the original web. This worked reasonably well, but that is about all I could say about it. I then retired the deck and returned to my Goldring-Lenco GL75, to which I fitted a Rega RB300 arm and Goldring 1012 cartridge, which has given me many years of pleasure, despite its obvious shortcomings.

Recently, I decided to have another go at renovating the BD1, so contacted Technical and General about spares. The list of parts included a replacement mount for the motor, but being short of the readies I decided to

find another solution for mounting the motor. To this end, I bought a selection of rubber 'O' rings from my local hardware shop (total cost, 95p) and started experimenting with various sizes. It soon became obvious that using just a single O-ring on each of the three lugs wasn't going to work, so I resorted to using two rings, of 2mm thick x 8mm internal diameter, on each lug. The end result works perfectly. No wow or flutter and the deck runs reliably at 33rpm, with a new drive belt. For those who may be interested in refurbishing their old BD1/BD2 or Craftsman, the technical bit is a doddle:

1. Remove the motor and support assembly from the deck. Do not remove the drive pulley from the motor, as this isn't necessary. Before doing anything else, mark both the support and the motor casing, so that each of the three lugs on the motor, will keep their alignment with the three lugs on the support. Failure to do this, could result in the lead-out wires from the motor, fouling on the underside of the base-board, as I know from personal experience.

2. Remove the old suspension from the motor, for which you will need a small screwdriver, to push in the three lugs on the black plastic ring, which holds the rubber web in place on the motor. Either cut, or, if extremely

perished, just pull, the old web, to remove it.

3. Re-insert the three lugs back into the holes in the motor casing, having first placed two o-rings on each lug. Then, with the aid of your small screwdriver, hook one o-ring over each of the three lugs on the mount. Then, do the same with the remaining three o-rings. Be Warned! Do Not attempt to put both o-rings onto the lugs together, or, when you get around to mounting the final pair, you will snap the remaining two o-rings.

4. Replace motor and suspension assembly in the deck; re-assemble all the other components and enjoy!

I am currently renovating a Thorens TD 150, to which I will be mounting my RB300 and Goldring 1012 cartridge, which I shall be upgrading to 1024 spec., via a new stylus. The whole will be going into a more substantial wooden chassis, with a new set of suspension springs. I have designed a number of modifications for the deck, not least of which is to the speed change mechanism. I also intend to replace the AC motor with a DC motor; possibly from Origin Live, if I can afford it! Finally, thank you very much for a thoroughly enjoyable and informative magazine, which I have been buying since Christmas 1991.

**Russ Betts
Havant**

Thanks for that interesting piece on the joys of restoring a classic turntable, Russ. The amazing thing is that decks such as the Connoisseur (along with Goldring Lencos, Thorens, Duals, Garrards, etc.) can be rebuilt surprisingly cheaply often using proprietary parts, often with superb results. The joy of analogue is that you can pick these up for next to nothing, strip them and rebuild them inexpensively and fit a modern arm and cartridge – and enjoy excellent sound that's better than most CD or DVD players. And to use today's vernacular, 'nuff respect' to Technical and General for keeping so many old decks on the road! **DP**

FOLLOW THE LEADER!

After years of putting together systems, making interconnects, power cables and various other tweaks I can now relax. I finally have a system I am thoroughly happy with. The balance seems to be just right. I've bought many components based on your recommendations in the past, most of which have yielded great results - in particular; JVC's TDV541 cassette deck in '91, Ortofon's MC30 Supreme in 1995 and Musical Fidelity's A300 amplifier in '99. I still have the A300 in my main system. It is fed by Philips' DVD963SA (thank you again) which gives far more expensive spinners a good fight.

And finally, the most remarkable slice of the system comes courtesy of Martin Logan's Aeon speakers. Conventional speakers just weren't working in the house we've just moved into so I tried the MLs and have since been blown away by how much more enjoyable listening to music has been. Better cables and power cords are really proving their worth in this system. Klotz interconnects are proving to be particularly impressive. It's wonderful to have so much sonic satisfaction, although I am looking forward to reading about new technologies in your magazine which may yet better what I already have. Keep it up, your monthly offering is still something to very much look forward to.

Bernard Gibbes

Thanks for your support - so you'll doubtless have been interested to see that we really liked the Martin Logan Claritys in last month's issue. **DP**



MP3 - have music, will travel...

MP3, NOT EASY

Am I the only one in the world who wants a proper separate MP3 player for my hi-fi system? Why do I have to buy a portable Creative NOMAD Zen 60Gig unit to achieve this when it only has a headphone output jack and not a line

out? I am aware of the Imerge S2000 but it is ridiculously priced.

Sheridan Williams

Agreed - MP3 Jukebox portables with a proper 'line out' are few and far between. Of course, using the headphone output at maximum volume isn't ideal, but it should suffice, especially if you're using decent interconnects.

The other alternative is to burn your MP3s onto CD-Rs, and use an MP3-compatible DVD player, such as Denon's DVD-2900, to play them. This should give better quality than even your portable going directly into your amp's 'aux' input. The most critical thing for MP3 sound is the bitrate (the higher the better), very closely followed by the MP3 codec itself. In Windows XP, click on: CONTROL PANEL/ SOUNDS AND AUDIO DEVICES/ HARDWARE/ AUDIO CODECS/ PROPERTIES, look for the 'Fraunhofer IIS MPEG Layer-3 codec', and set the priority to 1. **DP**



Epos ES14 - everyone agrees it's an eighties masterpiece

EIGHTIES SPEAK

Here we have a series of emails between DP and reader John Wilkinson, who rather took umbrage after reading DP's piece on the Epos ES14 a couple of months back:

JW: This isn't the letter you were going to get. That one was a (reasonably) well argued but appallingly long-winded rant about the bizarre misrepresentation of mid-eighties speakers in this article. The shorter version goes something like: Now come on David, the big wobbly boxes alluded to didn't really exist to any significant degree in the eighties, did they? It's a cartoonish misrepresentation of some big seventies speakers at best.

DP: My point was exactly that - most eighties speakers were reheated seventies technology... polypropylene, plastiflex, etc...

JW: Well, sure, as long as we're agreed they weren't actually hulking, rattly multi-driver wardrobes! I suppose one could also substitute 'refined' for 'reheated'. But yes, the Epos, along with the Mordaunt-Short MS100 did represent a significantly different approach- although in fairness, the main driver of the ES14 was itself a sophisticated plastic cone owing much to the Spendor and Celestion mid-bass units of the time. OTOH, many inexpensive speakers, from (for example) Mission and the MAs that Robin Marshall designed were making a virtue out of simplicity already. Not that you don't know all that stuff yourself of course. The Epos speaker was a good-sounding intelligently designed system, which did break some new ground, but there's no need to completely distort the facts about it's contemporaries just to punch up the contrast. There were other odd things in the article too - the Isobarik wasn't that peculiar - you make it sound like Sonab or something. Also I don't recall the SL6 as 'clangy'. Dull maybe, but they were pretty smooth sounding when I heard them.

DP: You didn't think that SL6 metal dome was a tad 'summary' in its representation of HF information, then...? And you don't think the 'Barik was 'that' peculiar - well, each unto their own!

JW: Well, just a difference of degree and interpretation I expect, but I didn't hear any 'clang' as such. 'Thud' maybe... The Isobarik is somewhat unusual, but the top-of-the line Castle speakers of recent years also use upward-firing drivers, and some of the big American systems like the Wilsons use additional rear firing tweeters. Omnis usually deploy drivers in far more unusual ways. The really odd thing about the 'Barik was the way it sounded, which wasn't so much due to the extra drivers on the top as it was to Linn's deviant ideas on voicing at the time. Most of the things that were horrible about the 'Bariks were also true of the much more conventional Kan and Sara. Nice bass on the 'Bariks though. I still recall walking in to a Linn demo at a hi-fi show in the mid-eighties and recoiling in shocked disbelief at the staggeringly vile sound coming from a pair of Kans. The room was full of grinning enthusiasts bobbing the heads along to the music. Nice that they appeared to be enjoying themselves I guess, but it was rather eerie all the same. I edged back out of the door, knowing that I did-

n't belong... Not that I'm particularly anti-Linn- I thought the last versions of the Kan and Sara were quite good, particularly the Kan- but I don't think the Linn crowd agreed, since both models were discontinued shortly thereafter! For old geezers like me that were around at the time, it's obviously just that, but for younger readers it's going to skew their perspective on that entire period of speaker design and ruin young minds. Surely you have a duty to inform as well as entertain?

DP: Granted, but I'd like to think it's not a case of either/or. I think my general assertion that the eighties was not the greatest time for speaker design still stands... and the Epos ES14 – methinks – is the exception that proves the rule! As for Linn speakers, they were peculiar sounding back then, but I really liked them and – at the time – thought that they were some of the few worth having. I used an original, 1984 vintage pair of Kans for many years. In one way, in terms of their skills at 'rhythmic propulsion', I still don't think they've been bettered. But they're another example that illustrates my contention that eighties speakers were seventies designs in drag – they used old (but superb) Scanspeak soft dome tweeters and KEF B110 bass units, which were as seventies as Ford Cortinas and platform soles!

JW: okay, well thanks for writing back David. Naturally I do like the magazine and buy it most months, otherwise I wouldn't bother to write. And even though I'm a confirmed speaker anorak, I wouldn't want you to get the idea that I'm one of those 'I'm so disgusted that you don't agree with everything I think that I'm going to cancel my subscription and burn your effigy' madmen who seem to crop up regularly in letters pages. Even if it's true... All the best, John.

existing Acoustic Research AR11s. The Gales survived until 1993, driven by several different amplifiers including the peculiar Carver Cube with Hafler kit-preamp. Unfortunately they were stolen a few years after moving to Sheffield from London. I often wonder who has them now... There followed a couple of years with unsatisfactory replacements until a local dealer rang up with a pair of second-hand Gale 402s for sale. As you probably know, these had lost the dramatic John Bannenberg chrome cabinets, which had become too expensive to manufacture according to the makers, DW Labs. Now with a fairly standard veneered finish, plus a new tweeter, although still using the same midrange, and bass units produced in-house by DW, they retained all the qualities of the originals, perhaps even improved slightly with a new non-variable crossover.

After changing the amplifier in 2000 to a Musical Fidelity A3 integrated I felt the Gales were at last being driven reasonably well. Mainly out of curiosity, there followed a period of auditioning several modern bookshelf speakers, up to the Spendor SP2/3e (prefer to keep the floor space free), which confirmed your view in the article that the Gales are hardly bettered on all-round performance up to this price bracket. However, one thing to emerge was that vocals and instruments were generally more clearly projected by some of these newer speakers. Perhaps the Gales were 'tired', with the top end rolling off, as suggested by my dealer. Before resigning myself to spending £2,000 on new speakers I thought I would try one last thing - recommended by both Les Wostenholme of Avondale, and Wilmslow Audio - to upgrade the capacitors on the crossover. At a cost of only £100, but with great difficulty, working through the aperture of one bass driver, cramming the much larger capacitors onto the crossover PCB, the results were truly astounding. Far from being worn out, the speakers now

strong, now driven even better by a MF A3cr pre/power, A3 CD, and a recently acquired Tri Vista 21 Tube DAC, which incidentally I think is a fantastic piece of kit.

Berris Conolly

Rebuilding the crossovers of ageing classic speakers can yield brilliant results, providing you use the right passive components – some experimentation is often required. A simpler and more predictable thing to do is simply rewiring them with high quality speaker cable such as Chord Odyssey 2. This is expensive stuff at £18 per metre, but inside the speaker you're not going to need much more than a few metres. This done, you'll often find far greater depth, smoothness and transparency. There was much right with designs such as the GS401s, and removing their 'weakest links' shows to be the case. **DP**

My suggestion here is to remove the crossover completely, if this is possible, and mount it outside the cabinet. It can go in a plastic or aluminium box on the floor. Once removed components can be replaced/upgraded easily of course. Reduction of vibration greatly improves sound quality. **NK**

CASH STRAPPED

Being only 17, I'm a bit strapped for cash so bear it in mind that £350 is my maximum here. Anyhow, here's the problem: I am the proud owner of a Marantz CD-80 (you know, Ken Ishiwata's first creation with the company) and it's still working like a dream - which is nice. I also own some 'speakers, which although only Sonys are actually okay sounding, but some 602s should be taking their place one day soon.

Notice anything missing? That's right, there's not an amplifier to be seen anywhere, so this is what I'm in desperate need of! So far, I've looked at the Marantz PM7200 KI Signature and the Rotel RA-01. I have to say that I am leaning more towards the Marantz because it's gold! However, I'm open to other suggestions so any help would be greatly appreciated. I mainly listen to stuff like: Bjork, ambient and hard drum'n'bass, hip hop and Led Zep. Please remember that my budget is strictly up to £350 and it has to look nice (like the Marantz). Last but by no means least, could you please give me some info on the CD-80 as I've only read the consumer reviews and have had no professional opinion on the machine. Please help? Great magazine by the way!

Honsten



NAD C352 – one of the best budget amps around right now

THE WEAKEST LINK

I read with interest your Gale loudspeaker article in the July issue of Hi Fi World. I bought a pair in the mid '70s, a considerable improvement on my

produced a wonderful new sound with much more detail, improved soundstage and plenty of 'air'. Highly recommended to any other owners of 401s or 402s. A year later the Gales are still going

Hi Honsten – on strict sonic grounds, I'd go for NAD's C352. It has monster stomp, which should be able flap your flares at fifty paces, and fine sweet sound to boot. The Marantz is an excellent second choice, which is just a touch more mechanical sounding – but there's little in it. Considering it's a great visual match for your CD-80, I'd probably opt for this. Your CD player is superb, and you should hang on to it. Make sure the laser is spotless and the RCA phono sockets have been cleaned with isopropyl alcohol (use pipe cleaners to push inside the centres of the sockets – with the machine disconnected from the mains, of course) until they gleam. This done, you'll find few machines under £1,500 can match its sweet, powerful and musical sound. It only falls down on its lack of low level detail, which frankly isn't noticeable until your amplification and speakers get into the £1,000 plus bracket. **DP**

as good as an integrated CD player. This was a proprietary technology and therefore the connection was only ever compatible with the S700 DAC. This technology has been largely superseded as the SE series and later D-series models, being newer, have DACs built in that outperform the one in the S700 (and which is now discontinued). Also, the data reclocking scheme we now employ in our latest models gives even better jitter performance (<250pS) than was possible with the S700 model even clock-locked. Hope this helps,
Henry Griffiths
Cambridge Audio

CLASSICS AND CLASSIC-NESS

Reading the November issue, I felt the urge to contact you. Thanks for the good stuff on valves, which made me envious of what I can't afford, like the Graaf OTL design, and so I am off to finish the Woodside Electronics upgrade on my

sound, so when one expected a performer to be on the left the pictures showed them elsewhere, and so on. The telly had to be switched off, or the sound recorded to be enjoyed in stereo later. If you have the home cinema set up, then fine. The pictures and the sound correspond and the experience is good – sometimes superb. However in simple stereo audio I don't see the need to add the extra speakers. I have tried the Hafler-type rear speaker set-up, and well, I didn't bother after a time. You only need back, front and centre speakers if the main use is watching video, or if you want to show off!

Parallel tracking turntables like the Pioneer one you review are neat and good, for those who don't like the manual cueing business. My sister has a SL10 I bought for her many years ago, and I have recently acquired a B&O 4002 which sounds good, and worth a recommendation. This was a boot fair bargain for a couple of quid, and I got a matching cassette player for the same amount. Apart from the sound there's the design, they look lovely. I also have an Aiwa parallel tracker, which needs new drive bands, and I expect will get done after the Radford.

Thanks for revising the World Classics section. I can now say, "I've got one of those" in several cases. I really ought to advertise them in your magazine I suppose? You still have the awful Acos Lustre arm in there. Why? It was slated by Hi-Fi Choice all those years ago. I would think there must be better arms, even a Linn Basik?

Chris Wiggell

Hi Chris – by all means advertise your old bits in Hi-Fi World – I'm sure there are plenty of readers out there who would happily rehabilitate your old bits and pieces for you! As for the Acos Lustre – well, I'm sorry but I don't think it was awful at all. A few years ago, it went through something of a renaissance and people started paying silly money for it. Fifteen years ago you could pick them up for a few pounds, but suddenly prices went up to £150 or so for a minter. I think this is madness, as a scruffy old £30 Rega RB250 is bound to sound better, but for £50-£100 it's a nice enough bit of kit. The most notable thing about the Acos is its status as 'the archetypal S-shaped tonearm' – by the end of the seventies, every Japanese manufacturer was copying it. As an aside, I always thought the Rega R200 (Rega's own bespoke version, also manufactured by Acos) was far better and I'd venture to say it was more musical than the stock RB300 (not a great achievement, you say...)



Gale 401 – a great 'speaker made better with judicious use of a soldering iron!

CAMBRIDGE EDUCATION

Could you give me any information regarding upgrading the clock input on my Cambridge Audio D500SE? I have been unable to receive any information from the retailer Richer Sounds. Please enlighten me!

Greg Graham
Sunderland

Dear Greg - here we have some words of wisdom from our technical director, Matthew Bramble: The Cambridge Audio D500SE had an optional clock lock scheme, which was used to lock the transport of the D-Series CD players to a master clock in the S700 DAC when using the latter as an upgrade. This was to overcome the inherent SPDIF jitter problem and gave jitter performance

Radford STA 25. Then, once I got to your review of it in its original state I was much happier and now feel I don't need to change. Though again I do hanker after some 300Bs. Surround sound is constantly mentioned, and I would like to contribute my experience. My main point is that stereo is an illusion, and fragile, so LJK Setright's comments about real music and real venues is well made, but it's a good illusion, and one I value.

Do you remember the simulcast 'Sight and Sound in Concert' programmes broadcast by the Beeb in the 70s? I set my telly between the speakers and waited. The stereo was completely absent. Vision dominates the senses, and the aural illusion is destroyed. Also, the video shots broadcast didn't correspond to the

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World Radio History

It's certainly a nice, soft and fluffy sounding device, along the lines of SME's Series III. **DP**

Modern surround-sound recordings are mixed to possess discrete rear information, not just difference-channel ambience. Many producers put backing singers at rear, especially when they provide accompanying harmonies. Others put instruments at rear, with varying degrees of success I feel, and some modern rock recordings use this new dimensional freedom to expand the performance spacially. This can be dramatic and exciting. Modern digital processing, coupled with a better understanding of psycho-acoustic phenomena derived from modern U.S. research on human hearing (little discussed in the hi-fi circles) gives vastly better results than all that has gone in the past. Dolby Pro Logic IIx is the best exponent and it survives close and critical listening. I well remember 1970s quadraphonic, Hafler, etc and it left me sceptical too. Now, however, I look forward to forthcoming surround-sound releases because the technology really does work and brings a new excitement from music. **NK**

CHASING RAINBOWS

Having tried many different hi-fi set ups, utilising many different dealers and reading all of the magazines available since I first became interested in hi-fi I have come to one conclusion - that I don't give a hoot what I read anymore, interesting though it all is, as I have spent most of my listening life chasing rainbows! This has pretty much come to light when listening to my latest purchase, Shanling CDT100 CD player. Although being smoother than my Meridian 206 it is not a patch on most of what I get on radio. This I simply don't understand, unless it is something to do with being innately analogue. Some of the stuff coming off air here simply surpasses anything from CD and is easily more listenable than LP - Garrard 401, Linn LP12, Michell, it doesn't matter which. For anyone still out there chasing their own rainbows I suggest you get yourself a good tuner, plus proper aerial and sit back and be staggered whilst you still can.

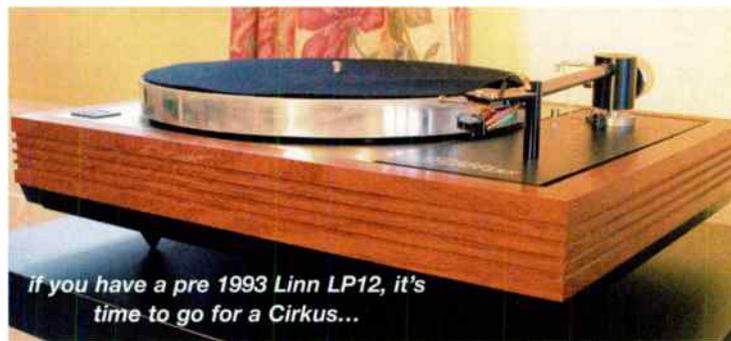
The advent of Digital Broadcasting will be upon us soon so get yourself a good open reel tape player too whilst you are at it. I can't get Radio 3 here in Luxembourg but there are some pretty good French and German channels which broadcast live Jazz and Classical and even on my modest system downstairs (Yamaha something or other multi-channel receiver, Celestion F30

'speakers) the sound is sublime, it doesn't have the chromium plated clarity of the Shanling but for painting a picture of almost being real it is uncanny. As an aside my tuner on my other system is a Rogers Ravensbourne which I have had for donkeys' years, same as my TVA-IX (and no it hasn't blown up and doesn't seem like it is going to either!)

**Steve F
Luxembourg**

Couldn't agree more Steve. The best fidelity around can come off-air and most extraordinary are live studio broadcasts. A well aligned valve tuner like a Leak Troughline working from a good external aerial is the best way of hearing this but any quality, modern VHF/FM tuner will let this quality shine through. What a pity that DAB fundamentally destroys this for the sake of variety at low cost. Happily, VHF/FM continues to provide good quality at reasonably low cost.

NK



LOSE YOURSELF IN LONDON!

I like your magazine quite a lot since you keep on publishing articles about new and old turntables. In the second weekend of December I'll be visiting London for two days. I'll have a whole Saturday and a Sunday morning. My companion would like to visit Harrods and I would like to visit a good hi-fi shop or a vinyl record store. Is there such a store which I have to visit in London? I like turntables, valve amplifiers and everything British, rare and special. Ivan Modder (28 years old, librarian)
**Heerhugowaard,
The Netherlands**

Hi Ivan - There are many LP stores around Wardour Street in Soho, selling Jazz, Dance and Classical, such as Sister Ray in Berwick Street, which is brilliant for Indie rock and Dance. Also, HMV's Oxford Street flagship store (near to Selfridges at West end of Oxford Street) has a big Dance collection downstairs. Try Virgin on Oxford Street near to Tottenham Court Road and Tower on Piccadilly Circus; they also have some vinyl.

Ray's Jazz Shop in Covent Garden is a Mecca for jazz. For dealers try Grahams Electrical (Islington), Studio 99 (Swiss Cottage), Cornflake Shop (behind Tottenham Court Road). Their details are available on the internet. **DP**

FRANKLIN RETURNS...

Dear David and Noel,
What a wonderful surprise; 'Letter of the Month' and nearly a full double page spread devoted entirely to my rantings as well! In terms of column inches I feel I have done a lot better than Ian Duncan Smith ever managed! Seriously, I am suffering from a bout of the flu at present and winning a prize for the first time in my life really raised my spirits. Having my questions answered so ably by you and Noel has also provided me with some much needed perspective on the reading/auditioning/selection process. Thank you both for your time and expertise.

Your car analogy is extremely pertinent in my case. Until quite recently

I'd always driven various classic cars (mostly Triumphs) on a daily basis. Anyway, having watched 'Billy Liar' for the sixty fifth time and with the words of Wilfred Pickles still ringing in my ears ("it's about bloody time he grew up and took on some flaming responsibility, coming in here at all hours of the bloody night!") - I road-tested a used Mercedes estate. At my age especially, it ought to have pressed all the right buttons. Mercs are very solid, comfortable and prestigious and anyway all those journos say they're terrific... Lets face it any vehicle from Stuttgart is 'better' than Coventry iron, but I knew straight away that something was missing. Even the most flabby of British classics (the Rover P6 for example) seem to have the ability to make the Monday morning drive to work a little more of a dialogue between human being and machine. But returning to your point, not every one wants this, or indeed a Sugden A21a.

A couple of things that Noel said in his reply were both revelatory and puzzling to me. Even as late as the early nineties, the hi-fi press were still

saying that American and Japanese amps' were all high output, zero subtlety monsters. I can remember some quite brutal reviews of huge 'racking system' Yamahas and a behemoth called the Sumo. They didn't actually say that British designers were sensitive to component quality, but it was certainly implied that over in Blighty we understood things like that and Johnny foreigner's efforts were really rather crude. So Noel's comment that "British engineers are largely insensitive to component quality" has really come as quite a shock to me. Whilst I am sure blue LEDs have their place in hi-fi marketing, it seems bizarre to me that designers would not address component quality for those purchasers searching for superior sound quality at a given price point. The other big surprise is that the component quality message is slow to get through to UK audio journalists because they "get little opportunity to hear or learn about such things". I thought hi-fi writers were constantly bombarded with information and new products? Perhaps all these posh journalists need to attend a very expensive series of seminars presented by Noel, at World Audio Design!

I suspect there are very good business reasons why the DIY and commercially available hi-fi reviews have to be kept separate in Hi-Fi World. However, as a reader I would love to see kit producer's offerings mixed in with the big manufacturers products. Failing that it would be great to have a 'Battle of the Kits' series of reviews. To avoid accusations of bias you could turn over the review process to a panel of experienced audiophile/ DIY readers and include all of the WAD products as well. It would also be interesting to gather together a reviewing panel of people who maybe have a passing interest in hi-fi, but a real passion for music. They would perhaps be enthusiastic enough to have chosen a system from the pages of 'What Hi-Fi' for example, possibly in the £1500-£3000 range and definitely CD/ solid-state based. You could then assemble a system for the same price, centring on a more unorthodox Hi-Fi World approach to system building. Second-hand Quad electrostatics, vinyl, arm upgrades, uprated DACs, valves, odd solid state amps like Sugden and carefully chosen classic gear. In view of the fact that most people have never even heard a valve amp' (including me!) it would be very interesting to see what effect one of your chosen systems has on people who are simply looking for a gateway to their music.

Anyway, sorry this is so long and please don't make my prize into a tow rope. I am very much looking forward to

trying out the interconnects and a whole year of reading Hi-Fi World. The address to send the goodies is as above. Many thanks for listening and for all your valuable advice.

Franklin Lee.

Hi Franklin – some more fair points well made! I think the car analogy is useful inasmuch as it's an area where certain 'big name' journalists (who've now made it to TV) hold great sway. As such, certain big car brands endeavour to keep them sweet, and the result is clear to see in the pages of many car magazines, where these companies get consistently glowing reviews. The constant 'reaffirmation' about how good these cars are (supposedly) has duly 'percolated' into the public consciousness, with the result that (almost) everyone simply assumes they're better than their rivals (although they're not). This 'brand hegemony' shows the power of the press, and I think the very same thing works with hi-fi too. It was probably most explicit in the eighties (in Britain), where Linn and Naim were lauded above all else, but it actually works in far more subtle ways too. Many magazines have carried the implicit assumption that digital is better than analogue, and that solid-state is superior to tubes. There's also the common one that 'new is better than old'. I think Hi-Fi World – for all its faults – has done much to counter and/or subvert this. We're into great hi-fi, regardless of brand, type or vintage. It always amuses me that people come up to me at shows and talk about 'your sort of brand'. Our sort of brand is one that's musical, and that's all! **DP**

Most special components for audio come from outside the UK and this alone indicates that perhaps others have different views about such things. The Japanese in particular have a fervour for such things – as well as a market it seems – so Black Gates, for example, are manufactured by Rubycon, Japan. Panasonic also make very high quality audio components, and sell them at appropriately high prices. Panasonic is one of the world's largest electronics companies, it's Japanese of course, yet it sees fit to now manufacture super quality audio components. This initiative isn't coming from the UK, sadly. Similarly, Vishay resistors and suchlike are not strictly UK derived items. Although Britain has a cottage audio industry it doesn't really have a serious any serious Consumer Electronics companies. An obituary I read recently blamed Lord Weinstock

and post war Government policy which he strongly influenced. Whether this is entirely true or fair I do not know. But suffice it to say that we do not manufacture serious audio components in this country and UK audio journalists, few of whom would know which end of a soldering iron was the hot bit, equally have no information fed to them on the subject, so it is little aired. I came to all this through experts like Andy Grove and David Price has lived in Japan, speaks the lingo and understands their outlook and enthusiasm. We are both suitable impressed shall I say. I do believe Britain's audio manufacturers work to and achieve excellent standards, but component quality has been a weak area. **NK**

SECOND TIME AROUND

I want to buy a good turntable but have various options (second hand included), but basically, I'd like to end up with something like this: Michell Orbe with VC power supply, SME V tonearm and Ortofon Kontrapunkt B, with EAR 834P or Tom Evans micro Groove Plus phonostage or equivalent. But I am unsure which way to go. Do I buy:

- [1] Michell Gyro SE with Origin Live Silver tonearm and Ortofon Kontrapunkt B
- [2] Origin Live Ultra Kit with Silver tonearm and Ortofon Kontrapunkt B
- [3] Origin Live Resolution or Michell Orbe with VC and Origin Live modded Rega 250 tonearm with Goldring 1042, then upgrade bit by bit until I reach a level where I am happy to stick around with for long term (Orbe, SME V, Kontrapunkt B)?

I often wonder which would give the better results initially, given that I currently have a Marantz CD7, Musical Fidelity NuVista M3 and ProAc Response 2.5s. I think that spending something like £3000 on a turntable is justifiable as I would like to think that this system will last me until they die. I intend on using the MM/IC stage on the M3 initially, then when finances allow, upgrade to the EAR or micro Groove Plus or any others you can recommend. To complicate this further, one of the advertisers in your magazine listed in their website an Orbe with Illustrious tonearm for a cheap £2300. Obviously, the turntable is a few years old but when I spoke to them, they said that I was lucky in that they sold the original Illustrious and were going to supply a new Illustrious with the old Orbe. Do you think this would be a good buy - are Michells reliable enough to take the chance second-hand?

I plan to see this turntable next weekend, so do you have any pointers to give to me to check on the health of the

turntable and or how to determine whether the tonearm is pretty new indeed? Do you think second hand turntables are worth the effort?

By the way, there is someone selling the Lyra Parnassus dCT from Hong Kong for just over £1000 new (or so he claims). Is this a better alternative and worthwhile upgrade on the Kontrapunkt B given the price difference?

Chi

First, the thing that is most likely to wear in a turntable is the bearing, closely followed by the motor, then the suspension springs, bushes and grommets (where fitted). The Michell decks have an unusually hardy main bearing – essentially it's a ball bearing on an inverted hardened steel spindle with its own, automatically self-circulating oil pump running fully synthetic Mobil One oil. It's hard to damage, but new ball bearings can be purchased for pennies. If you manage to damage the spindle – and you'd have to be trying very, very hard to do this, then you can buy a complete new main bearing assembly for under £100, which simply screws in after you've unscrewed the damaged item. As such, buying a Michell turntable is far less risky than many others in this respect. The springs and suspension bushes are also very strong, because they're designed to carry the deliberately high sprung mass of the subchassis/platter/ main bearing assembly (a high sprung mass is used because, as any Jaguar driver will tell you, it gives a better damped ride – i.e. better vibration suppression) – so they're not likely to go out of true if you load them up a bit more – unlike certain other 'deks' I could name. As for the new Michell DC motor – well, it's new, so who knows if it's going to last the distance? All I can say is that I've not had any trouble with mine and all the signs are that it's a better bit of kit than the old AC design.

So second-hand Michells - at least - can be worth the effort. As with all bits of hi-fi, the trick when buying used is to assess its condition – and that of the seller. If it's scratched, marked or covered in dust and/or nicotine stains, the chances are it's not been looked after. Use your common sense. You can also get a good impression of the item for sale by the sort of guy the seller is, and how he keeps himself, his house, car and his other luxury items. A scraggy old Sierra outside, battered furniture and rising damp is fair indication that this is not the ideal chap to buy a van den Hul

Grasshopper from... Tonearms, however, are a different matter altogether, and much more risky. As you can't easily unscrew the bearing assembly, it has to be AI, so if you're not confident that you can spot the signs of abuse (i.e. play and friction) then it's best to leave well alone...

So, what about your system, Chi? Personally I'd simply buy a new Michell Orbe with the brand new Michell TecnoArm 'a' (cost £2,500), and save my pennies for a top moving coil for later. Frankly, putting a £395 Dynavector DV20X-H into the arm will sound so staggering to the uninitiated that you'll wonder why you ever wanted a Kontrapunkt. The latter is very much better of course, but you won't really appreciate how much until you're running ten thousand quid's worth of amplification and speakers. The Michell turntable and tonearm combo is one of the very best you can buy. The SME Series V is better still, in areas like detail resolution, soundstaging and bass grip and articulation, but the TecnoArm is oh-so-close at a fraction of the price. It's most definitely not the weakest link! Then you should go for the cheapest, bargain basement EAR 834P if you like a soft, fat valve sound or a Trichord Dino if you like smooth, open and detailed solid-state. This done, you'll be as-near-as-dammit to audio nirvana. Then, when you've cash aplenty, you might like to go for the Kontrapunkt B/ Lyra Parnassus dCT cartridge and/or Trichord Delphini NC/ Linn Linto phono stage. Best of luck! **DP**

CHAMBERS MUSIC

For a number of years my system has been a Linn LP12 (without Cirkus), Lingo, Ekos and Dynavector 10X2, an Arcam Alpha 5+ CD player, plus 14 year old Exposure VI, VII and Super VIII amplifiers and Linn Keilidhs. Earlier this year I built a pair of full range Fostex rear horns using the FE208ES Sigma drivers which are marvellous, especially considering the total build cost of £500. They are a big improvement over the Keilidhs, to my ears at least.

Now that I have been well and truly bitten by the DIY bug I intend to build a World Audio valve phono stage in the near future, possibly followed by a World Audio 2A3 PSE or 300B PSE. But before I start on the phono stage the Dynavector is showing signs of age and is due for imminent replacement. As cartridges aren't the easiest things to dem I'd really appreciate your thoughts on a replacement in the £400 to £500 range. If you felt that stretching the budget to £600 would make a significant

difference I could be a little flexible. Are there any trade-ins I could take advantage of?

As capable as the Alpha 5+ is I think it is a little out of its depth in the context of the rest of the system. How much should I spend to significantly improve its performance? Have today's £500 players improved much, or might I be better looking for a second-hand Karik? I listen to a wide range of music, with a bias towards acoustic/ folk, pop, rock, and jazz, all at fairly modest neighbour-friendly levels, but still like to hear a convincing performance. Thanks for any advice you can offer!

Simon Chambers

Hi Simon – last things first: you could do a lot worse than buying a used, mint Linn Karik III. This is still one of my favourite CD players, with a super tight and rhythmic sound (although it's tonally rather dry, admittedly) – not too dissimilar in nature to Linn's old Kan loudspeakers. If you're buying new, then I'd go for Meridian's 507 which still – to my ears – offers a great combination of tonal richness allied to speed and grip. Still, it would sound a tad loose compared to the Karik, albeit satisfyingly warmer and fuller.

As far as cartridges are concerned, I'm puzzled that you haven't had a Cirkus kit fitted to your Linn – this brings dramatically increased grip and depth. I'd go so far as to say that you spend your budget on this, and go for a cheaper cartridge. You'll find Shure's V15VxMR a great performer, offering brilliant musicality and surprising poise, a great match for any forthcoming valve amplifier you may invest in. Alternatively, Dynavector's latest DV20X-H offers a smoother, marginally more refined sound that would better suit your current Exposure amplifiers. Both cost around £400. Personally, I'd save up for an Ortofon Kontrapunkt B (£700). In our last special vinyl issue (September 2003), we found this to be the best all-round value. It will add a degree of detailing, depth and dimensionality to the aforementioned cartridges already long list of strengths, with an altogether more finessed treble. First things first though – go for a Cirkus! **DP**



Life Style-ish

Pioneer's NS-DV990 is more than just a 'lifestyle' system, as it boasts some very trick, cutting edge technology – including full DVD-Audio and SACD playback - at a competitive price. Dedicated follower of technological fashion Patrick Cleasby listens in.



The downside of trying to encapsulate the multitudinous capabilities of one of Pioneer's so-called 'Universal Player' systems in a review is trying to do justice to them all. This is very much a market that Pioneer has lead, with its standalone players and with the lifestyle systems, both of which are capable of so much more than your average 'home cinema in a box' (sorry about having to drop that cliché) solution...

Little more than a year ago, Pioneer's original do-everything DV1000 lifestyle system hit the scene with a splash, and with its enticing design and pleasing all-round abilities, is still picking up awards in the Home Cinema community. I spent some time investigating the DV1000, and on first looking into the DV990 it is

immediately apparent that this is intended to be a more 'lifestyle' but cheaper variant of its elder brother. Being 'more life-stylish' means that the nicely finished and reasonably capable conventional loudspeakers of the DV1000 have been replaced by five (i.e. four surrounds and a centre) very attractive NXT flat panels.

The installation options make clear that the primary intention here is to pair this set-up with one of Pioneer's excellent plasma displays, either by wall-mounting, or using the stylish brushed aluminium stands supplied. For those of us who still use conventional televisions, a stand for the centre speaker is also supplied. The sub unit which contains the power supply, houses the speaker terminals (well, clips, truth be told), and is connected to the player unit using two multi-core cables, is to all intents and purposes identical to that

of the DV1000.

Those cost reductions have been achieved by using cheaper materials: the remote, though almost identical to the DV1000's, is plastic rather than exquisitely hewn aluminium, as is the player unit. The DV990 also lacks the 'impress your friends' drop-down front of the original unit, and although there is still a separate visual display, this time it is the more conventional LCD type, rather than swish OEL. The styling of the new unit may not please everybody, as although the white plastic surface chimes very well if you sit it next to an iPod, it doesn't really go with all that aluminium – still, you can hide it away and just have the display / remote sensor on view.

Also gone is the option to use the unit for composite and s-video switching for other A/V sources. Thankfully the audio side of the



auxiliaries has been retained, giving you the option of routing Nicam stereo TV signals through the Pro-logic decoder of the unit, either back through the Scart connection or via RCA. This leaves two other analogue connections, plus that vital optical SP/DIF input which enables lucky Sky+ users to watch Dolby Digital 5.1 programming. Although it is not set as default it is worth switching the Scart output to RGB to obtain the best possible picture out of the unit – there is also composite and s-video output, but regrettably no room for component.

The DV990 adds one capability – displaying JPEG photos from CD or CD-R, to the impressive list of the DV1000. So (deep breath) we have -R and -RW compatibility for both CD and DVD, we have MP3 CD and Video CD, we have DVD-Audio and SACD and we even have a medium wave and FM tuner. To go with all this we have an impressive array of set up and sound options, including the very useful Pro-logic II decoder. All formats of DVD-Video are catered for, and DTS CD works, even for CD-R discs (if there are any quad conversion fiends out there).

So, with all that clever electronics on board, (these

machines look like sardine tins for integrated circuits if you open the lid), how does the system perform? Well, to get video performance out of the way, with RGB selected the DVD-Video playback is perfectly adequate, with the colourful Madison Square Garden section of Led Zeppelin DVD being rendered faithfully. I also tried using an existing iPhoto CD, but this did not seem to work too well. The disc, image and MP3 format rules are all fully detailed in the manual so this is worth a read before setting about burning CD-Rs.

The main event for our purposes is how the thing sounds, and having never experienced NXT speakers I didn't know what to expect. I have to say that I was very pleasantly surprised. The most disappointing aspect of the DV1000 was its straight stereo reproduction – it just didn't seem to have the fullness of all the surround modes and the only way to get a pleasing CD listen out of it was to employ Pro-logic II music mode. This option was also not available for SACD stereo only discs, such as The Rolling Stones catalogue. It still isn't, but 'Let it Bleed' now sounds as glorious as it should do without such processing.

It is difficult not to come up with the adjective "metallic" when staring at flat aluminium panels where your speakers should be, but although this is not going to be anyone's idea of a warm sounding system it is actually possible to listen to whole albums at a stretch without feeling fatigued by an over-bright sound. The most challenging listen was both discs of Elton John's 'Goodbye Yellow Brick Road' SACD, but that is a very topky recording, and I did make it to the end.

With ZTT about to kick into a reissue frenzy this was an ideal opportunity to test my tolerance to the sound with the stunning new surround mix of Propaganda's 'A Secret Wish' SACD. Thankfully, for the benefit of the lifestyle purchasers who won't brave the set-up menus, the SACD playback default is now multi-channel rather than stereo. Even with such a pristine early digital recording the result was very listenable and highly enjoyable. The remastered CD version of Act's 'Laughter, Tears and Rage' was also rendered very well, with the punchy

kick drum of the leading track 'Absolutely Immune' reproduced with a well-focused tight efficiency, and some excellent stereo imaging.

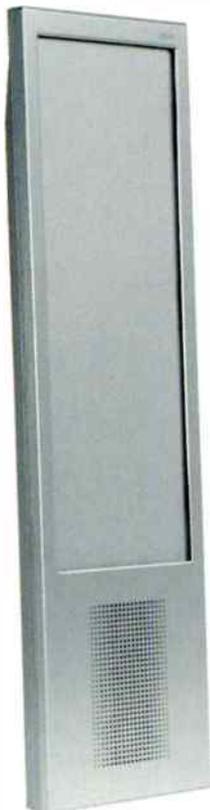
Returning to more naturalistic material for balance I spun Jackson Browne's 'I'm Alive' album and found that his vocals had a realistic tone, although some piano and percussion sounds did struggle to sound lifelike. The best result for me is that connecting the iPod to the line-in and listening to the same material revealed the same level of dexterous stereo handling, and the same pleasing pseudo-surround treatment when switching the Pro-logic II music mode on.

Finally the inevitable Steely Dan DVD-Audio test revealed that these funny flat speaker things are more than capable of delivering the best that 24/192 PCM stereo has to offer. The 24/96 surround presentation was also very convincing. Excellent DTS performance was demonstrated by surviving the challenge of the blaring Danny Elfman title music on Tim Burton's 'Planet of the Apes' DVD-Video. Broadcast and DVD-Video Dolby Digital and the decoding of Pro-logic material were all equally satisfying.

I might have been tempted to say hunt around for a bargain DV1000, but I actually feel that the improved stereo performance of the DV990 means that even if you could find a DV1000 at the same price (which might just be feasible), styling aside this is probably the better buy.

THE EDITOR SAYS:

This is not a high end audio system, but if you're after an affordable 'do-it-all' multichannel solution, one that's totally at home playing DVD movies or SACD albums, then I can think of none better. With small footprint, separate display (as used in Pioneer's high end car stereos!) and wafer-thin NXT loudspeakers, its ergonomics and styling are both exquisite, and better than even the likes of B&O. It doesn't sound half bad too. In absolute terms it's dynamically compressed and shut in, but unlike practically anything else at the price, it's neither shrill nor boomy – in short, there are no nasties that make listening a chore. This is the ideal multichannel system for those resolutely hanging onto the two channel 'real hi-fi system' in the next room, thank you very much! DP



VERDICT ●●●●£

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The High Life

Tannoy's founder Guy Fountain was instrumental in the development of the dual concentric drive unit, which is found in most Tannoy products even today. This is because a 'point-source' is much easier to listen to than a staggered source, used in most other loudspeakers. Point source location also aids the dispersion characteristic and also gives a much wider stereo image. This is unusual enough, but Tannoy's new Eyris DC1 adds another special feature – a supertweeter for extended high frequency reproduction. Albert Lee tunes in...

Tannoy's new Eyris DC1 measures 490x196x260mm and weighs 9kg, and sports an internal volume of 12 litres, loaded by a front mounted reflex port. The Eyris is supplied with two foam bungs to be used if the bass is too full for the room. This speaker is magnetically shielded so it can be used near to a television or computer.

Cabinet design is hardly revolutionary, although it looks unusual; the main carcass is constructed from 18mm MDF with a 30mm thick baffle. The cabinet is very heavily braced to reduce resonance. Drive unit line up consists of a 175mm Dual Concentric paper coned bass/mid/treble unit along with a super tweeter at the top of the cabinet. Termination is taken care of by the usual five terminals! Two pairs for connection to the amplifier and one for connection to ground. This is to aid in the elimination of RF interference. The Eyris will handle 110 watts RMS, with a quoted efficiency of 88dB for 1 watt of input power (see our measurements).

The listening session used the usual suspects as my equipment line up; Crown DC300A power amplifier, passive pre-amp, Trichord Dino RIAA, Roksan Nima pick up arm, London Super Gold, Leak Troughline, and my rather elderly Denon DCD 1750 CD player. The Tannoy Eyris DC1s were mounted atop my 24-inch hardwood

stands at 110 inches apart and 20 inches from the front wall. I found they worked best slightly toed inwards. I also connected the ground wire to the green terminal this is essential to enable the DC1 to give of its best. This connects the chassis to ground so any stray RFI is drained to ground. I also bi-amped with two DC300A power amplifiers and ran one DC300A per channel.

SOUND QUALITY

First disc on the CD player was Pink Floyd's 'Not Now John' (from 'The Final Cut'), and these speakers displayed an impressively wide image width. Then I moved to Eva Cassidy's 'Songbird' - a fine album - which was played with panache. Her voice was breathy, with a good range of expression. Bass instruments were





delivered with just the right amount of weight. Midrange was clean with a hint of the reverberation in the studio. This CD can move me to tears if delivered with an even frequency response, especially 'Somewhere Over the Rainbow', a far better rendition than the original from Judy Garland. The treble register was ever so slightly exaggerated however, possibly due to the inclusion of the titanium super tweeter, so I think this loudspeaker would better suit heavily furnished rooms than Spartan spaces.

James Brown's (sorry - I can't review anything without listening to the 'Godfather of Soul!') album 'Super Bad' was carried with great incision. This album was supposed to have been recorded live, but the Eyris DC1 enabled me to conclude that it was not. Rather, the audience noise was (badly) overdubbed after the event.

Roy Ayers 'Ubiquity' was put on the turntable next - a stunning display of black crossover music. This recording's sumptuous warmth was immediately apparent through these loudspeakers. There was a wide ranging stereo image, with wonderful string sections and horns popping up out of the mix. The raucous piano, which lies just underneath the vocal line, was well displayed, too. Indeed, Roy Ayers' fine musical abilities were showcased by these loudspeakers.

Ry Cooder was up next, with the Tannoys showing off that great guitar technique on

'Bop Till You Drop'. The partnership of Keltner, Drummond and Holland on the track 'Down in Hollywood' was rendered beautifully. This music really floats my boat - if you have never heard of Ry Cooder buy this album, sadly no longer available on vinyl but still out on CD. It was one of the first digitally recorded albums and oddly, it had no equalisation between the master tape and the transfer to the metal stamper, in an attempt to retain the stereo image. The Eyris DC1s showed that WEA Records certainly did a fine job with this record.

Next, I tuned in to Radio 4 to check vocal quality, which was very good. The DC1s showed the correct bass-to-lower midrange chestiness that is the trademark of the BBC! On Jazz FM, the Richard Searling soul show was tremendous. The music conveyed the excitement that was originally intended. After all, he does play some very, very good music. Solar Radio has similar music but it's usually of poorer quality probably because they use Optimod compressors before the satellite uplink. These loudspeakers also seemed at ease as an AV loudspeaker, displaying subtlety beyond their price point.

Overall then, I found Tannoy's Eyris DC1 to be a fine and charismatic loudspeaker, albeit a tad fussy in setting up. It needs a great deal of running in, and works when best bi-amped rather than bi-wired, as when bi-amped the user is better able to set the treble level, which to my ears was a tad high at times. Compared to ATC's SCM12, for

example, these Tannoys are much brighter to my ears - which is to their detriment. The bass grip of the SCM12 was also slightly superior, and the ATCs were easier to listen to for long periods - this is not a criticism of the DC1s, but more of an observation. The Eyris is more upfront, open, spacious and incisive, but can be a tad fatiguing if not carefully partnered. The trick is to make full use of its redoubtable strengths, whilst tuning out its characteristically lively treble. Use with big transistor or Mosfet amplifiers - single-ended tube amplifiers would be out of their depth with these loudspeakers.

VERDICT ●●●●

Superb spatiality allied to fine midband detailing makes for a lively and upfront loudspeaker, but partner carefully to powerful solid-state amplification.

TANNOY EYRIS DC1 £699
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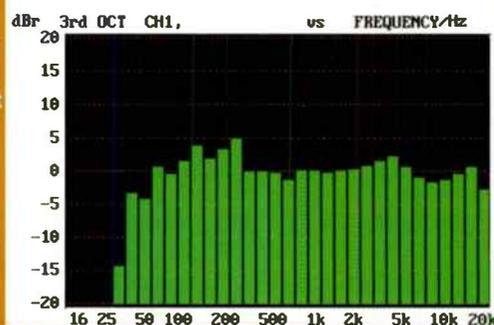


MEASURED PERFORMANCE

The treble response of Tannoy's dual-concentric driver in the DC-1 is similar to KEF's Uni-Q in displaying response variations from symmetric reflections at the cone base/horn throat. Although not as flat as the best dome tweeters, our third octave analysis shows, it still performs well and output is maintained up to 20kHz within a few dB. There's a little peaking around 4kHz that may add brightness, but all the same frequency response was flat within tight limits down to 250Hz. Below this bass emphasis of +4dB will give the sound body. A slow roll off in output below 100Hz suggests well damped bass, but the DC1 gets down to a low 40Hz (-3dB) all the same. The port peaks around 50Hz, fairly high, so the speaker will have some bass bounce, but also speed.

Sensitivity was average at 86dB, partly because impedance is high at 9ohms, due to a midband peak. The impedance curve was standard reflex pattern and fairly smooth as they go, making the loudspeaker a normal enough load.

The DC1 measures well, with good balance achieved between all parameters. It should sound detailed and fast, and well focussed. NK



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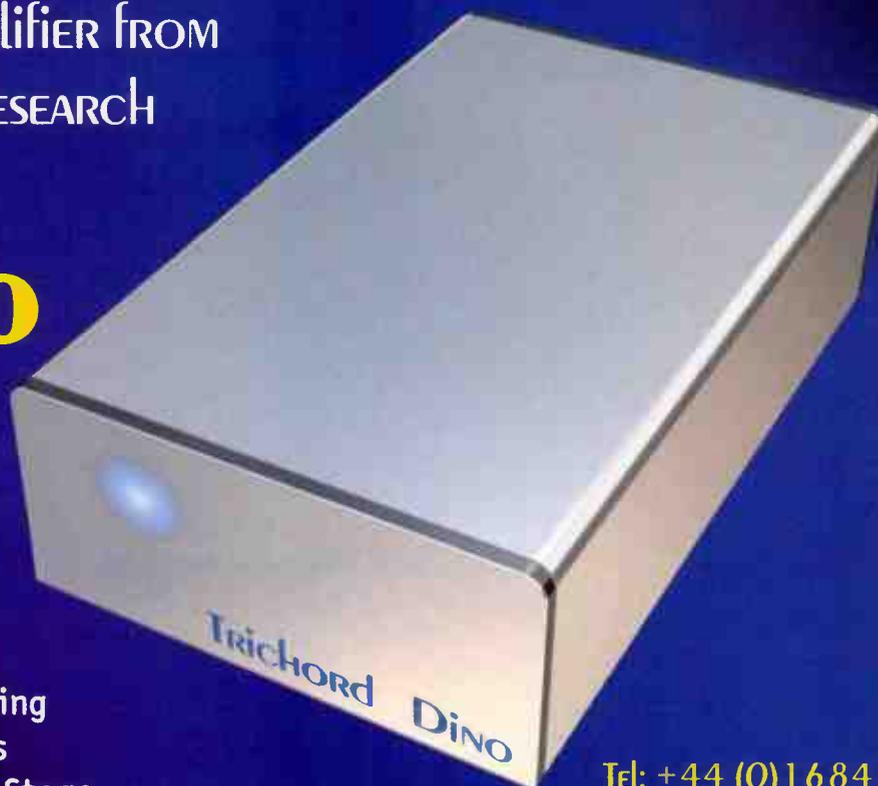


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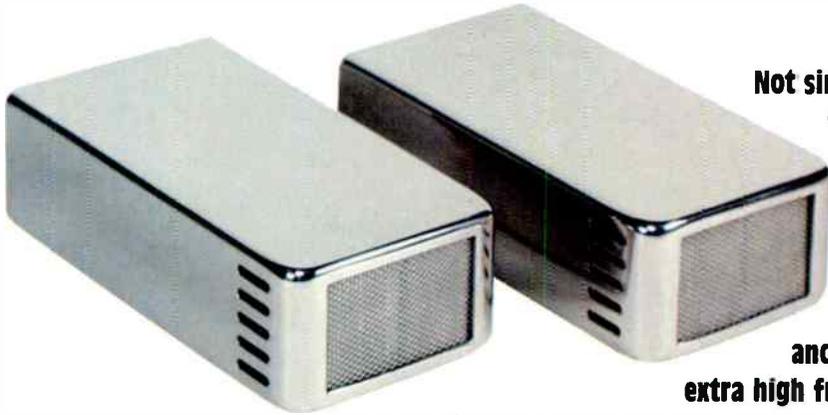


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Max Head Room



Not since vinyl was the world's favourite music carrier have we had a mass-market wide bandwidth format. Now though, DVD-A and SACD are making inroads, and there's a need for ancillaries to exploit all this extra high frequency resolution. David Price tries out Townshend Audio's Maximum Ribbon Super Tweeter.

Supertweeters really work – and I know this, because I heard the difference at Tannoy's factory in Coatbridge a few years back, when the company was just about to launch its new ST-100. The company's chief designer, Alex Garner was quite sheepish. He was in no doubt that he could hear the difference, but what he could not do was explain precisely why. Well, if he couldn't, then I'm not going to try! Suffice to say that, yes, there was a consistently demonstrable improvement every time the ST-100 was connected up.

So I for one am not an 'unbeliever', therefore this review simply asks 'how good is the Townshend Maximum as supertweeters go?' The answer is very good indeed - because it's a ribbon, an extremely cleverly packaged one, and priced realistically too.

It comes in a petite (50x30x100mm) casing, in a choice of either Titanium or stainless steel mirror finishes (as per the review samples). It looks exquisite; in some way redolent of a 1950s broadcast microphone. Pressure relief vents in the sides of the case are provided to allow the air pressure on the ribbon to equalise in the event of sudden pressure changes. Inside is a powerful neodymium magnet and an ultra thin eight micron pure aluminium ribbon, plus a simple crossover to set the sensitivity. All copper conductors, including the matching transformer windings and the aluminium ribbon, use Townshend Audio's Deep Cryogenically Treated (DCT)

process, as found in its Isolda loudspeaker cables, and are heat annealed (-190C to +150C).

Output may be set to suit loudspeakers with sensitivities from 80-110dB, adjusted in steps by a rear-mounted eight-position switch. In this respect, it's better than Tannoy's five-way jumper system on the ST-100, which offers less control over attenuation (87-95dB) but does sport three different crossover frequencies – so it's swings and roundabouts. Also on the back are the usual 4mm banana sockets. The kit comes complete with a set of very high quality 1.5m DCT cables, for wiring to the main speaker terminals via spade or piggy back connectors, although for the purposes of my review I ran a separate line of Chord Company Odyssey 2 speaker cables (which I use for my main 'speakers') from my Quad 909 power amplifier to the Maximums. Townshend claims they'll work connected directly across the output of amplifiers up to 350V, and there's an automatically resetting fuse to prevent ribbon damage in the event of overload.

The idea is simple. Although human hearing rarely extends beyond 20kHz, we can 'perceive' (if not actually hear) higher – which is partly why the brickwall filtering of CD at 20kHz sounds so unnatural. To wit, the Maximums run from 20-70kHz (at -3dB points), or 12-90kHz (at -6dB), thus 'filling in' the ultra high frequency spectrum. There's another boon too – just as subwoofers seem to take the strain off loudspeaker bass units, making them altogether more fluid and unforced, so supertweeters seem to sweeten the

treble. There's a small but obvious improvement in fluidity and ease in the high frequency region, which (interestingly) stretches down to the upper midband.

In the case of my system, which currently uses Quad 989 electrostatics, the difference was staggering – they proved just what the Quads have always wanted. There was an incredible improvement in their treble performance which I've always thought to be superb in some respects but fatally flawed in others (i.e. they're too veiled).

The Maximums added a subtle but oh-so-welcome atmosphere and 'spatiality' in both treble and upper midband regions. More impressive was the extra speed they seemed to provide; attack transients (such as the leading edges of notes from strummed steel string guitars) had better definition – yet there was absolutely no change in tonality (things didn't sound brighter, just faster).

Frankly, I don't think there's much in it between the Townshends and the Tannoys, save the former's wider sensitivity range. Not being able to audition the two in the same rooms, I can't give a definitive preference, but if forced I'd say the Townshends create a more perceptible effect. As such, they're heartily recommended.



VERDICT ●●●●●

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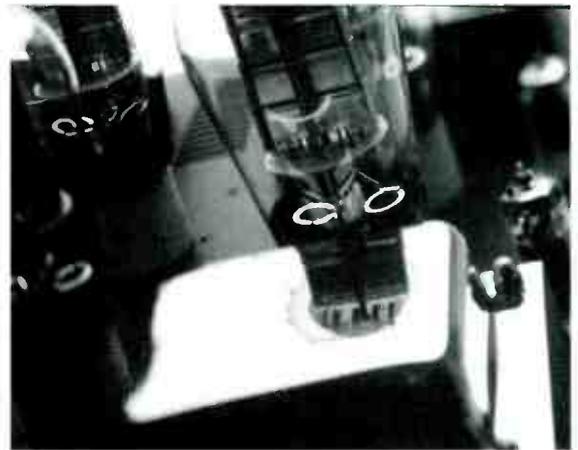
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Peter Walker,

OBE, DSc 1916-2003

The founder of QUAD, Peter Walker, died recently. Noel Keywood looks at one of the most highly regarded figures of Britain's hi-fi industry.

Peter Walker, founder of Quad, passed away at his Cambridgeshire home on December 10th 2003, aged 87. Peter achieved iconic status in the hi-fi industry, both in Britain and outside it too. This was partly due to the fact that Quad was an early exponent of pure high fidelity, at a time – just after the war – when such a market had not even been defined. It was also as a result of a long line of innovative and stylish products that were as intriguing as they were good sounding. Of all hi-fi companies, Quad has produced some of the most memorable designs ever and this alone is testament to Peter Walker's vision, determination and dedication to audio throughout his life.

Born and raised in South London, Peter was bombed out of his early Central London premises in Lisle Street. On a trip to Huntingdon he spotted an empty butchers shop in the High Street and promptly moved the company in. From early on the Acoustical Manufacturing Co, as it was known then, was running a series of challenging advertisements in *Wireless World* explaining why their amplifiers were better for the quality reproduction of music, at a time when Britain was suffering rationing and few had much opportunity to listen to music except from the radio.

Following the early amplifiers came an innovative corner ribbon loudspeaker and then, in 1957, the Quad ESL electrostatic loudspeaker. It was this loudspeaker, and the

research papers that explained its operating principles, especially Walker's novel use of a constant current source to eliminate the problems of other designs, that cemented Quad's reputation. Even today a mint ESL57 is virtually unmatched in what it can do.

I encountered Quad first as a slightly bemused user of a pair of German Braun electrostatic loudspeakers, based on the ESL57s. Later, after suffering blow-ups of a Cambridge P50 then a Lux I found myself a Quad 33/303 owner. By working reliably this beautifully designed and built amplifier demonstrated just what Quad was about. I was later to own a pair of ESL63s which again proved their worth as a review tool of unmatched ability.

As a technical journalist I visited the Quad factory in Huntingdon many times over the years and regularly had the pleasure of listening to Peter explain what lay behind his designs. It was at shows he would select a room, he told me, that he knew would suit the electrostatic



loudspeakers, reliably giving Quad one of the best sounds amongst the exhibitors. The company were given the Queen's Award for Technological Achievement in 1978.

Peter was not only a respected figure within UK audio, but also one of its founding fathers and one of its strongest exponents. Quad stands at shows, Quad literature and Quad product design all reached a very high standard. The Quad brand is respected worldwide and of course it lives on today as a testament to Peter's great abilities. It is sad that one of the world's best known figures in audio should finally pass away. **NK**

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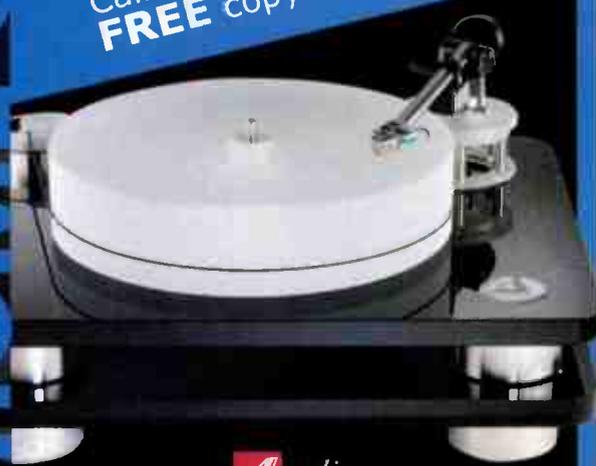
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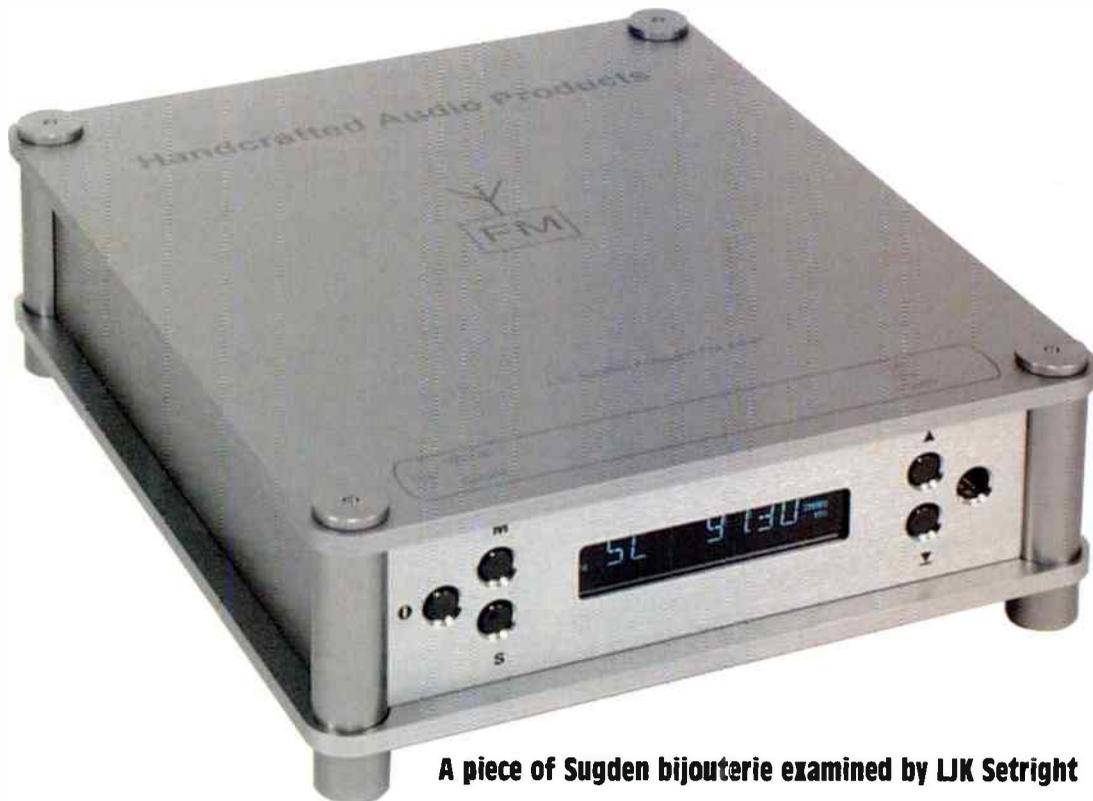
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Nut Brittle



A piece of Sugden bijouterie examined by LJK Setright

What is made by hand can be mended by hand. Be you contemplating a George Daniels watch or a Bill Bodger footstool, this is surely a comforting thought? But then, if your precious artefact had been made instead by automated machinery and designed accordingly, perhaps it would not need to be mended?

It does not follow that it would not be characterful and colourful, but somehow the fond notion survives that things made by people, preferably very few people in intimate workplaces, are more likely to offer a certain charm or distinction that is assumed to be lacking in the products of computerised robots.

Quite where J E Sugden & Company, tucked into tiny Heckmondwike in West Yorkshire, fit into this hand/machine gamut I do not know, but the firm has been around for a good many years, has been admired for its work for as many, and still claims that its

products are 'handcrafted'.

Too often that means that the artificers concerned consider precision engineering to mean working to the nearest sixteenth of an inch instead of the usual comfortable eighth. Sugden's FMMaster tuner, part of their Bijou series (other elements of which have lately been reviewed in this magazine), is stylistically related to the other Bijoux in comprising a sandwich of coarsely-brushed light-alloy slabs constrained by corner pillars, which in the example I have been considering are off-axis in relation to the holes drilled for them.

It shows. Look at the rear of the box (which is something that is presumably not done once it is installed) and there are a couple of items (the antenna socket and a tumbler switch) that are not perpendicular to the rear face but are mounted askew. Again, it shows.

Does it matter, though? Surely the real test of a tuner is how it works, what sort of sounds it issues? If appearances were all that

important, we should all be buying and gawping at some of the gorgeous-looking stuff offered by certain staggeringly artistic Swedes. Some of us might even be listening to it, or after a while just hearing it. Procure this Sugden, though; make the connections, throw the switches: what you hear sounds brilliant.

Brilliance is not normal. Reality is normal; this sound is supernatural in its clarity, its precision, its freedom from the accretions of mud and murk that silt up the estuaries of so many rivals. I would not describe this sound as transparent: it is solid enough to have been chromium-plated, but the emptiness of the silence that surrounds the sound is as transparent as gin and tonic.

It may also prove as deceptive, or even as desensitising. Listening to music that I know, played by performers whom I know, I often felt that what I was hearing was a little more intense than what I should hear from them directly. I certainly found that the balance of known music was upset: the mid-range was projected with such

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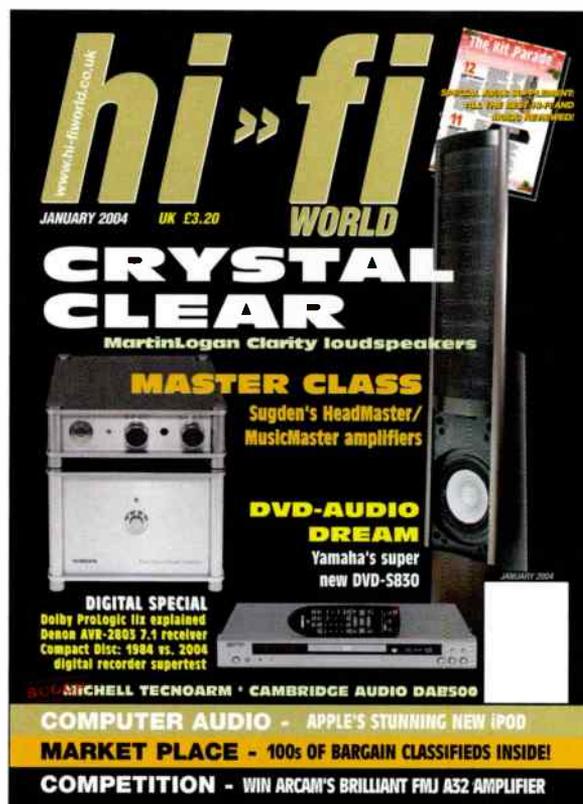
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MISSED AN ISSUE?

SEE PAGE 124 FOR FURTHER DETAILS



intensity that, where it extends into the upper frequencies, it sounds metallic or even wiry – and bass lines that I knew to exist had to be hunted for, demanding an effort that should not be necessary.

I reckon that I listened to a fair mix of programmes. There were live and recorded classical pieces, for anything from solo piano to full orchestra or choir with organ, on BBC Radio 3; there was the usual mix of sugared music and acidulated speech on Classic FM; there was chamber-scale – should I make that club-scale, or even bar-scale? – jazz on Jazz FM; there was conversational chit-chat on BBC Radio 4. These were not all, but they were the most; in every instance the same combination of chromium-plated middle and half-timbred bass was evident.

Heard in your dealer's demonstration room, the startling sound of the Sugden could be very persuasive. After a week or two at home, unless it were fed through deep and honeyed speakers, I suspect that it might become a bit wearing. For those who only use radio for background (are there readers like that here?) it might actually serve to make low-level music more perceptible, more intelligible; in that case it could be doing a valuable service.

People like that tend, I suspect, to scan the frequencies or rely on a multitude of presets. The Sugden accommodates twenty preset frequencies, a number that I have long thought ought to be sufficient for serious listening; perhaps only philologists and geographers could justify more. These presets can be contrived using the five buttons on the front of the Sugden – what looks like a sixth is actually a receptor lens for the handset. That handset is useless except for tracking up and down whatever scale of frequencies or presets you have selected with the other buttons, so either you sit

within arm's reach of the tuner or you inure yourself to getting up and walking across the room whenever there is something to be done.

It can be done with moderate ease, given fair measures of logic and intuition. Just do not expect much help from the instruction manual. This publication, amounting to four roughly photocopied sheets of A4 paper, was evidently written by somebody who knew what he wanted to say but was not very good at saying it. The alarmingly rudimentary text and the illustrations do not correspond with each other: the options switch that I mentioned earlier occurs twice in the text, as though it were present both on the front and on the back of the tuner, so one of the numbers allotted to it in the text is simply not there when you look at the supposedly corresponding diagram. Somewhere in the New Testament it says that 'An evil and an adulterous generation seeketh after a sign; and there shall be no sign given them'. Offering two conflicting signs is a new way of confusing the blighters.

At least this instruction manual

does not drift off into reams of self-indulgent praise for the manufacturer's choice of technologies, of components, or of manufacturing methods. That sort of things can wear very thin very quickly, and is often meaningless. There are doubtless those who wish to know what kind of circuitry is employed, or what breed of bits is bought in; but that knowledge can only be justified if it lead to an accurate expectation of what sound will emerge, and there are quicker and more reliable ways of establishing that. The best is probably to listen to it.

Do so – but do be careful. Sensational sound is all very well, but sensational feel is something that I would not seek in such an instrument. While it was connected to the mains, by the simple two-core flex corresponding to the two-pin terminals in the back of the tuner, the whole body of the Sugden tingled at what was almost certainly mains frequency. If such be the work of men's hands, then I can understand why the Old Testament takes such a dim view of the idea.

VERDICT ●●●●£

A solidly built tuner, but one that's a bit off the pace against the competition.

FM MASTER £949

JE Sugden

+44 (0) 1924 404 088

www.jesugden.co.uk

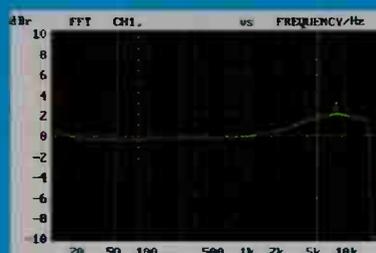
MEASURED PERFORMANCE

The Sugden has pronounced treble lift in its frequency response, our analysis shows, and will sound bright as a result. Distortion levels were high towards full modulation, but a creditable 0.13% or so at 50% modulation. Being primarily second harmonic the output should sound clean and free from harshness or muddle. Stereo separation was adequately wide at 40dB and noise just low enough to be inaudible at -73dB (IEC A wtd.), a normal enough result. Sensitivity was mediocre at 68µV for -50dB noise on stereo and 1.9mV for full quieting. The Sugden needs to be used with a proper aerial. Output was 0.5V at full modulation.

The FM Master turned in a reasonable set of figures, with no

weaknesses. It will sound bright and likely detailed, in use. NK

Frequency response	10Hz - 16.8kHz
Stereo separation	40dB
Distortion (50% mod.)	0.13%
Hiss (CCIR)	73dB
Signal for minimum hiss	1.9mV
Sensitivity (stereo)	75µV



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WHAT HI-FI?
SOUND AND VISION



noel keywood

I'm intrigued by the idea of 24/192 stereo. Even the description seems a strange fusion of the old world – stereo – and the new world of digital where big numbers are everything. Two measly little channels seems archaic in a world buzzing with five, six and even seven. But 24 represents 24 bit digital resolution which is pretty serious, putting both distortion and noise at levels so low as to be, we hope, beyond perception. And 192 is the digital sampling frequency which, again pushes the analogue frequency limit right out to 96kHz, a limit most feel to be just about beyond argument as good enough. It's still two channel, but this is two channels done properly, way surpassing Compact Disc's always inadequate 16bit/44.1kHz specification. 24/192 should return us to the sort of smoothness and believability we left behind with the passing of the LP. Funny that 24/192 is DVD Audio's top specification, yet it's stereo, not new fangled surround-sound.

I know a lot of readers are more than happy with stereo and detest the thought of surround sound. As Patrick Cleasby recently said, when analogue stereo is done properly it takes on almost magical properties. He made that comment in relation to new 24/192 stereo releases, which seem to be upon us with almost no fanfare. This is what many of you may have been waiting for. I know all too well that my 12in SME 3012 fitted with Goldring 1042, Garrard 401 and World Audio Design valve phono stage (crucial) sounds incomparably more dynamic, spacious and natural than CD, to an extent that shocks people. They think I'm engaged in trickery, but I am not (and, of course, you can do much better than this with, say, an SME V and Ortofon Kontrapunkt B).

No, the problem lies with CD, which was never anything other than strictly limited in what it could achieve with its early coding system.

I don't expect 24/192 to sound the same as LP done properly – nor as good quite frankly. The best analogue often harbors subtle enhancements that would always keep it ahead of digital subjectively. And as good as LP can be, I've heard

technology is 24/192 conversion. Studios can barely work with it at present, since 24/192 analogue to digital converters are not yet two a penny. Yet plenty exist and they are specifically for audio – the new cutting edge of digital audio.

We should – and doubtless will – in due course get 24/192 surround-sound, but for the present the data rate and the amount of

data needed to be stored is too great even for DVD. Blue Ray can meet this challenge, but it isn't due till early 2005 and at present is seen as a High Definition TV carrier. In the meantime, the DVD Forum in their wisdom decided that super stereo should exist as the ultimate audio format of DVD Audio, a decision that's almost

bizarre. It seems purist to the point of retrogression, surround-sound being the new super whiz-bang format promoted to move us ahead into 21st century audio.

Since I measured outrageous distortion levels from CD way back in 1987 and complained about how poor CD really was in The Flat Response, I have always had limited enthusiasm for it. It surprises me little that when old and new CD players are compared closely there's been little improvement over the years. A digital code so basic possesses intrinsic limits that no end of audiophile tweaking can overcome. In fact I would suggest tweaking is an analogue activity, using a medium that, although imperfect is at the same time without limit. Digital is the opposite: perfect, but only within strict limits. Well, hopefully, 24/192 at last moves those limits sufficiently far outside human perception to give us a near perfect medium. So stereo buffs should keep an eye on developments, because as the world chatters about multi-channel, stereo may be quietly moving into the passing lane... ●

“ The best analogue often harbors subtle enhancements that would always keep it ahead of digital subjectively. ”

better from high speed, professional tape machines running 1in wide tape, with a tweaked up modern head and all-valve amplification. Yes, animals like this exist and the music industry has in its capacious vaults vast quantities of music laid down onto analogue tape, just awaiting transcription back into something better than CD. Well, 24/192 DVD Audio is it, but whether it will ever become popular is another question. It was specified as a 21st century coding scheme suitable for all the wonderful analogue performances that exist on tape.

Studios and musicians are aware these days that digital isn't perfect. Replacing that simplistic mantra of the early eighties is a new expanded appreciation that encompasses both digital and analogue, recognising that both have weaknesses and strengths. It is as if the narrow religious fervour that gripped the industry, causing it to produce some of the worst recordings ever, has given it a renewed appreciation of the value of good audio quality. Even valves are making a renaissance at studio level. At the forefront of digital

**DEMONSTRATION ROOM AT 12A SPRING GARDENS, NEWPORT PAGNELL, MILTON KEYNES,
BUCKS MK16 0EE BY APPOINTMENT ONLY - CALL FOR DETAILS ON 01908 218836**

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 its 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 chromed custom made 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**



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)

KAT34 VALVE POWER AMPLIFIER KIT

£480

KIT34 VALVE INTEGRATED AMPLIFIER KIT

£515

NEW KIT

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

300B PP MONOBLOC KIT NEW

£895

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

**DEMONSTRATION ROOM AT 12A SPRING GARDENS, NEWPORT PAGNELL, MILTON KEYNES,
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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-0V-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

TRANS1 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 Or 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-1watts, 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

Kit 6550/Kat 6550 Printed Circuit Board 200mm(w) x 140mm(l) x 1.6mm(d).
Kel84 Printed Circuit Board 280mm(w) x 135mm(l) x 1.6mm(d).
Kit 88/Kat 88 Printed Circuit Board 140mm(w) x 310mm(l) x 2.4mm(d).
Kit 34 Printed Circuit Board 140mm(w) x 310mm(l) x 2.4mm(d).
Kit 34 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).
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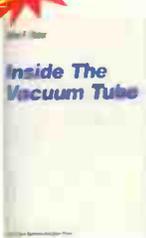


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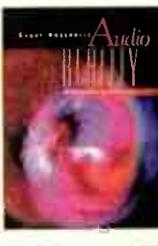
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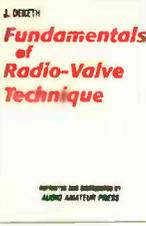
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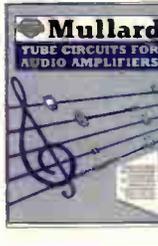
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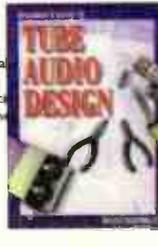
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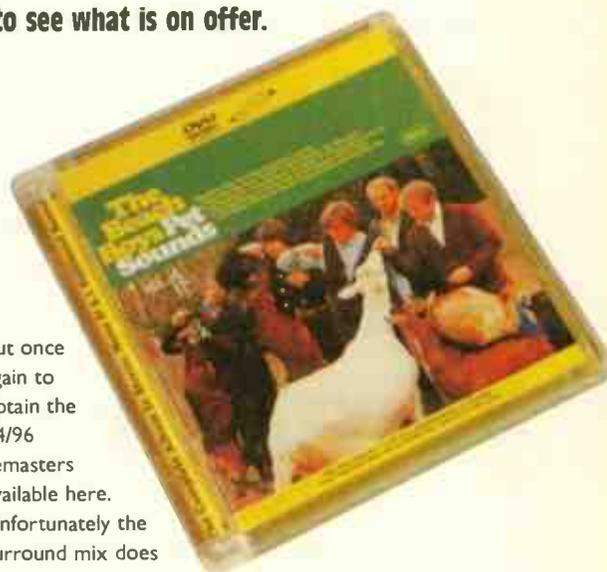
THE BEACH BOYS PET SOUNDS (DVD-AUDIO: 24/96 MONO, 24/96 STEREO, 24/96 MULTI-CHANNEL)

Both of this month's DVD-Audio titles feature surround mixes which have baffled many listeners. It's absolutely natural that as the surround professionals develop their relatively recently acquired expertise, a conventional standard of 'how should a surround mix be?' will arise, and here we have two contenders which challenge the current orthodoxy. It is beyond dispute that Pet Sounds ranks in the very highest echelons of all-time classic pop-rock albums, and it is therefore natural that Capitol should try to preserve this sublime music in the best possible digital form for posterity. However, as with many similar projects of the last few years, all the

transfers and mastering for this project were done at 24/96 resolution. It would be interesting to know, if Mark Linnet were to restart the project now, would he be using 24/192 or DSD technology?

Once again we are in the territory of likely reissue fatigue for potential purchasers of this disc, who will almost inevitably have already bought at least one or two CD versions of it, if not the exhaustive "The Pet Sounds Sessions" of six years ago. Much of the commentary and supplemental material found here is culled from that box set, but the addition of some promo and "making of" video material is welcome, thanks to DVD-Audio's video capabilities.

It is unfortunate for those fans of the album that if they wish to hear the best transfers to date of either the original mono master or 1996's stereo mix they should really splash



out once again to obtain the 24/96 remasters available here. Unfortunately the surround mix does not really work, lacking any convincing front soundstage due to the decision to spread vocals and instrumentation around the four main speakers, with the bizarre under-use of the front right speaker leaving the listener with the constant feeling of a sonic "hole". A real shame.

PETER GABRIEL UP (HYBRID SACD: STEREO AND MULTI-CHANNEL DSD)

Early in 2002 it was reported that Real World were working on transferring their Peter Gabriel archive to high resolution digital, a warning to avoid the CD reissues and wait for whatever high resolution version appeared. It was reported that the stereo masters for all his albums were transferred to both 24/96 PCM and DSD to cover the possibility of both DVD-Audio and SACD release, but at some time in the year that followed they appear to have been persuaded that SACD was the way to go.

In the middle of 2003 almost the entire catalogue became available on stereo hybrid SACD. 'Up' was the only album to receive a multi-channel

mix from Tchad Blake, who had mixed the stereo version of the album as well. We can only hope that Gabriel is minded to lock Blake up in a room for a year with all of Peter's multi-tracks, as the results of his work on 'Up' are nothing short of revelatory. What was a scarily intense and dense recording, (not surprising with nigh-on ten years of work layered onto the tracks!), becomes a fascinating listen once pulled apart. There are daring discrete surround events from beginning to end, instruments zipping between diagonally opposed speakers or being fully isolated in the rears. The centre is used to great effect to isolate the presence in Gabriel's voice, which gives tricks such as his bass interventions coming from the rear in "Growing Up" even more impact.

The full emotional effect that well used DSD can have is apparent



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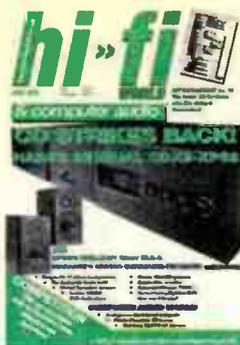
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Epos ELS-3

Pengee FK-1F

Niroson TW06.1
Mitchell Technorm
Cytax V1
Plextor Plexwriter 24/10/40U
Steinberg MYMP3 4.0
Valve Loading
DIY Supplement No. 73



July 2003

Includes:

Group test on Sixteen
8x CD players,
Phlips AKT201
T&A DVD1220

Cambridge Audio DVD5:

Heart Auck Beat
Linn Claspik CMS
Thorns TD190
Cara Software
Letters & Email: Extra



August 2003

Includes:

Group test digital tuners
Cyrus CD8
Creek AS01R
MF Audio Passive Preamp
Quad 909
Mission 782SE

Danon LDW31

Audiobro T11
Golden age of Wireless
Aerial views
Verbatim Omnia DVD+R/RW
300B power
DIY Supplement No. 74



September 2003

Includes:

Digital players
Arcam FMJ CD33
Monro MC207
Pure Evolve 1 vs Tivoli Model One
RevoVer R45

Origin Live Recurlifon

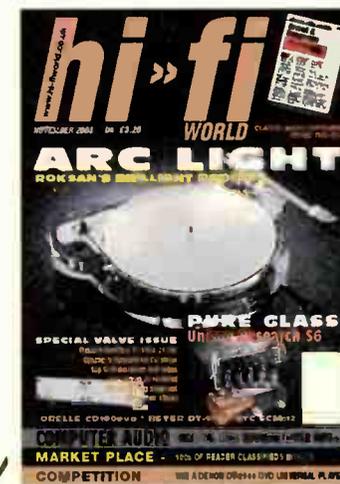
Group test - moving coil triodes
Sony PS-DJ9000
Cables
Archiving Analogue
Disk-welder Steel
World Music Supplement



October 2003

Includes:

Denon dvd-2900
Musical Fidelity X-LPSV3
Audio Research VS-55
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Crescendo Sounds Quad ESL 57 Rebuild
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November 2003

Includes:

Dynavox Dynastation
Musical Fidelity
Tri-Vista 21
Orfelle Cd100evo
Cyrus Fm-X
Atc Som-12
Group Test Tube Amplifiers
Leak Stereo 20
Musical Fidelity X-Can
Beyer Dt-990
Roksan Radus
Take The Tube
Vtech V-Disk
Immission
Flashgol 2.0
Creative Labs Sb Mp3+
Classic Ode Worlde

ELTON JOHN GOODBYE YELLOW BRICK ROAD (HYBRID SACD: STEREO AND MULTI-CHANNEL DSD)

This three disc set is the example of a supremely well done reissue project. The addition of an abridged version of the Classic Albums documentary as a bonus DVD-Video is a masterstroke, although unlike in the US there is currently no option to buy the two disc package without it in the UK – so if you've already got the DVD, you've got to get it again!

The original artwork has been spruced up and reused to make a very appealing package, there are excellent 5.1 versions of three B sides, and all the transfers and mastering have been done with meticulous attention to detail, (Tony Cousins of Metropolis was used for the stereo mastering because he had completed the most recent CD remasters with original producer, the late Gus Dudgeon, and still had his original mastering notes), but the key to the critical and sales success which this set has already had in the States



is the superb and very adventurous surround mix which Greg Penny has done, as well as coordinating all aspects of the project.

Although Dudgeon would undoubtedly have overseen this project if he had not tragically died in a car crash in 2002, Greg Penny was well-placed to do the job in his absence, having attended some of the original sessions as a 17 year old Elton fan and aspirant record producer. Some twenty years later he produced Sir Elton's 'Made in England'

album and he got this gig after presenting Elton's management with demo 5.1 versions. They simply asked him to set about probably the greatest Elton John album. He has created a thrilling and aggressively discrete mix, in which Davey Johnstone is frequently just behind your right shoulder, and the fantastic playing of the classic Elton John band can be fully appreciated. Any lover of this album, or perfectly executed rock and roll, could not fail to appreciate this SACD version.

NEIL YOUNG HARVEST (DVD-AUDIO: 24/192 STEREO, 24/96 MULTI-CHANNEL)

Investigate CD-hater Neil Young was, along with Joni Mitchell, one of the active proponents of the halfway house to DVD-Audio resolution which HDCD represented. It was therefore self-explanatory when Robin Hurley of Warner Strategic Marketing told me they were the only two artists who had explicitly requested that the stereo on their back catalogue discs should use the maximum available 24/192 resolution after they each had relatively lacklustre 24/96 debuts. You can also feel Neil's pain when he discovered a digital format he finally liked just when he had reached the end of a program of remastering his archive at 20 bit 88.2 KHz resolution for HDCD!

As is the way with these things it took quite a while for Neil's first back catalogue DVD-Audio to reach the market. Early reports that he didn't intend to do multi-channel mixes for the entire album were ultimately confounded by the arrival of a disc with a full surround mix.



However some might wish that he had stuck with Plan A, for this is another highly unconventional mix. Much like the 'Pet Sounds' mix the usual strategy of retaining a front soundstage and augmenting it with centre and surround usage is pretty much abandoned in favour of spreading the instrumentation around the room. Another point of similarity is that little attempt is made to keep the overall mix levels of the original stereo mix. Indeed, were it not for the fact that the last three tracks of the album revert to a

more conventional presentation, and that I have received a confirmation from reissue producer David May that the disc is as Neil and Elliot Mazer intended, I might be querying my own set-up.

The real bonus here, (apart from the hilarious film of Neil lying in a field listening to a playback of "Words"), is the presence of a 24/192 stereo track which, despite suffering tape hiss, does do full justice to the characteristic harmonica, crunchy guitars and whiny Neil vocals on this legendary recording.

Advanced Notice

After last month's look at the capabilities of Apple's new third generation iPod, it's now time to examine its essential complement – the iTunes music software. Patrick Cleasby explains how to store your precious music CDs on your Mac or PC in sonically superb AAC quality using this brilliant application.

If you're at all interested in compressed digital music, you should be considering migrating to iTunes as your library manager, but even if you are not anticipating using an iPod or purchasing music from the iTunes music store (which will inevitably reach our shores in the coming year), there are still good reasons to look into iTunes. So, you could do a lot worse than downloading it from www.apple.com/itunes, to transcribe your audio CDs to your computer for easy listening and music management. Here's a step by step guide:

CD TO AAC

So how do you turn your CD music into AAC? Well, after you've installed iTunes on your machine (following the instructions on the website) and click on the desktop icon to run it, you should first verify that your importing preferences are set to AAC in, at whatever bitrate you have decided upon (the higher the bitrate, the better the sound and the less disk space you'll have free). Although iTunes includes a check box in its import preferences to optionally use error correction from version 4.1 onwards, version 4 is already much better than version 3 when importing discs which are either old or scratched.

Inevitably iTunes uses the popular Gracenote CD database (CDDb) for labelling your digital music files with that vital artist/album/track information which drives the navigation facilities of most portable digital music players. On the rare occasions where CDDb cannot identify a CD, it offers you the opportunity to fully annotate the disc

in iTunes (just click and hold to edit in any of the relevant columns) and then upload the details to CDDb for the use of future encoders. Album and artist details can be added with a group update by selecting all the CD tracks (or a subset of them) and selecting right mouse button / Get Info. Type the details once and they are updated for all the selected tracks.

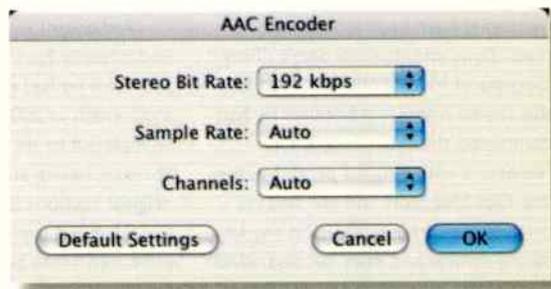
The first step is to get all of your CDs identified on your computer. Unlike other jukeboxes iTunes does not re-label your files if you encode them prior to identification, so the best policy if you do not have an always-on connection is to scan all the discs you intend to deal with in one sitting (without encoding them) while your connection is up, and iTunes will retain the details to mark the files with when you subsequently reinsert the discs to encode while you are offline. The tracks reappear when you insert the CD, you hit the Import icon at the top Right of the screen, wait a few minutes and your disc is encoded.

TRANSCODING AAC BACK TO MP3

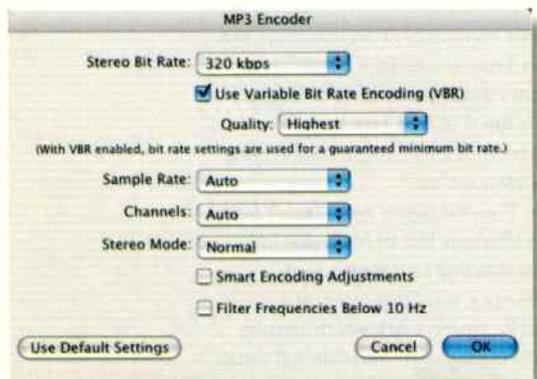
One of the great benefits of iTunes is its willingness to transcode files from one format to another. I fully appreciate that until more devices support AAC you may require the ability to create MP3 CDs for the car or whatever. Although purists (or

people with too much time on their hands) might disapprove and insist on re-encoding from CD, it is remarkably easy and incredibly fast to transcode all or part of an iTunes AAC library to MP3. All you have to do is set your import preferences to an MP3 option and the "Convert Selection to..." option in the Advanced menu changes to "...to MP3". All you have to do is group select the files you wish to transcode in the iTunes window and select this option. iTunes will rapidly generate a nicely-labelled set of MP3 files in the location specified in the advanced tab of Preferences – because their file suffix is different there is no conflict with the existing .m4a suffixed files which form your core library.

The only downside of this move is that your iTunes library stats (track counts, durations etc) will have gone up by the number of tracks cloned to MP3. To remove this effect simply right mouse click on the iTunes column headers, select file type to display, click to sort on the newly added column and delete all the MP3 details, answering "No" to the message which asks if you want to move the deleted files to the trash.



The AAC encoder bit rate setting defaults to 128kbps. Use custom settings if you wish to up it to the more faithful 192 kbps bit rate.



If encoding for MP3 CD use the highest quality setting in the custom window. You will still be able to fit several albums onto one CDR.

APPLE DIGITAL

Unlike the preceding generation of G4 towers, Apple's new 64bit G5 desktops all come with in-built 3.5mm analog and optical SP/DIF audio i/o, enabling up to 24/48 digital recording from a suitable digital source, and 24 bit analog to digital conversion at a variety of sampling rates.

Hey Presto! Your library details are still correct without duplicates, and you still have your newly generated MP3 clones of the AAC files.

IMPORTING EXISTING FILES

There are two easy ways to import existing files – either right mouse click on the file in Explorer / Finder and "Open with" iTunes, or use "Add to library" from the File menu in iTunes itself. If you have enough disk space and your Advanced Preferences are set to copy files to the iTunes library you end up with a tidy library with all the files in a common location.

RECORDING AND MANAGING YOUR OWN FILES

iTunes is not a recording application, it is a library application. If, as many people do, you would like to be able to maintain an inventory of your own recordings, whether computer-based internet broadcast recordings or any external analogue or digital recordings you have made, iTunes can make it easy to label them and transfer them to your iPod, but you need another application to create the music file.

iTunes understands files in a variety of formats, .WAV, .AIF, .MP3, .M4A, even the likes of .MP2 files which can be created by PC-based DAB tuner/ recorder software, but the latter will not be usable on iPod, and iTunes will accordingly prevent such tracks from transferring to the iPod. If you want to listen to them on iPod you will need to transcode the file using the method outlined above.

The iPod also currently seems to get upset and refuse to play ball if you transfer 24bit uncompressed audio to it.

One of the benefits of using a Mac rather than a PC, as well as the new G5's in-built and seamless SP/DIF support [see box], is the fact that if you want to record with it there is currently a very serviceable free download "lite" version of TC Electronics Spark ME stereo recorder available to OSX users. This gives you everything you need to record 16 bit or 24 bit audio on your Mac, as long as your interface supports it. Even Mac and PC users without soundcards equipped with digital i/o can add 16 bit SP/DIF capability with a simple USB interface such as Edirol's UA-1D, although they will need to find an appropriate recording application as well. This is all you need to capture your own recordings, flawless soundtracks, or radio programs using the SP/DIF output of your Sky+ box, the coaxial output of certain Freeview set top boxes, whatever.

PLAYBACK

The iTunes default settings include having the "Sound Enhancer" set on in the effects tab, and depending on your compression settings this can produce some nasty swooshing artifacts which are not actually due to your file encoding. Use according to taste, but try switching it off. The same applies to the in-built equalisation settings, although these can be effective if older recordings need a little bit more life breathing into them. If you are playing your iTunes music out for people to dance to the crossfade option can be useful, and the sound check option can also be employed to try and match disparate



If you are getting unpleasant playback artifacts try switching the "soundenhancer" off before blaming the encoding.



Rock equalisation - does exactly what it says on the tin - can be useful on older recordings.

levels in your files.

DISC BURNING

One of the advantages of iTunes from v4 onwards is that the integrated disc-burning facility is not restricted to CD-R – if you have a DVD burner onboard you can burn backup archives of chunks of your collection onto DVD, scores of albums a time. Just make sure that you have the latest patches if running the PC version, as DVD burner support has been improved.

The only proviso is that the resultant discs consist of however many hundred individual track files in the root directory of the disc created. If you subsequently delete the source files from iTunes they can be reimported from the disc and their in-built metadata will ensure that your library is recreated as was, but if you want to use the disc on an MP3 disc player which can navigate an album-within-artist folder structure such as Pioneer's lifestyle systems it may be more useful to burn the Artist / Album folder structure as it exists in the computer's file system by some means other than iTunes, i.e. Toast for Mac or Nero for PC. Unfortunately the MP3 CD model which has rapidly found prevalence in car CD head units and DVD players has yet to be developed into MP4 DVD territory, but it can only be a matter of time – early word from Pioneer is that they have already have MP4-capable devices in Japan...

NEXT MONTH
We investigate 'fair-use' strategies for creating compressed digital versions of music you only own on high resolution digital formats.



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Some eighteen months ago, I went to Pioneer's UK headquarters in Stoke Poges to hear its (then new) DV-757i DVD player hooked up to the VSA-AX10i AV amplifier, both via the standard 5.1 analogue interconnects and the (then new) direct digital I-Link connection. The difference was like night and day. Worthy as the 757i's onboard converters were, when the machine was used as a transport to port out the digital audiostream directly into the AV amp's internal DACs, the sound improved dramatically. I remember a more open, direct and solid acoustic, one that was smoother and more musical too. When we switched back to the DVD player's converters, things suddenly became thinner, harder and less focussed.

This came as no surprise. After all, I-Link is to multichannel DVD-Audio (and SACD) what S/PDIF was to Compact Disc back in the late nineteen eighties. Back then, unless you owned an 'external DAC' like Arcam's Black Box or Audio Alchemy's Digital Decoding Engine, the technology meant relatively little. But now, late eighties CD players can plug straight into AV amps such as the aforementioned Pioneer VSA-AX10i and be transformed into multichannel marvels, completely in the digital domain, via Dolby Pro Logic II (et al) processing. So direct digital outputs have brought tremendous flexibility to the machines to which they're fitted.

Interestingly though, they ultimately negate the value of a player. What were once complete machines in their own right become mere transports that plug into

whatever their owner is using this month. The digital converters, analogue output stages and power supplies inside any S/PDIF-equipped player become irrelevant; top-of-the-range machines are suddenly only worthy inasmuch as they have decent

“ What were once complete machines in their own right become mere transports that plug into whatever their owner is using this month.

mechanisms fitted. And even this doesn't count for so much when you consider that CD mechs are generally much of a muchness, and you're only really paying for better DACs and audio stages on the pricier machines. All it then comes down to is the quality of the clocking and the S/PDIF transmitter chip. (Ken Ishiwata once confided to me that one of the best sounding transports ever was a mediocre middle-of-the-range late eighties Sony CD spinner - the CDP-338ES - simply because of the latter.)

Pioneer's DV-668i is an interesting machine, as it sports not only I-Link but HDMI too. If I-Link is a latter-day S/PDIF, then the High Definition Multimedia Interface is the new SCART. And it is of potentially immense significance for UK plc's consumer electronics industry. You see, right now, there's a hell of a good reason to invest in a serious DVD spinner over a £99 'supermarket special' - quality. Countless British companies (such as Linn, Arcam, Meridian and Myriad et al.) have

invested serious time and money in making products that produce superb pictures when plugged into suitably high quality displays, with sonics to match. Plug a cheapo supermarket DVD into your AV system however, and the results will be poor - while the likes of an £1000 Arcam DV-89 will transform things. Right now, dealers can easily demonstrate this and are making a good income from getting non-specialist punters who'd never have heard of Arcam to invest in 'something decent for their front room'.

But what happens when your average £99 'made in China' DVD player comes with an HDMI socket, in around eighteen months from now? Effectively, it becomes a DVD transport, piping out up to eight channels of audio and pure digital video (at ultra high speeds of up to 5 Gbps) to the display device (plasma TV or projector) - and suddenly there's no need to invest in the current crop of high quality DVD players, because your plasma will now be doing the digital video conversion as it drives the screen, and your audio can go to any old £199 AV receiver.

Suddenly, any quarter-decent HDMI-equipped DVD spinner will do, and there will be little need for what's become the staple of British specialist audio companies: decent machines. HDMI and I-Link offer tremendous flexibility to the consumer and as such are to be applauded, but here's hoping that our manufacturers (and indeed any others which don't work to 'lowest common denominator' rules) can stay in the game and survive this new forthcoming digital technology revolution. ●

meet your maker

A reference guide to Britain's manufacturers and distributors

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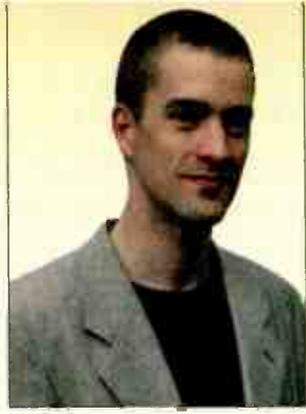
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dominic todd

The world of loudspeaker manufacturing must be a very steady and stable sort of place to be. Hi-fi sources come in and out of fashion every decade, and these days an electronics company really needs to have their wits about them, and a great deal of flexibility, reputation and resource if they are to keep up. Even some of the most prestigious UK companies have recently struggled with the soaring costs of R&D. Even the humble amplifier these days has advanced greatly, with digital design slowly making inroads. Yet, by and large, 'speaker technology has remained pretty much the same for a couple of generations now.

Admittedly, driver technology gets the odd tweak here and there, cabinets have benefited from computer aided design and different finishes come and go with fashion, yet there aren't the seismic shifts in technology that electronics manufacturers face. No wonder, when a hi-fi retailer is faced with a new 'speaker company the response is often along the lines of, "not another 'speaker manufacturer!" Yet who can blame them? With massively growing sales of surround sound systems there's a need for more 'speakers than ever before. It's not just the small plastic ones, that sit rather pathetically a few feet away from your average Wega, either.

Slowly but surely DVD-A and SACD are finally winning over former surround sound sceptics to the benefits of multichannel music, meaning that serious 'speakers are required all around. So serious in fact that I was aghast to see that Yamaha's latest DSP-Z9 requires no fewer than nine of them (and a sub!) to extract it's full potential. Yet, what I don't think that many manufacturers haven't quite got a grasp of, is

that most customers don't particularly want nine 'speakers, or even seven, six or five for that matter. In short, the public's affection for the 'speaker has waned somewhat.

Truth be told, it probably began to wane with the introduction of the Wharfedale Diamond, and the large 'speaker becoming as fashionable as black ash effect in the beech and maple 90's, but that's

risk or expense of anything other than a bog standard ceiling 'speaker, which is a pity. Yet whether NXT or conventional satellite 'speaker, the trouble is that a conventional 'speaker of the same price will still sound better. Furthermore satellite 'speakers still need cabling no matter how small or flat they are. A few cable-less 'speakers float around the market place, but they really

don't sound good, and still need to be wired into the mains or use expensive batteries.

The answer is to provide a surround source from a single point. This, of course, has been tried numerous times before and usually with less than satisfactory results. Simply bouncing sound off different surfaces or phasing the sound has never really had me

convinced, although with the right type of music some of the Bose models can be rather fun to listen to. Yet Niro's system is rather more promising. Rather like the reflecting type 'speaker it uses all five speakers packed into a single case. The difference is that each is controlled by a computer that uses algorithms that simulate the effects used by the brain to identify sound direction. Apparently the computer can compute 600 million calculations per second and takes into account the time taken for the sound to reach each side of the head, and even subtle distortions caused by the shape of each ear. With computers becoming ever more powerful and subtle, it's an idea that could catch on in the wider 'speaker world. One thing's for sure, the demand is certainly there.

Until then, as an audiophile, one simply has to put up with 'speakers and cable everywhere, and a room dominated by the hi-fi. It's good to know that some things in life never change! ●

“ Slowly but surely DVD-A and SACD are finally winning over former surround sound sceptics to the benefits of multichannel music.

another story. What all - bar the most committed audiophiles want - is fewer and less obtrusive, not more and bulkier 'speakers. One way around this is, of course, the sub/sat system. They've become very popular these days and some of the better ones even sound reasonable now too. It's taken the likes of Tannoy, KEF and Mission some time to get it right but they now all offer sub/sat systems that at least make a stab at high fidelity. Interestingly Mission's NXT flat panel technology hasn't been quite as successful as many, including myself, had thought. By and large it is still just Mission using the technology, and although 'speakers such as Wharfedale's PPS1 flat panel "picture 'speakers" were popular, at the right price, the idea has yet to catch on.

One would have thought that with massive growth in custom installations, often built in to new builds these days, that NXT would have had a ready made market. Yet, unsurprisingly I suppose, developers and builders prefer not to take the

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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 CD1 1986 [£1500]
Inspired Stan Curtis redesign of Philips CD104, complete with switchable digital filter. Lean but tight and musical performer.

CAMBRIDGE AUDIO CD 4SE 1998 [£200]
A touch soft in the treble and tonally light, but outstanding in every other respect.

LINN KARIK III 1995 [£1775]
The final Karik was a gem. Superb transport gives a brilliantly tight, grippy dynamic sound, albeit tonally dry.

MARANTZ CD73 1983 [£700]
A riot of gold brushed aluminium and LEDs, this distinctive machine squeezed every last ounce from its 14x4 DAC -super musical

MARANTZ SA-1 2000 [£5,000]
The greatest argument for SACD. This sublime Ken Ishiwata design is utterly musically convincing with both CD and SACD, beating most audiophile CD spinners hands down.



MERIDIAN 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.



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.

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.

COMPACT DISC TRANSPORTS

ESOTERIC P0 1997 [£8,000]
The best CD drive bar none; TEAC's Tokyo boys pushed the boat out in style. Brilliantly incisive, ridiculously over engineered.

KENWOOD 9010 1986 [£600]
The first discrete Jap transport was beautifully done and responds well to re-clocking even today.

TEAC VRDS-T1 1994 [£600]
Warm and expansive sound made this a mid price hit. Well built, with a slick mech.

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, clear, 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.

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.

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.

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.



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.

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.

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.

THORENSTD124 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 ROCK1979 [£ 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.

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MULTIROOM INSTALL

BUY/SELL

Quarterly Sale items

	Our Price	Original Retail Price
ClaraVox Magnifica (Final Offer)	£2,995.00	£14,500.00
Exposure VII pre + XII psu	£450.00	£1,200.00
Magnum Dynalab P 200 Pre	£695.00	£1,900.00
dpa Enlightenment DAC	£295.00	£ -
Michaelson Audio Odysseus	£495.00	£1,500.00
McCormak Line Drive	£395.00	£995.00
Audio Refinement Pre 5 "new"	£395.00	£895.00

Chord DSC 1600E (dac/pre)	£3,250.00	£6,500.00
Audio Research LS3	£895.00	£1,997.00
Musical Fidelity F22	£695.00	£1,500.00
AVI S2000 MP remote pre	£395.00	£800.00
Cary SLP98L Remote Pre x-dem	£1,495.00	£2,794.00
Boulder 1012 (pre amp/ 24.96 dac/ Phono)	£On Dem	£13,000.00
YBA Passion Pre (inc Phono)	£3,995.00	£5,595.00
Boulder 2010 Pre	£POA	£30,000.00
Plinius 16L "new"	£On Dem	£3,200.00
C.A.T. ultimate reference Pre Amp Inc/Phono "new"	£On Dem	£5,750.00

New this month

POWER AMPLIFIERS

Conrad Johnson MF2500	£2,795.00	£4,000.00
YBA Passion Monoblocks	£5,495.00	£9,500.00
Audio Flight 100	£On Dem	£6,500.00
Audio Flight One Integrated	£On Dem	£4,500.00

PRE AMPLIFIERS

Conrad Johnson PV14L	£1,650.00	£2,250.00
Audio Flight Pre	£On Dem	£4,500.00

LOUDSPEAKERS

JM Lab Mezzo Utopia	£3,500.00	£7,899.00
Audio Physic Avanti	£4,995.00	£7,800.00
JM Lab Micro Utopia + Stand	£2,195.00	£4,349.00

CD PLAYERS & DACS/DVD PLAYERS

Linn Sondec CD12	£7,995.00	£12,000.00
Linn UNIDISK I.1	£On Dem	£6,500.00
Chord SPM 1600E Dac/ Pre	£3,250.00	£6,500.00

TURNTABLES, ANALOGUE, VARIOUS

Roksan Xerxes 10/DS1.5/Artemiz/Jubilee	£On Dem	£4,500.00
Ortofon Jubilee	£On Dem	£1,500.00
Roksan Caspian Phono se	£On Dem	£950.00
SME 20/2A	£On Dem	£5,273.53
Roksan TMS2/ Artemiz	£On Dem	£8,500.00

AV COMPONENTS

Lexicon MC8 Processor	£On Dem	£5,000.00
Lexicon RT10 DVD Player	£On Dem	£2,300.00

Power amplifiers

Linn Klimax 500 Solo (4)	£3995.00 each	£6,000.00
Mark Levinson 33	£2,250.00	£4,500.00
Musical Fidelity NuVista 300	£2,695.00	£3,300.00
Boulder 500 AE	£2,495.00	£5,500.00
Bel Canto Evo 4	£On Dem	£3,895.00
ES Lab DX-S4	£1,395.00	£2,000.00
AVI S2000A Amp	£695.00	£1,400.00
Roksan L2/S1 Pre/ Power	£995.00	£2,500.00
Krell KAV 250A	£1,795.00	£3,650.00
Krell KSA 80B	£1,395.00	£3,600.00
Roksan Caspian Integrated	£On Dem	£895.00
Roksan Caspian Power	£On Dem	£645.00
Quad 331/ 303	£295.00	-
Krell FPB 700cx	£11,995.00	£15,000.00
Naim Nait 3	£11,995.00	£15,000.00
Rowland Model 12 (4 chassis)	£8,995.00	£14,500.00
Cary 905 C Monoblocks "new"	£4,995.00	£8,250.00
ES Lab DX-S8	£On Dem	£2,995.00
Plinius 8200P	£On Dem	£1,550.00
Krell FPB 200	£3,995.00	£8,000.00
Plinius SA 102 "new"	£On Dem	£3,750.00
Musical Fidelity P180	£395.00	£900.00
Musical Fidelity CRPS	£395.00	£900.00
Bryston 4 BSS2	£On Dem	£300.00
Jadis Defy 7 mk III	£2,750.00	£2,350.00
Linn Bass Active Card	£69.00	£120.00
Gamut D200 "new"	£995.00	£3,250.00
Musical Fidelity F15	£995.00	£2,500.00
Audio Innovations S1000 mk III monos	£995.00	£3,000.00
Krell MDA 300	£4,995.00	£12,000.00
Cary SLA 70 mk II Silver	£1,295.00	£2,250.00
Linn Klassik CD/Amp silver	£895.00	£1,030.00
Boulder 1060 Power "new"	£On Dem	£16,500.00
Primare 30.1 mk II integrated	£1,350.00	£1,500.00
YBA Passion Stereo "new"	£3,995.00	£5,995.00
Plinius 250 mk IV "new"	£On Dem	£6,350.00

AV components

AV COMPONENTS

Linn 5103 System Controller	£2,395.00	£3,285.00
Parasound Z205 - 5 Channel	£1,795.00	£3,000.00
Lexicon MCI	£1,995.00	£5,500.00
SIM 2 HT 300	£7,500.00	£9,000.00
Primare P30 Processor	£1,295.00	£2,000.00
Linn Klassik DVD	£On Dem	£2,000.00
Lexicon MCI2 / MCI2B	£On Dem	£810.00/ £890.00
Loewe Xemix DVD "new"	£495.00	£495.00

PLASMAS/LCD/PROJECTORS

From NEC/ Panasonic/Pioneer/Sharp from Electrograph Delphi/Selec/Sony/Sanyo	£4,400.00	POA
Panasonic TH-42 PVD6 "new"	-	POA

Pre amplifiers

Audio Research LS2B	£1,295.00	£ -
Musical Fidelity NuVista	£995.00	£1,200.00
Musical Fidelity MVT Pre	£295.00	£ -
Conrad Johnson PV10	£495.00	£1,200.00
Audio Research LS25 mk II	£4,250.00	£5,995.00
YBA 2a Line	£1,295.00	£1,995.00
Tom Evans The Vibe Pre	£On Dem	£2,700.00
Krell KRC	£2,495.00	£6,949.00

Quality speakers

Wilson Audio System 5.1	£6,995.00	£19,000.00
Avante Garde Trio	£9,995.00	£17,000.00
Proac Ref 125 Yew	£1,295.00	£1,700.00
Proac CCI Centre	£595.00	£800.00
2 x Proac ERI Sub	£595.00	£1,000.00
SD Acoustics SD1	£495.00	£1,650.00
Dynaudio Audience 50	£395.00	£577.00
JM Lab Nova Utopia	£On Dem	£19,999.00
Heybrook Sextet (new drivers)	£495.00	£1,200.00
Revel Ultima Studio	£7,495.00	£13,000.00
ATC SCM 10 Passive Black	£495.00	£1,100.00
JM Lab Alto Utopia BE	£On Dem	£9,999.00
Wilson Witt mk I	£3,750.00	£9,000.00
JM Lab Utopia	£9,995.00	£18,000.00
Reference 3A	£1,750.00	£2,250.00
Audio Physic Spark	£1,150.00	£1,795.00
Talon Kite Centre & Bracket	£795.00	£1,750.00
Ensemble PA1	£895.00	£2,000.00
Audio Physic Caldera	£4,995.00	£10,000.00
Aerial Acoustic SW12 Sub Woofer, Maple/remote	£2,995.00	£5,200.00
Mirage M3 si	£1,595.00	£4,100.00
Linn Kabers (Active)	£995.00	£2,500.00
Rel Q 200 E	£On Dem	£650.00
Rel Q 150 E	£On Dem	£500.00
Audio Physic Luna Sub (wood)	£On Dem	£1,799.00
Audio Physic Yara	£On Dem	£999.00
Vienna Acoustics Mahler	£On Dem	£6,000.00
Vienna Acoustics Mozart	£On Dem	£1,700.00
Vienna Acoustics 5.1	£On Dem	£3,500.00
Cabassee io 5.1	£On Dem	£2,170.00
JM Lab Sib & Cub (5.1 spk sys)	£On Dem	£859.00
Blue Room Minipod (White)	£225.00	£298.99
Blue Room Minipod + Sub (Blue)	£625.00	£749.00
Blue Room Minipod Sub	£415.00	£468.99
Genelec 205 Active Monitors	£On Dem	£750.00
Audio Physic Virgo III "new"	£On Dem	£4,000.00
Audio Physic Tempo III "new"	£On Dem	£2,000.00
Naim SBL's	£995.00	£2,225.00
Rogers LS55 "new"	£260.00	£430.00

CD players DACS

Linn CD12	£On Dem	£12,000.00
Linn Karik/ Numerik	£995.00	£3,300.00
Pink Triangle Da Capo 1307	£695.00	£1,400.00
Micromega Micro Drive/ dac	£995.00	£ -
Krell KPS 25sc 24/96	£11,995.00	£23,498.00
Roksan Caspian CD	£On Dem	£995.00
Theta Data Pro Basic IIIa	£1,495.00	£3,495.00
Trichord PD-S 503	£295.00	£500.00
Pink Triangle Ordinal	£295.00	£600.00
YBA CD1 Delta (Twin psu)	£3,995.00	£5,500.00
Audio Synthesis DAX Decade	£1,695.00	£3,250.00
Mark Levinson 39	£2,995.00	£5,000.00
Marantz 17 Ki Sig (Black & Gold)	£595.00	£1,200.00
Mryard MDV 200 DVD	£650.00	£995.00
YBA CD 3 Delta	£On Dem	£2,200.00
Audiomeca Damnation CD Transport	£750.00	£1,600.00
Primare V20 DVD/CD	£750.00	£1,000.00
Audio Aero 32/192 Capote CD (Ver. 4)	£On Dem	£4,500.00
Primare V25 CD/DVD	£On Dem	£1,000.00
Theta Pro Geny	£595.00	£1,295.00
Boulder 2020 dac	£POA	£24,000.00
Theta Data II Transport AT + link	£1,995.00	£4,000.00
YBA CD Integre "new"	£On Dem	£1,195.00

Turntables & analogue

Micell Orbe/VC/ RB300	£On Dem	£2,350.00
Nakamichi CR3	£495.00	£ -
Nakamichi CR4	£595.00	£ -
Project RPM 6 "new"	£On Dem	£500.00
Project RPM9/ arm	£On Dem	£1,350.00
VPI TNT mk IV/ Rockport 6000/ Flywheel/ VPI Stand/ Clearaudio	£8,500.00	£16,000.00
Accurate/ Pump etc. "new"	£On Dem	£850.00
Roksan Radius (Acrylic) "new"	£On Dem	£1,100.00
Loricraft record cleaning machine	£999.00	£2,250.00
Tara Labs The One Balanced Im	£On Dem	£425.00
Earmax Pro	£450.00	£995.00
Devox B160 Tuner	£1,495.00	£ Priceless
Deca London Gold (original Garrott Brothers)	£10,495.00	£12,289.00
SME 30/2 A "new"	£ -	£ -
Moth Record Cleaning m/c	£395.00	£ -
Project RPM4/ Ortofon 510 "new"	£245.00	£325.00
Ortofon Rohmann	£On Dem	£1,050.00
Ortofon Kontrapunkt a/b "new"	£On Dem	£500.00
Micell Gyro SE/ RB300 "new"	£On Dem	£1,100.00
Audio Synthesis Phono Eq mm/mc	£495.00	£ -
Gryphon Phono Pre-Amp (dual mono) Head Amp	£695.00	£1,600.00
SME Series V Arm "new"	£1,350.00	£1,650.00
Pink Triangle PT Ext psu	£495.00	£ -
Plinius 14 Phono "new"	£On Dem	£2,750.00
Nakamichi DR 3	£195.00	£400.00
Tom Evans - The Groove "new"	£On Dem	£1,795.00
Clear Audio Reference Mc phono stage X-demo	£1,695.00	£2,065.00
Rega Planer 3 + Hi Fi News Out Board Power Supply	£320.00	£423.00
Clear Audio Symphono phono stage X-demo MM/MC	£640.00	£740.00

* Reduced this month

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- C.A.T.
- Cary
- Chord
- Clear Audio
- dcs
- Denon
- DNM
- Egglaston Works
- Electrograph Delphi
- Genelec
- Graham
- Gryphon
- Imerge
- In Focus
- J M Lab
- KEF
- Krell
- Lexicon
- Linn
- Loewe
- Lutron
- Lyra
- Mark Levinson
- Michell Eng.
- Musical Fidelity
- Naim
- NEC
- Nordost
- Oracle
- Ortofon
- P.M.C.
- Plinius
- Primare
- Project
- Quadraspire
- REL
- Rockport
- Roksan
- Rotel
- Ruark
- Selec
- SME
- Soundations
- Straight Wire
- Sugden
- Tara Labs
- Teac
- Theme Scene
- Tom Evans
- Totem
- Transfiguration
- Trichord
- Trilogy
- Van den Hul
- Vienna Acoustics
- VPI
- Wilson Audio
- Wilson Research
- YBA

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.

AUDIOTECHNICA AT1120 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 HR100S 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.

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.

HADCOCK GH228 1976 [£46]

Evergreen unipivot with lovely sweet, fluid sound - although bass and dynamics are limited. 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.

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 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.

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.

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

A&R A60 1977 [£115]

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

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.

CREEK CAS4040 1983 [£150]

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

MCINTOSH MA6800 1995 [£3735]

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

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.

MYST TMA3 1983 [£300]

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

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.

NAIM NAIT 1984 [£350]

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

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.

SUGDEN A21 1969 [£ N/A]

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

PREAMPLIFIERS

AUDIOLAB 8000C 1991 [£499]

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

CROFT MICRO 1986 [£150]

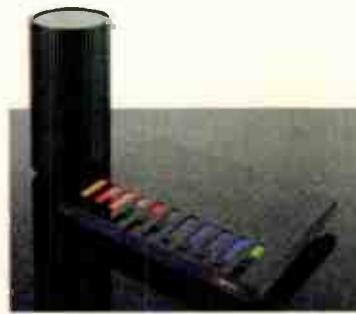
Budget valve pre-amp with exceptionally transparent performance.

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!

LECSON AC-1 1973 [£ N/A]

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



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.

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In the eye of the storm

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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.

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 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.

LEAK STEREO 20 1958 [£31]
Excellent workaday classic valve amplifier with decent power and drive. Surprisingly modern sounding if rebuilt sympathetically. Irrepressibly musical and fluid.

LECSON API 1973 [£ N/A]
Madcap cylindrical styling alluded to its 'tower of power' pretensions, but it wasn't. Poor build, but decently clean sounding when working.

MARANTZ MODEL 9 1997 [£8000]
Authentic reproduction monoblocs still more than cut the sonic mustard. Highly expensive and highly sought after.

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

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

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

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.

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

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



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

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.

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.



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

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

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

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

ANALOGUE RECORDERS

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.

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.

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Arcam DT26 DAB Tuner (2Yr G/tee)(999.00)	£549.00	Linn Sizmik Active Sub - Cherry (2Yr /Gtee)(995.00)	£645.00
Arcam CD62T CD Player (2Yr G/tee)(369.00)	£259.00	Mission M70 Speakers - Beech (1Yr /Gtee) . . .(129.00)	£69.00
Arcam CD72T CD Player (2Yr G/tee)(449.00)	£329.00	Mission M51 Speakers - Rosenut (2Yr G/tee) . .(299.00)	£209.00
Arcam A85 Amplifier (2Yr G/tee)(799.00)	£549.00	Naim AV2 Processor (2Yr G/tee)(2255.00)	£1695.00
Arcam DV88 DVD Player - Blk (2Yr /Gtee)(999.00)	£499.00	Naim NAPV 175 3 Ch P/Amplifier (2Yr G/tee) .(1225.00)	£895.00
AVI UTES Speakers - Cherry (2Yr /Gtee)(399.00)	£199.00	Naim NAC 112 Preamp (1Yr /Gtee)(660.00)	£495.00
B&W CMC Centre Speaker (2Yr G/tee)(350.00)	£199.00	Naim NAT-05 Tuner (1Yr /Gtee)(765.00)	£575.00
B&W AS2500 Sub Woofer (2Yr G/tee)(895.00)	£479.00	Naim Credo Speakers (2Yr G/tee)(1350.00)	£595.00
K.E.F. KHT 2005 AV Spkr Pack (2Yr G/tee)(799.00)	£479.00	PMC TB2 Speakers (2Yr G/tee)(700.00)	£495.00
Linn Trikan Centre Spkr - maple (2Yr /Gtee) . . .(549.00)	£349.00	Rega Radio 2000 Silver (2Yr /Gtee)(374.00)	£219.00
Linn Ninka Speakers - Blk (2Yr G/tee)(1145.00)	£695.00	Rega Ara Speakers - Cherry (2Yr /Gtee) . . .(255.00)	£149.00
Linn Espek Speakers - maple (2Yr G/tee)(2800.00)	£1795.00	Revox E642 42" Plasma/Tuner (1Yr /Gtee) .(7499.00)	£2799.00
Linn Klimax Twin Power Amplifier (2Yr G/tee) . .(6000.00)	£4395.00	Rotel RQ Phono MM/MC Pre (6Mth /Gtee) . . .(189.00)	£75.00

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



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



DIGITAL RECORDERS

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

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.

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

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

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

LOUDSPEAKERS

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.

LEAK SANDWICH 1961 [£39 EACH]
Warm sounding infinite baffle that, with a reasonably powerful amplifier can sound quite satisfying.

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

MAGNEPLANAR SMGA198X [£800]
Technological loudspeaker with genuinely musical abilities; fast, smooth, open, dry.

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.



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 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!



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 sub-woofers and supertweeters.

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!



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.

Billy Vee
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Arcam CD72 CD Player Silver (6Mth /Gtee)	(399.00)	£259.00	Linn 5103 AV Processor Sil LCD (1Yr G/tee) .(3250.00)	£1249.00
Arcam DV88 DVD Player Silver (1Yr /Gtee)	(999.00)	£479.00	Linn 5103 AV Processor Sil LCD (1Yr G/tee) .(3250.00)	£1149.00
Arcam FMJ DV27 Player (1Yr G/tee)	(1599.00)	£1199.00	Linn Lingo Old style (6Mth /Gtee)	(495.00) £325.00
Arcam A85 Amplifier (1Yr G/tee)	(799.00)	£549.00	Naim NACD 3 CD Player (6Mth /Gtee)	(899.00) £495.00
Arcam Alpha 7 Tuner (6Mth G/tee)	(279.00)	£139.00	Naim NACD5 CD Player (1Yr G/tee)	(1125.00) £785.00
B&W CDMCse Centre Spkr - Blk (6Mth G/tee) .(400.00)		£199.00	Naim CDS Head Unit (1Yr G/tee)	(4165.00) £2795.00
Denon TU260L Tuner (6Mth G/tee)	(139.00)	£95.00	Naim PSX Power Supply-CDX (1Yr G/tee) . .(2100.00)	£1395.00
Linn Karik 3 C D Player (6Mth G/tee)	(1850.00)	£625.00	Pioneer DV909 DVD/Laser Sil (6Mth G/tee) .(899.00)	£199.00
Linn Ikemi CD Player (1Yr /Gtee)	(2225.00)	£1195.00	ProAc Response 2.5 Speakers (1Yr /Gtee) (2700.00)	£1195.00
Linn Numerik D A Converter (6Mth G/tee) . . .(1100.00)		£299.00	Ruark Talisman Speakers (6Mth G/tee) . . .(499.00)	£179.00
Linn Wakonda Preamp (1Yr /Gtee)	(849.00)	£495.00	Sugden Headmaster Preamp	(659.00) £350.00
Linn Kairn Preamp Line (1Yr G/tee)	(1400.00)	£599.00	Yamaha DSP800 Processor (6Mth /Gtee) . . .(399.00)	£189.00

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

AN TT I/ARM ONE/IQ1 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 combo, but dry and clinical sounding compared to rivals. Accomplished performer with classical music, nonetheless.

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.

TO NEARMS

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, but poor frequency extremes.

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.

MICHELL TECNOARM 2003 £346
John Michell's brilliant reworking of Rega's classic adds a classy counterweight and end stub, plus Cardas cable. The result is a near transparent sound with plenty of power and poise.

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

AUDIOTECHNICA 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.

DYNAVECTOR DV20X-H 2003 £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.

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.

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.

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!



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.

SUMIKO BPS 1995 £250
Charismatic performer with rhythm aplenty, but in other respects way off the pace - lacks smoothness and sophistication of the DV10X5.

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 CD50 2003 £699
Lyrical and musically engaging mid-price machine, but lacks its Marantz rival's tonal exuberance

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
Oft-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.

MARANTZ DV8300 2002 £1500
An extremely well designed universal player, offering a beguilingly natural sound whatever you feed it.

MERIDIAN 507 2003 £1195
Quintessentially Meridian mid-price machine: smooth, warm, expansive and seductively musical. The best all rounder at this competitive price point.

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.

NAD C541I 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.

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!

NAIM CDS3 2003 £7050
The most polished Naim CD to date; tremendously capable and musical, but lacks the Rotweiler quality of the cheaper CDX2-XPS2.

PHILIPS DVD963SA 2003 £400
Creamy CD sound allied to superb SACD and DVD video playback makes this brilliant value for money.

REGA PLANET 2002 £498
Rhythmic and beguiling performer, although lacks the warmth of tone needed to better its Marantz rival. Superb ergonomics and design, nonetheless.

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.

DIGITAL RECORDERS

PIONEER PDR-609 2001 £200
Brilliant value CD recorder that makes excellent recordings from its digital inputs. Half decent digital converters, too.

PHILIPS DVDR880 2003 £370
Poor CD audio playback, but makes great DVD video recordings and boasts fine ergonomics. Top AV value.

SONY RCD-W3 2002 £250
Usual superb Sony ergonomics make for nonsense budget buy. Fine direct digital copies, but analogue input poor. Middling sonics, but there's a digital output!

YAMAHA CDR-HD1300E 2002 £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.

MUSICAL FIDELITY X-LP 1999 £149
Clarity and detail allied to decent smoothness make it a solid first phonostage. MM/MC.

QED DISCAVER 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.

AMPLIFIERS

ARCAM DIVA A65 PLUS 2002 £370
Classic budget Arcam fare - decently sweet and open with sensible facilities and plenty of power.

ARCAM FMJ A32 2001 £1150
For those who value serious power and labyrinthine facilities over outright clarity or grip. A very impressive all rounder with an unusually muscular power amp at this price.



AUDIO ANALOGUE PUCINI 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 SE 2000 £1699
Wonderfully out-of-the-box sounding tube middleweight is all about sweetness and fluidity. Limited power and loose bass, but little the worse for it.

CYRUS 6 2003 £600
Cracking do-it-all mid price design, bringing svelte sound, good connectivity and upgradeability 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.

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.

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.



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.

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 PRE 2003 £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.

POWER AMPLIFIERS

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.

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.

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.

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.

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,

LOUDSPEAKERS

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..

EPOS ELS-3 2003 £200

Plenty of brio and a decent degree of refinement makes this budget baby a fine value contender.



KEF Q1 2003 £250

Highly polished and articulate standmounters at the price, but demand good ancillaries for best results.

KLIPSCH HERESY II 1997 £1100

An outstanding high sensitivity loudspeaker with midrange and treble horns coupled with infinite baffle 12" bass driver. Effortless, fast and accurate.

LINN NINKA 2001 £995

Major on rhythms and dynamics, making them an involving listen. Reasonably refined, too - but tonally disappointing.

MISSION 782SE 2003 £900

Bright and tight design capable of brilliant speed and grip, at the expense of warmth. Demands high quality, high powered ancillaries.

MONITOR AUDIO B4 2003 £350

An unusually smooth and lucid performer at the price, and its 3-way design means it drives rooms well. Fine engineering, but build and finish so-so.

MORDAUNT SHORT 914 2002 £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.

TDK S-80 2002 £90

Ingenious NXT multimedia sub/sat system has a wonderfully even and open sound - like baby electrostatics.



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.

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.



HEADPHONES

JECKLIN FLOAT TWO 1998 £99

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

SENNHEISER MX-500 1999 £19

Our unqualified recommendation for those seeking a serious sounding pair of in-ear phones. Smooth, detailed and musical.

SENNHEISER PX-100 2002 £29

Cracking pair of lightweight open back cans ideal for personals, but good enough for real hi-fi use. Superb build allied to a smooth and engaging performance make them the spiritual successor to the HD400s.

SENNHEISER HD-590 1998 £199

The company's best real-world cans to date. Open and smooth with plenty of detail. Brightly lit midband makes them an ideal partner for a valve headphone amp.



INTERCONNECTS

CHORD CO. CHAMELEON 2 £90/M

One of our favourites, these are musical performers with a smooth yet open sound.

DNM RESON £40/M

Neutral and transparent - a steal!

NORDOST BLUE HEAVEN £150/M

Some of the fastest and most transparent cable around.

VDH ULTIMATE THE FIRST £260/0.6M



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WEBSITES

www.worldaudiodesign.co.uk
www.hi-fiworld.co.uk

Editor

Nick Lucas
tel/fax: +44 (0) 1908 218 836
e-mail: nick@worldaudiodesign.co.uk

Design & Layout Editor

Faiza Chunara
tel: +44 (020) 7625 3129
fax: +44 (020) 7328 1844
e-mail: adproduction@hi-fiworld.co.uk

Production Editor

David Noble
tel: +44 (020) 7625 3134
fax: +44 (020) 7328 1844
e-mail: classifieds@hi-fiworld.co.uk

Contributors

Clive Meakins
Dave Stocks

Advertising

Mike Ballance
tel: +44 (0) 1908 616 116
fax: +44 (0) 1908 218 836
e-mail: advertising@hi-fiworld.co.uk

Accounts

Sharon Mehlhorn
tel: +44 (0) 20 8841 8892
fax: +44 (0) 20 8841 9144
e-mail: accounts@hi-fiworld.co.uk

Technical Editor

Noel Keywood
e-mail: publisher@hi-fiworld.co.uk

Private & Trade Classified Ads

tel: +44 (020) 7625 3134
fax: +44 (020) 7328 1844
e-mail: classifieds@hi-fiworld.co.uk

Subscriptions

tel: +44 (0) 20 8841 8892
fax: +44 (0) 20 8841 9144
e-mail: subscriptions@hi-fiworld.co.uk

Back Issues

tel: +44 (020) 7625 3134
fax: +44 (020) 7328 1844
e-mail: backissues@hi-fiworld.co.uk

News & Letters Email

e-mail: diynews@hi-fiworld.co.uk
e-mail: diyletters@hi-fi-world.co.uk

WORLD AUDIO DESIGN

Technical Manager - Nick Lucas

www.worldaudiodesign.co.uk

tel/fax: +44 (0) 1908 218 836
e-mail: nick@worldaudiodesign.co.uk

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Our Agents in Malaysia

Millennium Hi-Fi & AV
Simon Chang
Showroom & office, 500-1-3 First Floor
Wisma Indah (Shen Court), Jalan Tun Razak
50400 Kuala Lumpur, Malaysia
Tel: 603 9283 8171 Fax: 603 9281 3762
e-mail: info@millennium-audio.com

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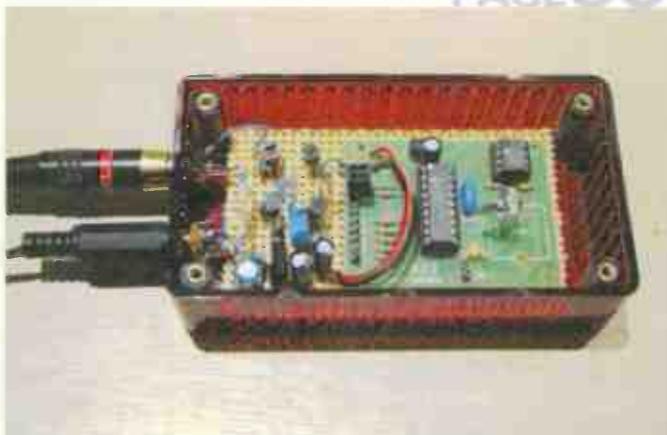
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DIY supplement contents

PAGE 94



PAGE 99



NEWS 93
All the latest from the weird and wonderful world of DIY hi-fi.

THE ELECTRIC TOWN EXPERIENCE 94
Clive Meakins visits Tokyo's Akihabara district, famous for its hi-fi and electronics stores. Even the markets sell electronic components, he found.

ARE YOU SITTING COMFORTABLY? 99
Dave Stocks creates a standalone remote control device.

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FALCON Custom-wound Inductors.

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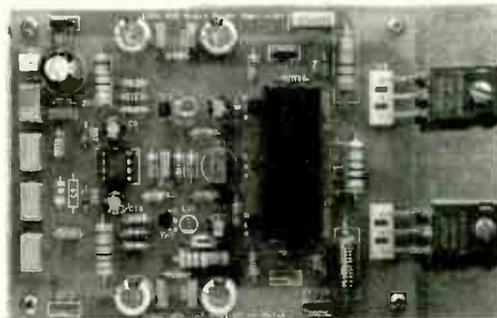
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SPEAKER KITS GALORE

North Creek Music Systems (USA) have been trading since 1991. They have a good few loudspeaker kits, utilising high end drivers from the likes of Scan-Speak and Vifa. The site details construction plans and layouts, measured responses and photographs of the finished products. They sell just about everything to do with loudspeakers: resistors, capacitors, inductors, drive units, spikes, binding posts, plans, related books and magazines... Their kits are not particularly sensitive, so you would have to put your single ended valve amps away. Even though North Creek are state side and you may not fancy paying the extra carriage for their items, you could always buy the plans off them and source the components and drivers here in the UK. Both Falcon Acoustics and Wilmslow have good stocks of parts and will be happy to supply you. www.northcreek.com



HORN HEAVEN

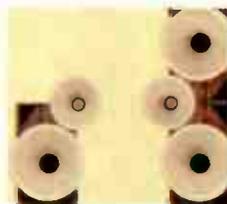
To quote BD Design's homepage, "If you're looking for high-sensitivity systems, that reproduce reality; if you want amplifiers that sound good, and you want good value for money, then you're in the right place. Once heard, you'll never want to go back."

These guys have a well built site, selling a range of horn loudspeakers. Recognizing limitations in the lower end response that horns suffer, they also provide subwoofers. Some of their designs marry the two in the same enclosure. They are into DIY and outline a couple of designs using AER drive units, stating them to be natural sounding full-range drive units. Their site features

detailed instructions of how to build them, excellent feature as you can see what you are letting yourself into before you buy.

The site has its own bulletin board, well used, classified ads section, not so well used. They also sell Border Patrol amps, TVC attenuators, Kemp electronics and Nottingham turntables. Also they stock other high end drivers. If you like horn loudspeakers this professional site is worth a look.

www.bdspeakers.com



JAPAN REVISITED

Following on from Clive Meakin's visit to Akihabara, Japan, as featured in this issue, I thought I would look over their site. This is the official site to Akihabara, in English thankfully, so you do not have to install any translation software, which I for one can never get to work properly. The site tells you a bit about some of the main shops, what they sell, and what languages they speak. They all seem to speak English, but evidence seems to contradict this. It provides a map and instructions on how to get there. For your information, I just checked cheap flights for Japan quickly and it costs something in the region of £450.00 for a return ticket.

www.akihabara-japan.com



VALVE MANUFACTURE

If you have ever wondered about how they make valves and the machinery they use, this site has a tour of the Amalgamated



Wireless Valve Company's Ashfield Valve Works. There are good sized pictures of the machines they used to use, with their operators close by.

The site describes itself as an electron tube technology resource and supply. They sell numerous valves, accompanying this with lots of tube data. It is the pictorial history lesson this Australian site offers that I find interesting.

www.amvalve.com.au

The Electric Town Experience

Clive Meakins visits Tokyo's Akihabara district, famous for its hi-fi and electronics stores. Even the markets sell electronic components, he found.

So what's Tokyo got to offer readers of this magazine? I'm not talking about the offers I was made in the restaurant district around my hotel. Rather, what I have in mind is visiting Akihabara or as its sometimes known, Electric Town. This is the place to go to pick up the latest high-tech electronics, portable music players; MP3, MD, CD, TVs, DVD, SACD, PDAs, computers and digital cameras. You name it, they've got it, including everything from high-end audio to electronic components.

I was in Tokyo for a week on business and managed to visit Akihabara twice. You must go more than once, as you need to absorb the environment on your first visit. I found a useful map on the web at www.spectrum.ieee.org/WEBONLY/resource/jul02/toolmap.html. Armed with this I set out from my hotel.

This was my first trip to Tokyo and I'd only arrived a few hours earlier so I was wary of getting lost in a city with little Western signage.

English wasn't spoken much and my Japanese could only come from my phrase book. I found the city very clean and not as busy as I'd expected. Busy but not gridlocked. I took a look inside one of the subway stations, there was some Western script on the map but the ticket machines were totally in Japanese. Being severely jet-lagged I elected to take a taxi to Akihabara, costly but I should get there, or so I thought.

Akihabara is so well known that most attempted pronunciations will get you there. You need to be dropped off near the JR (Japan Railway) Akihabara Station. The problem I had was that I was dropped off on the wrong side of the station. Easy you might think, cross-reference a couple of road names and



Valve seller.



Array of valve worked on.

start walking in the right direction. Wrong! Could I correlate the Japanese on my map with the road signs? No way. I didn't have a clue about whether I was walking towards or away from the city centre. This started to become uncomfortable. After about 15 minutes I found the canal that was marked on the map and in no time at all I was in the centre of Electric Town. More confident now I that had my bearings I set about exploring.

Before searching out hi-fi and electronics I had an errand to perform. Could I buy a digital camera at a price much lower than



Capacitor stall.

the UK? Plenty of shops were tax-free and selling familiar models with universal chargers and multi-lingual manuals. Watch out for the voltage of electrical goods, Japan's supply is 100v at 50Hz. Oh yes, don't try phoning home to check prices, quite apart from the 9 hour time difference, there's no GSM phone service, so your mobile phone won't reach English soil. When I compared prices, I found that at 177 Yen to the Pound, prices were lower than UK shops but only marginally cheaper than the price in European airports where the shops pay the tax, i.e. tax-free to you but not officially tax-free. The Akihabara shops don't seem to negotiate on price but will throw in an extra flash card, case or similar. Having decided to buy the camera in Europe I finally headed for the hi-fi stores.

The shops are mostly multi-floor, typically up to six or seven floors. I went to the top floor of a large store that had a hi-fi separates section. There was a large wall full of speakers and a switch box to allow some sort of comparison to be made. I'd not seen a setup like this since the 70s, but then again I wouldn't frequent these sorts of stores at home, do they still exist? They had some good speakers, a lot of B&W, some Tannoy and of course a lot of Japanese kit. There were racks of tuners, amps, CD players and cables. There were a lot of tweaky parts, especially various wood and metal cones. At last I found a



Fixings.



Transforming paradise.



Phono and jack plugs.

few record decks, all disco style but quite possibly fine sounding. There were of course various Dynavecator cartridges and more surprisingly a lot of Ortofons too. Prices were good for a store though I suspect if you knew where to get the keenest prices you could make some substantial savings. I was looking for a Nagaoka record roller cleaner, but all I found was a Pixall from the UK, this is a roller cleaner with tear-off sticky tape that I used way back. I did find a metal Audio Technica strobe disc for my Michell Gyro SE.

I found several more stores with a similar repertoire so I decided to search for valve amps, single driver speakers, exotic resistors, capacitors and ironware. But now I was hungry. I found that under the railway arches

near the station there were various eateries. I had what became my favourite lunch, Tempura. This is deep fried fish and vegetables on noodles. You can wash this down with unpleasant green tea so I chose beer. It turns out Tempura's origins are Portuguese but wherever it comes from, it is good.

Near the station you can enter between some of the shops where you find what I call the secret garden, it's an undercover market area full of electronics stalls. Each stall has its own specialization. There were stalls specializing in resistors, Kiwame, Riken Ohm, Mills, Red Fire Crackers so, not just Japanese. For electrolytic capacitors I found most of the better Japanese makes but I couldn't find the Black Gate WKzs

reservoir capacitors I was looking for. All this way to the land of Black Gates (BGs) and I was told I wouldn't find them in Akihabara. I couldn't help feeling I was asking the wrong people in the wrong way. Maybe if they didn't know where to get the BGs they preferred to say they weren't available here - perhaps it's a Japanese cultural thing. In Japan, work is a serious business, relationships are built up over time, something I had little of, and a business relationship is closely linked to friendships, probably because these guys work incredibly hard - and long hours.

I was amazed by the connector stalls and switches stalls; they all had a lot of stock. Then I came to the wire stall, all sorts were available and in sensible lengths, you don't need to buy ridiculous lengths. There were also stalls for knobs, chassis, tag strips etc. Other stalls had various chips, op-amps, DACs and the like. Where I wished I had more time were the valve and transformer stalls. The valve stalls had all sorts of New Old Stock valves, quite a lot of it was rather pricey but I could have done with more time to scan all the stock.

In what I believe translates into the "Tokyo Radio Department" across the road from the bigger market area are some very specialist stalls. I didn't just need time to look but also time to work out what I wanted. At Noguchi Transformers the prices looked really good, no doubt not shipping them across the world is one reason - just make sure you have sufficient baggage allowance! Work out what you want before you go, don't waste the opportunity.



Racks of amps.



Fostex and other drivers.

At the northwest extremity of Akihabara is one of the Dyna 5555 stores. The top floor has some good high-end kit. I spent a marvellous hour listening to SACD through Avantguard Duo horns in a large and acoustically well-treated room. Quite why I had to go all that way to listen to German speakers is a good question that I have no answer for.

Back in the market area I found a stall selling speaker drive units. They had several Fostex units including a 208 Sigma at around half the European price. Nearby was a very small shop selling small speakers, many with Fostex drivers. These looked like very low volume production and may have been kits. The woodwork was very rigid. They were clearly for small rooms. Small was the order of the day.

If I were a resident of Tokyo I would quite happily join the masses of hobbyists that scour the specialist stores, filling up a box of exotic bits to construct my own amplifiers, pre-amplifier, speakers and I may even progress to a DAC. Most parts are lower priced than the best internet prices and there would be no shipping costs. Resistor and capacitor savings are useful but the fun picking over the market stalls is more important. If you could find Black Gate capacitors there would

probably be good savings here, especially for WKz types for valve amplifier power supply capacitors. The greatest savings though would come from the iron, in other words chokes, power and output transformers. You could also go for some of the more exotic output transformers. This would be rather like selecting the best market ingredients to cook a great meal.

If you are going to Tokyo I urge you to carefully work out what you want before you travel. It is quite a journey to Japan and no doubt you will suffer from jet-leg, so don't go for a weekend away trip. You will also need a pen and paper, the stallholders typically read better English than they speak it. If you have a Japanese speaking friend, buy them lunch and take them along as your personal translator. There's little like Akihabara anywhere else in the world, making this a unique destination for any DIY nut.



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Our Website is currently undergoing a 'Silver' makeover but when it re-appears we're sure you will find it well worth a visit. URL below.

Meanwhile, here's a few 'notables' from our past quarter century:

- First CD serviced Dec. '83
- First custom-build July '79
- Physically, longest job - an 8'. 32 channel desk
- Heaviest/tallest - Marconi H1000 1kW linear amp. at 8cwt., 6'9"
- Greatest audio power - 2 x 5kW, absorbed for 8 minutes on test by our No. 3 Load in '98
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- First chassis re-plate, McIntosh in '81
- Strangest?...the jury's still out on this!

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There are plenty of great DIY preamp designs and kits around, Bruce Rosenblit's Grounded Grid, WAD Pre 2 and various Nelson Pass DIY designs to name but a few. However there is one problem with all of these - you have to get out of your nice comfortable listening chair to change the volume!

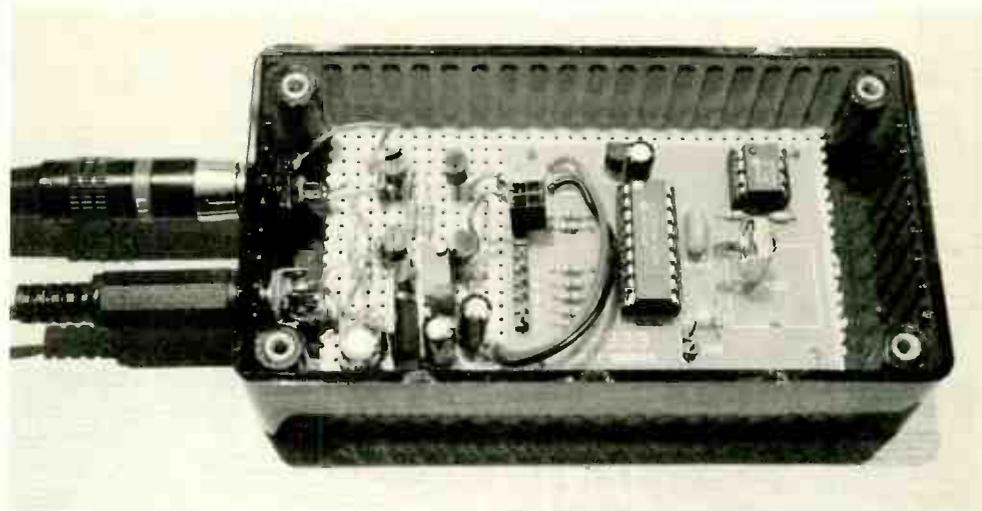
Having evaluated several options to solve this problem (sit nearer to the hi-fi?) I eventually decided the easiest and most cost effective way was to use a commercially available programmable infra-red receiver module with a few extra components to drive a motorised potentiometer.

MILFORD IR RECEIVER MODULE

Milford Instruments part number I-933 is ideal for our needs, see: http://www.milinst.com/gemodules/I_933.pdf. This is a ready built infra-red receiver/decoder that can be programmed to respond to any button of most remote control handsets. In my case I have programmed the unit to respond to two unused buttons on my CDP remote controller for up/down volume control.

The module has seven channels that can be configured for toggle or momentary action, for volume control using a motorised pot you need two channels configured for momentary action. The other channels could be used for source selection, with suitable logic and relays, if you wanted to include this. The module costs just under £30.

Note that some remote controls



Internal view of control device.

emit only a one-shot stream of data when a button is pressed; this type cannot be used to set a momentary output on the Milford module. All the remotes I have tried emit a continuous data stream and worked perfectly with it.

You will also need a motorised potentiometer, some sort of power supply and a full bridge driver, which can be built on a piece of strip-board. This gives a simple and cost effective solution not beyond the abilities or pocket of most DIY'ers.

You can either fit the whole thing inside your preamp or build it into a separate box and use a 2-pole connector to connect to your preamp.

MOTOR RATINGS

The Alps Blue is probably the most readily available quality motorised potentiometer and is stocked by both Farnell and RS as well as specialist hi-fi component suppliers. I used the Panasonic part which is less

readily available (indeed it may now be discontinued by Panasonic but available in another guise).

The specs are:

Panasonic motor: 6V nominal (3V – 9V), 50mA. 12 seconds for full rotation at 6V.

Alps motor: 4.5V nominal (4V – 6V), 100mA (150mA at end stop). 12 seconds for 300 degree rotation at 4.5V.

EXPLANATION OF THE BRIDGE DRIVER CIRCUIT

The unit needs a stable supply around 12V (e.g. 12.6V heater supplies in a valve design). R6 limits the current through T5 when power is initially applied and C3 is charging; it also shares the power dissipation with T5 when driving the higher current, lower voltage Alps motor. The circuit will work with supply voltages down to 9V but the value of R6 will need reducing to preserve enough voltage headroom to drive the motor, IOR would be a suitable

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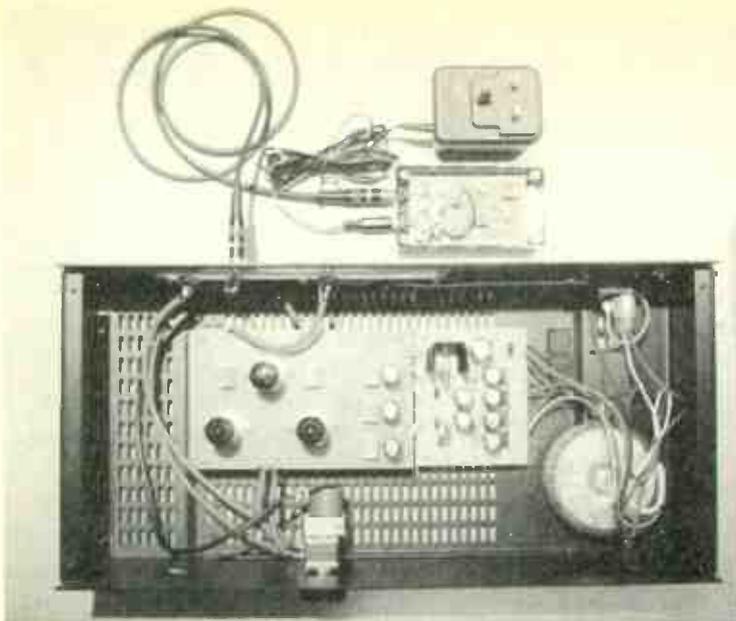


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View of control device linked to pre-amplifier via a interconnect.

value.

The unit shown in the picture has as L7812 regulator fitted because it is used with an unregulated supply of about 16V. This is fine with the Panasonic pot but the extra current of the Alps motor would cause excessive dissipation in the regulator. I also used BC series transistors but would recommend the superior power handling of the Zetex parts listed when driving the Alps pot.

T1 - T4 along with R2 - R5 form a bridge driver. When output 1 goes high T2 is turned on which causes T4 to turn on, therefore PAD1 is pulled high and PAD2 low, which drives current through the motor winding. When output 2 goes high, T1 and T3 are on, causing the current to flow in the opposite direction through the motor. The trimmer potentiometer (R1) on the base of T5 is provided to enable the voltage applied to the motor to be set for the desired

rotational speed of the potentiometer.

D1 is provided to protect against an accidental reversal of the power supply, D2 to D5 protect T1 to T4 against possible negative collector-emitter voltages during operation with an inductive load. The design does not include short circuit protection. In case of a short on the output (or an incorrectly fitted component) R6 will probably fail due to excessive dissipation (about 4W), it will however, protect the other components in the circuit.

BUILD DETAILS

I chose to build the system into a small infra red box and used a 2.5mm jack socket for the power input and a phono socket for the motor drive output. The preamp has a phono socket wired to the motor, which enables use of a standard phono-to-phono lead for connecting

the two units together (caution: do not connect the output of the remote driver to an audio input!).

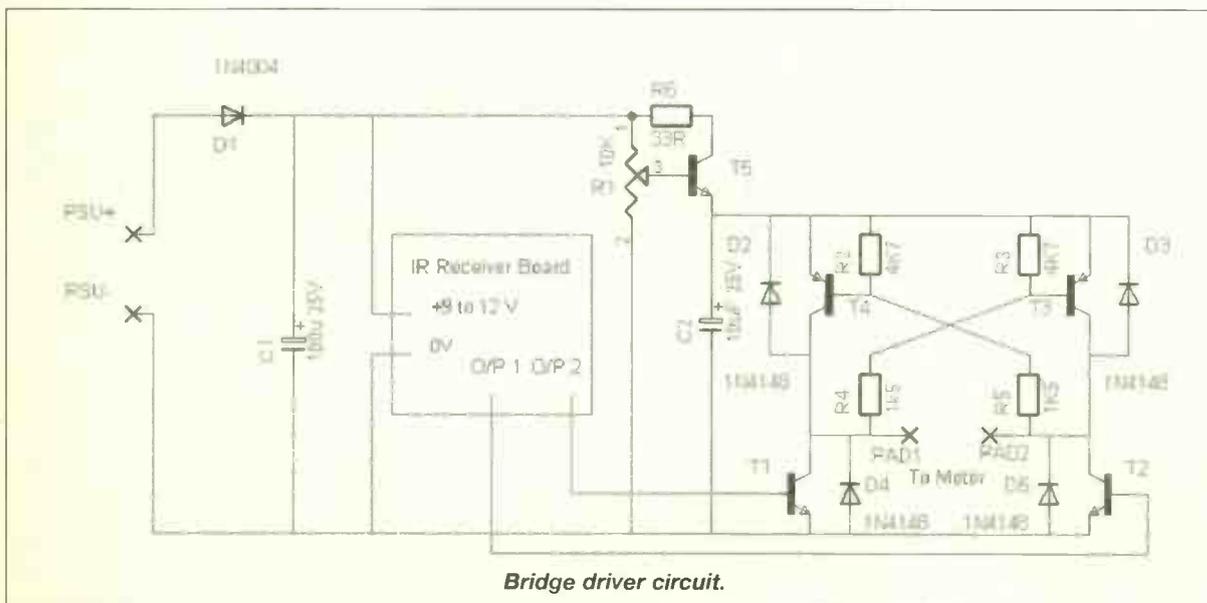
The circuitry can easily be built on a piece of stripboard with the IR module attached using small wire loops or suitable nuts and bolts. I made it an interference fit in the infra red box so that there were no fixings visible externally.

SET UP

As usual check for solder bridges and incorrectly fitted components, particularly polarised capacitors. Adjust the 10k potentiometer to approximately half way through its travel which should result in about 5V being applied to the motor during operation. Apply power, program the IR decoder module according to Milford's instructions and connect to the motor. If the volume control turns the wrong way reprogram the IR module accordingly. Adjust the 10K pot to achieve a suitable rate of change of volume. Sit some distance from your hi-fi and enjoy!

PARTS LIST

IR Receiver Module	Milford 1-933
D1	1N4004
D2 - D5	1N4148
T1, T2, T5	ZTX650
T3, T4	ZTX750
C1	100uF 25V
C2	10uF 25V
R1	10K pot
R2, R3	4K7
R4, R5	1K5
R6	33R 2W (or 3 X 100R 0.6W in parallel)
Phono connector	
2.5mm chassis jack socket	
Infra Red box (112 X 62 X 27mm)	Maplin order code N70AL
Regulated mains adaptor 12V	Maplin order code MG81C



Bridge driver circuit.

kit & component suppliers

COMPONENT SUPPLIERS

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IMPULSE H7 (Black)	£1000	£299
IMPULSE H6	£1200	£558
INFINITY Alpha 40 (black lacquer)	£600	£255
INFINITY 8 Kappa	£1895	£1195
JBL TLX12	£250	£128
KEF 104AB (circa 1975)	£200	£ 75
KEF 70 Speakers	£250	£125
KEF Q15	£200	£ 98
KEF Ref 101/2	£500	£155
KEF Studio Monitors (circa 1965)	£400	£125
KEF Ref Mod 1	£1300	£798
KEF Ref 2/2 (Black)	£1800	£998
KEF Reference 4 (Burr Walnut)	£4500	£1998
KEF Q35 (Black)	£350	£179
KEF Cube (EQ Box)	£700	£246
LEAK (orig.) Sandwich 12 ohm 12"	£400	£148
LEAK Sandwich 200 Black	£250	£ 95
LEAK Sandwich 2030 Black	£175	£ 75
LEAK Sandwich 250	£200	£ 95
LEAK Sandwich 600	£400	£155
LINN Nexus (Black + stands)	£500	£239
LINN Kaber (Rosewood) ACTIVE	£2500	£999
MAGNA PLANAR 1c Imp	£1400	£595
McINTOSH ML-1C Rare (circa 1965)	£500	£298
MEADOWLARK Shearwater	£2990	£1498
MERIDIAN DSP5000 (24bit)	£4200	£2695
MERIDIAN M3 Active	£1000	£ 298
MERLIN TSM-SE (Mint)	£1600	£998
MISSION 725 (Black & Light Oak)	£350	£295
MISSION 733 (Black)	£200	£99
MISSION 751 (Black)	£330	£189
MISSION 753 (Rosewood)	£799	£425
MISSION 75 (Centre - Rosewood)	£350	£148
MISSION 752	£550	£275
MONITOR AUDIO Studio12	£1200	£646
MONITOR AUDIO Studio 14 (Marked)	£900	£299
MORDAUNT SHORT Pageant	£180	£75
MORREL Bass Master Oak (Marked)	£1600	£599
MUSICAL FIDELITY Ref 2	£250	£ 98
PINK TRIANGLE Ventrical	£1500	£950
PROAC Studio 1 Mk2		£380
PROAC Tablette 50	£600	£395
PROAC Tablette 2000	£649	£495
PROAC Super Towers	£1000	£695
PROAC Future 1	£5,995	£4,258
QNR Monitors (Black)	£1200	£369
QUAD 988	£3600	£2498
QUAD ESL63	£3500	£1495
QUAD ESL63 Black + Stands	£3500	£1998
REGA XEL (Black)	£990	£640
REGA Ela (Black)	£950	£646
RUARK Broadsword (Rosewood)	£700	£329
RUARK Solstice	£5000	£2998
SNELL J3 High Sensitivity Monitors	£770	£349
SNELL E2	£500	£245
SONUS FABER Electa Amator 1	£ 2000	£1295
SOUNDLAB Dynostats	£3200	£1100
SPENDOR SA1 mini monitors	£400	£155
TANNOY Buckingham	£5000	£1600
TANNOY Oevan	£750	£298
TANNOY M3	£200	£ 75
TANNOY DC2000	£200	£ 95
TARGET RS4 (circa 1977) scratched	£250	£125
TARGET TM1 (circa 1977) scratched	£200	£ 75
THIEL CS2.2 Discoloured veneer	£2500	£996
TOWNSEND Ribbon Hybrid	£750	£195
TRIANGLE Icone	£1500	£345
WHARFDALE 519	£275	£ 95
YAMAHA HS200	£250	£175
YORKSHIRE Hifi 1-3	£195	£ 78

and there's more

The Hi-Fi Company's **Trading Station**

www.hifitradingstation.com

The Trading Station
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Phone: **0870 608 8211**
email: audiotrader@talk21.com

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APOGEE Mini Grand GS Speakers	£7598	£4057	LINN Classik Movie XD	£1995	£1596	PIONEER DVR7000 DVD Recorder XD	£1299	£896
ARIEL ACOUSTICS Mod 8 + stands XD	£5679	£3596	MARTIN LOGAN Aeon Speakers XD	£3148	£2646	PIONEER SD-T 5000 50" Projection TV	£3999	£1496
ATC SCA2 including phono	£2700	£1698	MARTIN LOGAN CLS II Limited Edition	£6700	£5776	PIONEER PDP 503 HDE (50") Plasma	£6995	£5495
ATC 100's Active	£8995	£5998	MERIDIAN DSP33 Digital Speakers	£2595	£2076	PRIMARE V20 DVD Plr XD	£2500	£1996
AUDIO ALCHEMY ACD2 CD Plyr	£1000	£246	MARTIN LOGAN			PROAC Response 1.5 (Rosewood) XD	£1970	£1296
AUDIO ANALOGUE Puccini, manual silver	£595	£397	Theatre CentreChannel Speaker	£2998	£1597	PROAC Response 2.5 (Lt Oak) XD	£2700	£2148
AUDIO ANALOGUE Donizetti Mono Silver	£550	£347	MARTIN LOGAN Cinema Spk	£1698	£897	PS AUDIO Ulink2 HOC DAC	£2590	£1037
AUDIO ANALOGUE Maestro Amp	£2900	£1797	M&K VX100 Sub XD	£754	£634	PS AUDIO Ref Link Pre/DAC	£4549	£1997
AUDIOGRAM M81 Amp	£489	£267	McINTOSH MC122 Power	£1249	£796	REGA Naos (Cherry) XD	£998	£794
AUDIOGRAM M82 Integrated Amp	£599	£317	McINTOSH MC7108 8Ch Pwr	£2549	£1496	REGA ARA (Cherry) XD	£255	£214
AUDIO MECCA Mephisto Transport	£2200	£1398	McINTOSH MX135 AV Cntrl Cntr	£7990	£3996	REGA ELA XD	£750	£418
AUDION Silver Knight 3008 Intgrtd XD	£1125	£876	McINTOSH LS320 Speakers XD	£1998	£1296	REGA Corso Pre Amp	£548	£434
AUDIO RESEARCH DAC5 D/A	£2335	£1297	McINTOSH LS340 Speakers XD	£4798	£2996	REGA Moia	£498	£394
AUDIO RESEARCH VT200/2 Pwr XD	£11982	£9586	McINTOSH CS36 Centre Speaker	£2495	£1626	REGA Jupiter CD	£998	£794
AUDIO RESEARCH LS25 Mk2 XD	£5795	£4636	MERIDIAN 557 Stereo Power Amp XD	£2549	£1996	SME 10A with 309 Tone Arm XD	£3410	£2896
AUDIO RESEARCH DAC 120	£3498	£697	MERIDIAN DSP33C Centre XD	£1355	£1146	SONUS FABER Amoti Homage XD	£11850	£9996
AUDIO RESEARCH 100.2 Amp	£3690	£2467	MERIDIAN DSP5000C (Dig Centre) XD	£1995	£1594	SONUS FABER Concertino XD	£599	£529
AUDIO RESEARCH LS8 Pre Amp	£1499	£997	MICHELL Gyro SE XD	£870	£740	SONUS FABER Extrema Speakers	£6499	£3497
AUDIO RESEARCH Ref600 MkIII	£42998	£25797	MICHELL Delphini Phono LPSU XD	£895	£738	SONUS FABER Electa Speakers	£1789	£1197
AUDIO RESEARCH VT50 Valve Amp	£4379	£2997	MICHELL Delphini Phono SPSU XD	£998	£798	SPENDOR S6	£1299	£994
AUDIO RESEARCH M300 mkII monos	£11996	£5997	MISSION 78C (Centre) XD	£350	£274	SPENDOR S8 Cherry - Slight cabinet damage	£1700	£1346
AUDIO RESEARCH VT100 MkIII Amp	£6400	£4267	MISSION 782 Speakers XD	£699	£554	SPENDOR S9	£2499	£1996
B&W THX System XD	£4975	£1996	MISSION M51 Speakers XD	£600	£474	TDS Audio Transformer	£349	£266
CALIFORNIA AUDIO Alpha DAC	£1808	£847	MONRIO Asty 55W line int. amp silver	£550	£347	THETA Casanova Pre XD	£4478	£2996
CALIFORNIA AUDIO Delta CD Trans	£1099	£587	MONRIO Asty PH55 Wline + phono silver	£650	£397	THETA Dreadnaught15 Ch Amp	£7498	£5297
CALIFORNIA AUDIO DX1	£852	£457	MONRIO Asty ST, remote volume silver	£600	£447	THETA Carmen II CD/DVD Trans	£3998	£2937
COPLAND CDA277 CD + HDCO	£1649	£1097	MONRIO Asty-Player (24/96) silver	£750	£527	THETA Jitter Buster	£228	£177
COPLAND CDA288 CD + HDCO	£1998	£1337	MONRIO HP-1 (120 watts power amp) silver	£895	£597	THETA DavidII DVD Player	£5998	£4397
COPLAND CSA303 Pre Amp	£1349	£797	MONRIO 188.2 (DAC) silver	£595	£227	TRIANGLE Zays Ambre	£1295	£897
COPLAND CTA301 Pre Amp	£1298	£587	MONRIO 81match CD-player/transport silver	£695	£297	TRICHORD Pulsa Series One DAC	£1900	£1298
COPLAND CTA504 Amp	£1999	£1197	MONRIO MC-25 power amp silver	£900	£447	UNISON RESEARCH Unico I	£775	£597
EAR 834P Valve Phono Stage XD	£549	£436	MONRIO MC-2005 power amp silver	£1350	£497	UNISON RESEARCH S2	£1295	£697
GOLDMUND Mimesis 6 Amp	£2899	£1547	MONRIO MP1 mono 110 watts	£600	£417	UNISON RESEARCH S8	£3100	£1997
GOLDMUND Mimesis 68 Pre Amp	£2584	£1377	MONRIO MP1 mono 135 watts	£700	£457	UNISON RESEARCH Power 35	£1500	£897
GRAAF 13.5 BII Pre XD	£3950	£2746	MONRIO MP2 2-channel x 135 watts	£950	£697	UNISON RESEARCH Feather One	£895	£447
GRAAF GM20 OTL XD	£2950	£2356	NAGRA PLL Pre XD	£5395	£3996	UNISON RESEARCH Feather One Remote	£995	£527
GRAAF Venticinque	£2250	£1197	NAIM C05	£1195	£954	WILSON BENESCH Full Circle	£1995	£1496
GRAAF VT5.35.5 (five ch power amp)	£2500	£1397	NAIM Intro 2	£865	£694	WILSON AUDIO Cub (Black Laminated) XD	£5495	£3496
JADIS Orchestra CD Player	£1298	£957	NAIM NAC 112	£660	£524	WILSON AUDIO Cub (Gloss) XD	£6890	£3996
KEF XQ1	£999	£744	NAIM Nait 5	£845	£674	WILSON AUDIO Sophia (Black) XD	£11992	£9596
KEF XQ5	£1999	£1494	NAIM NAP 150	£795	£634	WILSON AUDIO Cub Wilson Glass	£6890	£4397
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KRELL KCT Pre-amp XD	£9998	£7996	NAIM NAC 82 Pre XD	£2500	£1994	WILSON AUDIO Witt 2 Speakers	£10995	£6997
KRELL FP8300c	£10995	£5995	NAIM CDS/XPS Mk2 XD	£6265	£4994	WILSON BENESCH Orator XD	£2900	£2524
KRELL KAV250P Pre Amp	£2398	£1597	NAIM Credo XD	£1425	£994	WILSON BENESCH Actor XD	£3999	£2998
KRELL KSL Pre Amp	£2345	£1037	OPERA SP1 (Cherry) XD	£525	£426	WILSON BENESCH Act-1 XD	£6999	£4499
KRELL CD Player with DSP	£3789	£1517	PATHOS Classic One (50 watt)	£1150	£797	WILSON BENESCH Act-2 XD	£8999	£5999
LINN LP12 / Lingo / Akito (black)	£2699	£1994	PATHOS Twin Towers XD	£3250	£2596	Z SYSTEMS RQ01 Silver Dig.Equaliser	£3298	£2197
LINN LP12 Ecos Archive inc Lingo (blk)	£3500	£1998	PATHOS Logos XD	£3250	£2596			

HEATHCOTE AUDIO

TEL: 01992 653999 MOBILE: 07860 511111 E-MAIL ADDRESS: HeathcoteAudio@aol.com

VALVE AMPS

MICHAELSON AUDIO CHRONOS 4 BOX PRE/PSU & 2 MONOS SERVICED/REVALVED
 QUAD TWO-FORTY PRE & MONOBLOCKS
 UNISON RESEARCH S-6 REMOTE INTEGRATED EX DEM
 GRAAF GRAFFII INTEGRATED
 GOLDEN TUBE SE-150 MK.11 (REMOTE CONTROL)
 JADIS DEFY-7 100 WATTS CHANNEL
 AUDIO RESEARCH VT-50 POWER AMP EX DISPLAY
 AUDIO RESEARCH V-70 POWER AMP
 JAOIS JPS-2 TWO BOX PRE (WAS £8000)
 AUDIO RESEARCH LS-22 PRE WITH REMOTE UPGRADE & RE-VALVE
 AUDIO RESEARCH SP-14 PRE C/W PHONO STAGE (£4000)
 AUDIO RESEARCH LS-2 PRE AMP (MULLARO REVALVE)
 CONRAD JOHNSON PREMIER 14 REMOTE CONTROL PRE AMP
 OAKLEY IMAGE 6 AMERICAN VALVE PRE-AMP INC. PHONO STAGE
 UNISON RESEARCH CSP PRE AMP WITH PHONO STAGE
 MONROE ASTY VALVE PRE-AMP (VERY PRETTY) 3 MONTHS USE
 VINTAGE RADIO RESTORATION ADUR MONOBLOCKS
 AUDIONOTE P2-SE POWER AMP
 AUDIO RESEARCH BAL-1 BALANCED/SE CONVERTER

SOLID STATE

KRELL FPB 600 STEREO AMP
 JEFF ROWLAND MODEL 5 POWER AMP VERY RARE
 MARK LEVINSON 23. POWER AMP (200 WATTS/CHANNEL)
 MUSICAL FIDELITY P-270 POWER AMP
 TOCA SECA 20 WATT CLASS A AMP MARBLE FRONT VERY RARE /GOOD
 MARANTZ SC-22 PRE & MA-22 MONOBLOCKS
 AUDIO SYNTHESIS PASSION 8M BALANCED/SE/REMOTE
 CONRAD JOHNSON P-R REMOTE PRE AMP
 AUDIO INV 1000 SILVER WIRED PASSIVE PRE
 REGA CURA REMOTE PRE AMP
 LAVARDIN IT
 AUDIO ANALOGUE MAESTRO (EX DISPLAY MODEL HUGE SAVING)
 CAIRN 4808 REMOTE INTEGRATED
 ORELLE SA-100R REMOTE AUDIOPHILE AMP
 DENON PMA 600V INTEGRATED AMP
 MAO C-370 INTEGRATED
 ALBARRY 4808 MONOBLOCKS
 ARCAM-8

CD

KRELL MD-1 TRANSPORT & SBP-64X TWO BOX DAC
 ACCUPHASE DP-80 TRANSPORT AND MATCHING DAC (EXTREMELY RARE)
 TECHNICS SL-21000/SH-X1000 FLAGSHIP TRANSPORT & DAC (GOLD/WALNUT)
 DPA T-1 TRANSPORT/POM-1 MK.3 TWO BOX DAC (BOTH DELTRAN)
 THETA DATA BASIC 11 TRANSPORT WITH DELTRAN MOD
 THETA PEARL TRANSPORT
 AUDIO SYNTHESIS TRANSEND TRANSPORT COAX AES/EBU AT&T
 MARANTZ CDA-94 TRANSPORT (AUDIO SYN. MOD. AT&T/COAX)
 ORELLE CD10T TRANSPORT SILVER WIRED
 THETA DS PRO GEN III (AT&T, COAX ETC.) WAS £6000 APPROX
 THETA DSPre GEN III (PRE-AMP/DAC)
 THETA DS PRO GEN 11
 THETA DS PRO PROGENY-A DAC
 THETA OS PRO BASIC-11 DAC
 AUDIONOTE DAC-1X SIGNATURE
 MONROE 188 DAC & SEPERATE PSU.
 PINK TRIANGLE ORDINAL DAC
 NAIM CD- (HAO NEW LASER MECH)
 NAIM CD-5
 PIONEER PD-91
 TECHNICS SLPS 900
 AMC COBA (BALANCED & PHONO OUTPUTS)

VINYL

FORSELL AIR FORCE ONE REFERENCE AND ARM 24 KARAT GOLD (WAS \$30,000)
 NOTTINGHAM ANALOGUE STUDIO MENTOR REFERENCE/COVER & MATCHING ARM
 DAIS TURNTABLE VERY RARE
 SYSTEMDECK/LINN BASIK/AT CART.
 ARISTON Q DECK-11
 CONRAD JOHNSON EF-1 LEGENDRY PHONO STAGE
 LEHMAN BLACK CUBE SE
 MCCORMACK MICRO DRIVE PHONO STAGE
 TALK BREEZE PHONO STAGE MM/MC EX DISPLAY
 DENSEN DRIVE MC. PHONO STAGE

LOUDSPEAKERS

KLIPSCH CORNER HORNS 104 DB BIRDS EYE MAPLE VENEER FANTASTIC!
 WILSON SYSTEM 5.1 PIANO BLACK
 ART AUDIO-2 PIANO BLACK (£6000 NEW)
 HARBETH MASTERING SYSTEM MA-40 (EUCALYPTUS 2 MONTHS OLD £5000 NEW)
 B & W SILVER SIGNATURE, EXTERNAL X-OVER/3 METRE CABLES & SLATE STANDS
 ALR JORDAN NOTE-5 SPECIAL BOBINGA WOOD FINISH
 MARTIN LOGAN AERIUS I
 ALON 11 OPEN BAFFLE FLOORSTANDERS
 LIVING VOICE AUDITORIUM. EX DEM
 CELESTION A-2 FLOORSTANDERS
 REGA XEL (WALNUT)
 AUDIONOTE ANK/SP SILVER WIRED
 KELLY KT-3 HIGH 95 DB SENSITIVITY CHERRY VENEER

MINT £4000
 BOXED £2750
 MINT/BOXED £1275
 MINT £895
 MINT/BOXED £650
 EXCLT £3250
 NEW/BOXED £2750
 MINT £1950
 £3450
 £2950
 MINT £1795
 MINT/BOXED £1295
 EXCLT £1995
 £495
 MINT £595
 MINT BOXED £375
 £995
 MINT £650
 £375

EXCLT £6250
 EXCLT £2950
 MINT £2795
 EXCLT £600
 EXCLT £1250
 MINT/BOXED £1250
 MINT £995
 MINT/BOXED £1795
 EXCLT £225
 AS NEW £295
 MINT/BOXED £1995
 AS NEW/BOXED £1750
 MINT £375
 MINT/BOXED £395
 EXCLT/MINT £195
 MINT £395
 MINT/BOXED £250

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 BOXED £2450
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 MINT/BOXED £350
 MINT/BOXED £1095
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 MINT/BOXED £495
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BOXED £7500
 MINT £3250
 BOXED TBA
 BOXED TBA
 BOXED/AVC £195
 MINT/BOXED £1095
 BRAND NEW/BOXED £450
 NEW/BOXED £550
 NEW £250
 MINT £275

MINT £3750
 MINT/CRATED £7500
 MINT/CRATED £3450
 MINT/BOXED £2850
 MINT £2450
 EX.DIS £1150
 MINT/BOXED £1195
 MINT £1195
 MINT/BOXED £1150
 MINT £650
 MINT £650
 MINT/BOXED £575
 MINT/BOXED £795

INFINITY KAPPA-8 REFERENCE

SMELL C MK-IV AMERICAN OAK VERY RARE/GOOD
 PROAC STUDIO 150
 EPOS ES-11 MK2
 EPOS ES-14 WITH STANDS
 ROSAN OJAN 3X & OJAN 3S SUBWOOFER SYSTEM (ROSEWOOD) RARE/SUPERB
 BOSE 901 MK.IV & MATCHING EQUALISER (RECENT £700 SERVICE)
 CELESTION A-2 HUGELY CAPABLE (ROSEWOOD VENEER)
 TANNAY ARUNDEL 15" 3839 HIGH POWER DRIVERS 95 DB SENSITIVE VERY RARE
 SD OBS FLOORSTANDERS (OPEN BAFFLE) SMALLER BROTHER TO SD1
 CASTLE HOWARD-2 PREMIUM BEECH FINISH
 CASTLE AVON FLOORSTANDERS
 CELESTION DITTON 25 VERY NICE ONE OWNER PAIR
 REL STORM-1 ACTIVE SUBWOOFER
 IMF PROFESSIONAL MONITOR VII
 ACOUSTIC ENERGY AE-109

TUNERS/TAPE/DAT/MINIDISC/MISC

NAKAMICHI DR-3 (VERY LITTLE USE)
 SONY 3000ES TUNER (GOLD)
 DENON TU-600 TUNER
 AUDIO RESEARCH BAL-1 BALANCED/PHONO CONVERTER

RACKS/STANDS

SOUNDSTYLE ST-105V SILVER
 SOUNDSTYLE ST-105 ONYX BLACK
 SOUNDSTYLE XS 310 A/V TABLE
 SOUNDSTYLE XS 105 5 SHELF BLACK OR SILVER (£320)
 SOUNDSTYLE XS 105 5 SHELF CANCELLED ORDER 2 OFF
 SOUNDSTYLE XS 100 4 SHELF CANCELLED ORDER 2 OFF
 SOUNDSTYLE XS 250 CD STORAGE RACK CANCELLED ORDER 2 OFF
 B&W STANDS FOR CD-INT SILVER/BLACK
 TARGET 24 INCH STANDS
 ACOUSTIC ENERGY AE-2 TWIN PILLAR LEAD FILLED STANDS

MINT £1450
 EXCLT £1500
 EXCLT £1050
 MINT/BOXED £295
 MINT £375
 MINT/BOXED £1450
 EXCLT/BOXED £595
 BRAND NEW/BOXED £1250
 MINT £1500
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 MINT £795
 MINT £450
 £150
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 MINT £225

MINT/BOXED £250
 MINT £195
 MINT £75
 £375

EX DIS/BOXED NEW £275
 EX DIS/BOXED NEW £275
 EX.DIS. £195
 EX DIS. £150
 BRAND NEW BOXED £225
 BRAND NEW BOXED £195
 BRAND NEW BOXED £195
 VGC £95
 MINT £75
 MINT £375

SPECIAL OFFER

BLACK RHODIUM S-130X2 BI-WIRE LOUDSPEAKER CABLE BRAND NEW LTD QUANTITY £10 PER METRE
 BLACK RHODIUM S-300 BI WIRE LOUDSPEAKER CABLE BRAND NEW LTD QUANTITY £25 PER METRE

MAINS CABLES/BLOCKS/CONDITIONERS ETC

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 BLACK RHODIUM 25 MAINS CABLE (BRAIDED)
 BLACK RHODIUM 25 MAINS CABLE (BRAIDED) RHODIUM PLATED/POLISHED SUPERGRIP PLUG

BRAND NEW £225
 BRAND NEW £65
 BRAND NEW £100

CABLES

LOUDSPEAKER CABLE

TARA LABS PRIME 1800 18 FEET PAIR BI-WIRE AS NEW BOXED ETC
 NIRVANA AUDIO SL-SERIES 2.3 METRE PAIR EX DEM. FACTORY TERMINATED
 VAN DEN HUL REVELATION 2 METRE STEREO PAIR TERMINATED
 VAN DEN HUL REVELATION 1.5 METRE STEREO PAIR TERMINATED
 TRANSPARENT MUSIC WAVE PLUS BI-WIRE 15FT PAIR
 TRANSPARENT PAIR 200 2 METRE PAIR
 MIT MH-750 8 FT. PAIR
 MIT TERMINATOR 6 3.3 METRE PAIR (NEW)
 CAROAS HEXLINK 2 METRE PAIR (FACTORY TERMINATED)
 AUDIONOTE AN-SP 2 METRE PAIR (FACTORY TERMINATED)
 AUDIONOTE AN-L 4 METRE PAIR (FACTORY TERMINATED)
 QED GENESIS SILVER SPIRAL 4 X 1.5 METRE TERMINATED
 CABLE TALK CONCERT BI-WIRE 5 METRE PAIR TERMINATED
 VANDEN HUL MC CS 122 2 X 3 METRE PAIR
 AUDIOQUEST CRYSTAL HYPERLITZ 2 METRE BI-WIRE TERMINATED

£750
 £525
 £575
 £375
 £475
 £175
 £650
 £225
 £275
 £375
 £225
 £175
 £100
 (EACH) £75
 £75

INTERCONNECT

HARMONIC TECH MAGIC LINK ONE 1 METRE EX DEM
 SILVER ARROW 1 METRE BALANCED XLR EX DEM/AS NEW
 XLO SIGNATURE SEVERAL NEW PACKAGE INTERCONNECTS
 MANDRAKE BALANCED XLR INTERCONNECT 2.5 METRES
 GRYPHON 'THE GRYPHON GUIDELINE' 1.5 METRES
 BLACK RHODIUM REQUIEM-2 NORMALLY £1750/METRE LTD QUANTITY
 BLACK RHODIUM ORATORIA 1 METRE
 BLACK RHODIUM ORATORIA 0.5 METRE
 BLACK RHODIUM CONCERTO 1 METRE (£135)
 BLACK RHODIUM CONCERTO 0.5 METRE (£110)
 BLACK RHODIUM SYMPHONY 1 METRE (£95)
 BLACK RHODIUM SYMPHONY 0.5 METRE (£75)
 SUPRA EFF-ISL 2.5 FT PAIR NEW/PACKAGED
 AUDIOQUEST DIAMOND 2 X 2 METRE PAIRS
 AUDIOQUEST LAPIS 4 METRE PAIR

£495
 £600
 PLEASE PHONE FOR DETAILS
 £350
 £300
 BRAND NEW BOXED RING
 BRAND NEW PACKAGED £400
 BRAND NEW PACKAGED £275
 BRAND NEW PACKAGED £100
 BRAND NEW PACKAGED £80
 BRAND NEW PACKAGED £65
 BRAND NEW PACKAGED £55
 £50
 (MINT) each £560
 £450

DIGITAL

XLO 4.1 DIGITAL COAX 1 METRE & 2 METRE
 XADRIGAL AES/EBU 0.5 METRE
 NIRVANA DIGITAL COAX LEAD 4 FT.
 VAN DEN HUL FIRST 0.8 METRE
 VAN DEN HUL H-102 MK.111 HB. 4 FEET
 CABLE TALK DIGITAL-3

NEW/PACKED £175/£225
 £150
 £200
 BRAND NEW PACKAGED £100
 EX DISPLAY/NEW £40
 BRAND NEW PACKAGED £50

MOST EQUIPMENT STOCKED IS ONE OWNER MINT/BOXED, SIMILAR QUALITY VINTAGE AND MODERN EQUIPMENT REQUIRED FOR IMMEDIATE CASH PURCHASE. PLEASE PHONE GEORGE 10-6PM

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AUDUSA



AUDUSA EUPEN CSA 2.5 AUDIO AC MAINS CABLE

GNLM 05/04 and GNLM 05/2.5 (CSA 2.5) Cable with FERRITE TECHNOLOGY - A polymer material mixed with a considerable quantity of homogeneously fine high quality ferrite powder is extruded around the copper conductors. As a ferromagnetic material, it will go through hysteresis loops whenever it is under influence of an alternating magnetic field. Consecutively magnetizing and demagnetizing the material will cause considerable losses of high frequency energy. This energy is absorbed in the ferrite grains and converted into heat. The GNLM cables which in addition to the above described ferrite technology is further protected with a foil shield and a drain wire and specifically manufactured for High End audio use. **Said by some to be the most neutral sounding audio ac mains cable on the market.**

Fitted with IEC (Martin Kayser) and MK Tough plug Cable can be supplied fitted to our all steel 4, 6 and 8 way distribution blocks. We can rewire the distribution blocks with Eupen cable as an extra cost option. Refer to our web site for details.

AUDUSA - OOM Silverlink OCC balanced speaker cable - stranded, silver on OFHC plus three strands of OCC (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.

GNLM 05/2.5 (CSA2.5)

£48 for 1.0m, £58 for 1.5m, £68 for 2.0m. Off the reel £30 for 1st meter, £20 per m thereafter.

Eupen GNLM 05/2.5 (CSA 2.5) shown with Marincos IEC 320 will be fitted at extra cost.

GNLM 05/04

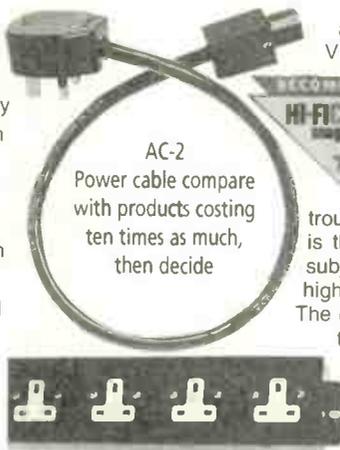
£58 for 1.0m, £72 for 1.5m, £86 for 2.0m. Also available of the reel.

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

LAT International AC-2 AUDIO AC MAINS CABLE

We have developed a cabling (weaving) pattern along with an unusual shielding/filtering system that gets rid of the garbage that contaminates your components. The difference you hear with our cord is astounding. Our power cord takes advantage of silver in its design through use of our proprietary Silverfuse conductors. The conductors are 10 gauge and with PTFE; the best insulation available. Fitted as standard with IEC / MK Toughplug. . 60cm £62, 90cm £75, 1.2m £88, 1.5m £101, 1.8m £112 etc Other lengths available and off the reel. **4,6 and 8 way all steel mains distribution blocks fitted with UK, Schuko or USA sockets.** CE tested & approved mains distribution units manufactured of heavy gauge steel, finished in black and fitted with high quality 13amp sockets. It has no filters, circuit breakers, surge protection, transformers, resistors, capacitors, LED's, on/off switches, chokes, regulators, just fitted with 1m of AC-2 mains cable. From £166 for 4 way, £198, 6 way, £229 for 8 way.



AC-2
Power cable compare
with products costing
ten times as much,
then decide

SILVERFUSE

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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dCS Purcell Upsampler Non Firewire S/H	2999	1695
Krell KAV280CD x-demo	3999	3250
Mark Levinson No 31.5 Transport S/H	9999	4999
Mark Levinson No 390s x-demo	6500	4999
Mark Levinson No 360s x-demo	7495	5995
Naim Audio CD3 cd player S/H	899	499
Theta Data Basic II Transport S/H	2397	995
Theta Generation V Balanced S/H	6290	2999
Theta Carmen CD/DVD Transport S/H	3499	1995
Wadia 301 CD player x-demo	3650	2995

Turntables Tonearms & Cartridges

	Was	Now
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Gryphon Legato SAP Phono Stage x-demo	7895	5999
Ortofon Kontrapunkt b MC Cartridge x-demo	699	375
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Lehmann Audio Black Cube SE New& Boxed	650	449
Moth record Cleaning Machine S/H	599	299
McCormack Phono Stage New and Boxed	650	399
Roksan Artexerxes X MC/MM Phono Stage S/H	450	299
Roksan Cognoscenti Xerxes Piano lacquer /Tabrizi /Corus Black S/H	2700	995
Roksan Artexerxes MC Phono Stage S/H	549	179
Roksan Xerxes /XPSII /Tabriz/ K18 Turntable S/H	N/A	495
Roksan Xerxes/XPS 3/RB300/Corus Black S/H	N/A	449
Roksan Shiraz 600 hours S/H	1000	349

Preamplifiers

	Was	Now
Graaf GM13.5BII Valve Preamplifier x-demo S/H	4000	2999
Gryphon Sonata Allegro 2 box preamplifier x-demo	9739	5995
Nagra PLP Battery Preamplifier with Phono stage S/H	6995	4995
Naim Audio NAC72 with MC boards	N/A	339
Naim Audio NAC62 (old style) with phono stage S/H	N/A	175
Mark Levinson 380s x-demo	6995	4995
Roksan L2 preamplifier S/H	1295	299
Spectral DMC12 s Phono x-demo	4750	3299
Spectral DMC12 Line New&Boxed	4250	2999
Spectral DMC30 Remote x-demo	8500	6500

Amplifiers

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Audio Research D100.2 x-demo	3690	2799
Krell KAV300iL x-demo	3750	2699
Graaf GM100 Valve Power Amplifier x-demo	4500	3250
Gryphon Calisto 2100 integrated x-demo	3650	2795
Gryphon Calisto 2200 integrated x-demo	4800	3295
Gryphon Antellion Signature Class A x-demo	15000	9999
Naim Audio NAP140 (old Style) power amplifier S/H	N/A	299
Mark Levinson 434 mono blocks x-demo	9000	6995
Spectral DMA100s PowerAmplifier x-demo	4750	3499

Loudspeakers

	Was	Now
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Indigo Model Two Centre Channel Cherry S/H	199	129
JM Lab Micro Utopia be Classic 4 months old S/H	4300	3399
Living Voice Avatars OBX-R Ebony x-demo	4000	2999
Sonus Faber Leather Stands S/H	350	249
Verity Audio Fidelio Piano Lacquer x-demo	7995	4999

Cables & Accessories

	Was	Now
Acoustic Zen Silver Signature Balanced 12ft	2700	1499
Audio Note AN-V 1.5m Interconnect RCA_RCAS/H	420	175
Cogan Hall EM-D 0.6m S/H	199	99
Nordost Valhalla 1m RCAS/H	2200	1299

	Was	Now
Opera Lux 3 Tier Table Clear/Stainless x-Demo	950	499
Siltech LS38G3 2x4.75m Silver speaker cable/WBT S/H	1752	999
Transparent Music Link Ultra xl Balanced 2m S/H	1629	995
Transparent Music Link Ultra Balanced 7.26m S/H	2349	1499

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	Was	Now
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ARCAM Diva CD73 Silver CD Player with text	EX/DEMO	£400 £300
ARCAM Diva DV88 Black DVD Player	EX/DEMO	£1,000 £500
ARCAM FMJ CD23T Black CD Player	EX/DEMO	£1,200 £900
ARCAM FMJ DV27 Black DVD Player	EX/DEMO	£1,600 £1,200
ARCAM FMJ T21 Silver Tuner	EX/DEMO	£400 £250
ARCAM Diva P85 Power Amp	EX/DEMO	£530 £425
B&W CDM7NT Black Speakers	EX/DEMO	£1,250 £1,000
B&W CDM9NT Red Speakers	EX/DEMO	£1,800 £1,400
CYRUS APA7.5 Mono block	EX/DEMO	£950 £750
CYRUS DVD7 Black DVD Player	EX/DEMO	£1,000 £800
DENON DVD 3800 Gold DVD Player	EX/DEMO	£1,000 £850
HARMAN KARDON DVD 21 DVD Player	NEW	£250 £225
KEF KHT2005 5.1 Speaker Package	EX/DEMO	£800 £600
KEF Q3 Speakers	EX/DEMO	£400 £300
KEF TDM45B THX Subwoofer	EX/DEMO	£800 £400
LOEWE PLANUS 4781ZW Arctic 32" TV	EX/DEMO	£1,350 £1,000
MERIDIAN 501 MK2 Pre Amp	EX/DEMO	£780 £600
MERIDIAN 502 Pre Amp	EX/DEMO	£1,470 £1,100
MERIDIAN 551 Amp	EX/DEMO	£895 £650
MERIDIAN 556 Power Amp	EX/DEMO	£995 £700
MERIDIAN 557 Power Amp	EX/DEMO	£1,625 £1,200
MERIDIAN 558 Multi Channel Amp	EX/DEMO	£3,395 £2,000
MERIDIAN 588 CD Player	EX/DEMO	£2,100 £1,575
MERIDIAN 956 DVD Player	EX/DEMO	£2,485 £1,600
MERIDIAN DSP33 DSP Active Speaker	EX/DEMO	£2,595 £1,500
MUSICAL FIDELITY 3.2CRpow Power Amp	EX/DEMO	£1,000 £750
MUSICAL FIDELITY 3.2CRpre Pre Amp	EX/DEMO	£1,000 £750
MUSICAL FIDELITY 308CRpre Pre Amp	EX/DEMO	£1,500 £1,125
MUSICAL FIDELITY A3CR Pre Amp	EX/DEMO	£1,000 £800
NAD C300 Amp	EX/DEMO	£150 £120
NAD C350 Amp	EX/DEMO	£300 £250
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NAD C541 CD Player	EX/DEMO	£330 £260
PIONEER DV 656 DVD Player	EX/DEMO	£400 £300
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Micromega	Solo - ex, acrylic lid, lovely	375
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AudioLab	8000S - nr mint	329
AudioLab	8000M x2 - nr mint	749
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Mission	Cyrus One - ex, boxed, black late model, mm/mc	119
Mission	Cyrus One - nr mint, nextel, mm/mc	119
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Castle	Kendal - nr mint, new model in light ash	195
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Celestion	7000 - fair/good, huge ribbon and twin bass bargain!	379
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KEF	103.2 Ref - nr mint, boxed	199
KEF	Quad 8 - nr mint	80
KEF	Concard IV - ex, with stands	129
Mission	733 - ex, black floorstander	69
Mission	765i - nr mint, boxed, twin bass black floorstander	149
Mission	763i - ex, black floorstander	119
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Tuners		
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ALON NAPOLEON SYSTEM

I referred last time to the superb Alon Lotus Elite, but at £4.4k, they are not cheap (see review Hi-Fi+ issue 25). The Lotus Elite Signature with alnico magnets in all drivers will be reviewed shortly (£8k). But the tiny Alon Napoleon Satellite speakers cost only £300 each, and combined with the Alon Thunderbolt subwoofer (£1800) make up a superb stereo system for £2.4k, and can be expanded to a multichannel setup. Also works well with new AV1 laboratory front end!

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ARCAM DIVA A75 AMP	£470.00	£309.00	N
ARCAM ALPHA 7R AMP	£280.00	£189.00	D
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TAG MCLAREN SR - 5 CHANNEL POWER AMP	£2,995.00	£1,799.00	D
MARTIN LOGAN AEON	£3,148.00	£2,195.00	D
MARTIN LOGAN SCENARIO	£2,498.00	£1,629.00	D
CELESTION C1 - Compact speakers	£199.00	£114.00	D
CELESTION - C2 - Floorstanders	£499.00	£299.00	D
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LINN KAIRN - PRE AMP	£1,400.00	£595.00	D
LINN 5140 - FLOORSTANDERS approx.	£2,400.00	£799.00	D
LINN KABERS -BLK		£395.00	D
MERIDIAN 556 - 2 CH POWER AMP	£995.00	£649.00	D
MERIDIAN 596	£2,750.00	£1,925.00	D
MERIDIAN 598 DVD Player smartlink (as new)	£3,195.00	£2,395.00	D
MERIDIAN 561 Surround Controller	£2,995.00	£2,095.00	D
MERIDIAN 562v.2 Controller	£1,500.00	£995.00	D
MERIDIAN 556 Power amp	£995.00	£595.00	D
MERIDIAN 588 CD	£2,100.00	£1,495.00	D
MERIDIAN 507 CD	£1,195.00	£879.00	D
MERIDIAN 568.2 mm Smartlink (as new)	£4,305.00	£2,995.00	D
VIENNA BEETHOVEN Speaker (Beech)	£2,500.00	£1,495.00	D
VIENNA MOZART Speakers (Beech)	£1,500.00	£995.00	D
VIENNA WALTZ centre Speaker (Beech)	£500.00	£350.00	D
VIENNA MAHLER	£5000.00	£2995.00	D
PROCEED AVP PROCESSOR, VGC/LIGHT USE	£4,700.00	£2,579.00	D
PROCEED PMDT DVD PLAYER, VGC/LIGHT USE	£5,495.00	£2,995.00	D
MUSICAL FIDELTY XA100R - INT AMP	£900.00	£599.00	N
MISSION 780 - ROSEWOOD	£300.00	£219.00	D
MISSION 783 - BEECH (Good condition)	£1,000.00	£599.00	D
MISSION 78 AS Active sub (new)	£700.00	£450.00	D
MISSION 773 E (new)	£399.00	£199.00	D
ROTEL RB985 5 Channel amp (new)	£599.00	£349.00	D
NAKAMICH MB10 5-disc multi CD	£500.00	£200.00	D
REDROSE Valve system (amp & speakers) lyr old	£10,000.00	£3,995.00	SH

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AVI PRE-AMP, stereo power £475. Trichord Genesis CD £275. Teac VDRS10SE £300. Primare A20II integrated £300. Wanted: Lescon Cylinder power, Pioneer SA9900 amp, Target R1-R2 speaker stands. Tel: 01226 710 605 or 0777 927 4655 (Feb/I)

CD TEAC VDRS transport TDI DAC boxed £600 ovno. May split. Tel: Mark 020 8547 2397 or 01959 572030 (Feb/I)

EXPOSURE POWER Supply VI, dual pre-amp VII, power-amp VIII £675. Michell Focus One deck £475. Nakamichi BX2 tape deck £160. Linn Sara speakers with metal stands £325. Lowther Classic speakers - offers. Tel: 01202 512 915 (Bournemouth) (Feb/I)

AVANTGARDE UNO Horn loudspeaker £3500. Musical Fidelity Tri-Vista SACD Super Audio CD player, mint, boxed, £3000. Tel: 020 8531 5979 or 07903 265205 (Mar/I)

MARANTZ 6000 KI Sig (350), hardwired Kimber Powercord, Schottky rectification (200), Clock 4/ N/C power supply (380), Trichord digital output board (390), Audiocom regulators, Blackgate/Oscon decoupling caps etc (290) £1050. Tel: 0151 608 4481 (Wirral) (Feb/I)

PERPETUAL TECHNOLOGIES P-1A Correction Engine, Perpetual Technologies P-3A DAC, Monolithic power supply for the above items. All boxed with operating instructions. £1200. Tel: 01525 861 346 (Beds) (Feb/I)

AUDIO PHYSIC Avanti III speakers, cherrywood, boxed, mint condition, as new. Stereophile Class A product. Less than half price. £3300. Tel: 020 8363 4963 or 0797 312 8355 (North London) (Feb/I)

MERIDIAN 500 TRANSPORT £550 includes FREE Deltec DAC. Musical Fidelity StudioT power amp £100. Audio Technica ATH-W10VTG headphones £150. MF X-Cans Mk1 £80. No Offers. Tel: 020 8249 8877 (Feb/I)

WADIA 301 CD player, little used and as new with box and manual. £2450 (£3650). Tel: 01202 767 873 (Dorset) (Feb/I)

KRELL KRS-1A pre amplifiers, 4 aluminium blocks, cost £10,000, £3500. Reevox Agora-B active loudspeakers 200W, £1000. Apogee, Scintilla ribbon active speakers 200W, £1000. Marantz MA-22 mono amplifiers, 4 off, £1000. Marantz CD 23 DAF, £2000. Tel: 020 8459 7539 (Feb/I)

LOWTHER ACOUSTAS, new foams £295. Wharfedale E70's, rosewood £150. Wharfedale E30's £30. Wharfedale Dovedale III £100. Celestion Ditton 44's £100. Leak Stereo 20 £225. Pioneer TX 7500 tuner £50. Tel: 01744 755 434 (Feb/I)

KEF Q80 speakers (black) £150. Pioneer PD75 Reference CD player £200. Audiolab 8000A amplifier £200. Mission 754F speakers £600. 2x 5m Cabletalk 3.1 bi-wire £25. Tel: 01407 762 863 (Feb/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. Sell complete for £5900. Tel: Mark 01708 224 319 (Essex) or 07813 332301 (mobile) (Feb/I)

WANTED: CROFT Micro II special pre-amp or similar. Tel: evenings 01292 269 477 (Feb/I)

TONEARM SAEC WE308L, boxed, unused £700 (£2200). Aurios Isolation Bearings, new, boxed £90 (£201). C9 Carver Sonic Hologram Generator, offers, includes manual. Tel: Wayne 029 20 369 052 or Email: llyndes@hotmail.com (Feb/I)

MERIDIAN 508 24 bit CD player £850. Townsend Rock turntable, Mk2, Excalibur arm, Merlin power supply, plinth and lid. Needs some attention. £150 the lot. Tel: 01895 421850 or 0771 8765 988 or Email: bmphook@aol.com (Feb/I)

JR 149 SPEAKERS. Original condition. No repairs, mods or damage. Owned from new. Wooden teak tops. New foam fitted and in good working order, £270 ono. Tel: 01455 613 248 (Feb/I)

LUMLEY MONITOR Reg 2 Signatures on M.A.F stands, £1200. Orchid Orchaidis dual monoblock RC750A Class A amp, 350 watts per channel, power and finesse, £2100. New £5500. Tel: 01530 272 801 (Feb/I)

SONY TAP 9000ES multi channel pre amplifier in gold, boxed and in exceptional condition, £400. Tel: 0151 425 4142 (Feb/I)

CABLES, 2m KIMBER 4TC and 8TC £200 (£390). 6m Chord Flatline biwire gold £110 (£225). 2x 1m Chord Solid interconnects £50 each. Excellent condition. Tel: 0151 425 4142 (Feb/I)

EPOS M15 speakers, light cherry, as new £595. Linn Sondek LP12 Valhalla Itok LVII, good condition £495. Sumiko Blue Point special MC cartridge, very low use £180. All boxed. Tel: 01484 307 096 (Feb/I)

MUSICAL FIDELITY A3CR pre-amp, cossetted, perfect condition, boxed, £280. Sony JA30ES MiniDisc player, mint, £90. Tel: 01752 773 369 (Feb/I)

PINK TRIANGLE Da Capo + D.C. £1400 ono. Philips CD 850, Trichord Clock 3 £120. Buyer collects, cash only, will demo, all mint. Tel: 0115 927 1273 after 5pm (Feb)

SHANLING CDT100 valve CD player, rave reviews, 12 months old, mint £1195. Sonus Faber Grand Piano-Home floorstanding speakers, piano-black, mint £1195. Wanted: Burmester amplifiers + Oracle Delphi turntable. Tel: 01604 584 630 or 07808 096684 (Northampton) (Feb/I)

UNISON RESEARCH Simply Four T amplifier, rare triode version, boxed with instructions, superb £1050. AR Legend turntable £120. Rotel RCD 865 £100. Target 4 tier rack £80. Tel: 01977 732 606 (Yorkshire) (Feb/I)

REVOX G36 tape recorder, 2 track, perfect condition, excellent sound, very clean £199. Tel: 01933 678 251 (Feb/I)

MERIDIAN 557 power amp £850. Counterpoint SA12 tube mosfet power amp £250. Linn LK1 plus Dirak phono stage not working otherwise ok £150. Tel: 01296 747 176 or 07855 899 478 (Feb/I)

THORENS TD125 Mk2, SME3009, Shure V15, Thorens plinth, includes manuals £200. Tel: 0141 942 0133 (Feb/I)

QUAD CD-P Player cost £1000, £550 ono new boxed. ATCSCM12 speakers, one year old, boxed £550 ono. Quad 11L speakers £250. Quad ESL 57 electrostatic speakers, good condition £250. Tel: 020 7282 8996 or 020 7282 8830 (Feb/I)

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Hi-Fi World on structural modification

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NAD SILVERLINE S400 stereo tuner, amazing quality, absolutely immaculate, remote, boxed (£600) £300. Nakamichi DR10 cassette deck, unused, boxed (£800) £300. Money back guarantee. Tel: Allan 0117 952 1341 (Bristol) (Feb/I)

PROAC RESPONSE D15 loudspeakers, mahogany, three months old, absolutely immaculate, boxed (£2000+) £1100. MK 125 II subwoofer 2 x 12" drivers, 2 x 100 W amps (£1500) £850. Money back guarantee. Tel: Allan 0117 952 1341 (Bristol) (Feb/I)

SONY SCD XA333ES CD/SACD player, excellent transport, only six months old, still under warranty, gold colour, remote, boxed (£1500) £800 ovno. Money back guarantee. Tel: Allan 0117 952 1341 (Bristol) (Feb/I)

MARTIN LOGAN SL3 electrostatic/hybrid loudspeakers. Arguably best model ever produced, absolutely immaculate, upgraded mains leads, spiked (£4000) £1950. Money back if not completely amazed! Tel: Allan 0117 952 1341 (Bristol) (Feb/I)

SONY SCD1 Flagship CD/SACD player, incredible build quality. Absolutely immaculate, unbelievably heavy - 30kg! - remote, boxed, serious offers around £2000. Originally £5000. Money back guarantee. Tel: Allan 0117 952 1341 (Bristol) (Feb/I)

ROKSAN KANDY MkIII amp and CD player. 5 months old both mint condition £750 the pair or £395 each. Tel: Dave 07729 600 847 (Littlehampton, W.Sussex) (Feb/I)

RUARK EPILOGUE speakers plus stands, still boxed £200. Tel: 01204 392 890 (Feb/I)

MUSICAL FIDELITY A3 amplifier, immaculate, boxed, remote, instructions, light use, £375. Myst G-Ohm amplifier, brushed gold finish, rare £100. Griffin Phoenix speakers, rosewood, vgc £45. Tel: 01922 865 414 (Feb/I)

NAIM AUDIO amplifier NAC72 and NAPI40 with phono boards £750. Excellent condition. Tel: 07734 246 502 (day), 020 8519 3032 (evening) or Email: juinchin@yahoo.co.uk (Feb/I)

B+O COLLECTABLE System. Beogram 1202 turntable, Beomaster 1100 receiver, Beovox S25 speakers. Back from B+O service. Offers. Tel: 01666 840 085 (Feb/I)

DALI ROYAL Menuet II boxed immaculate £199. (£399). Dali SC5 centre £75 (£150). ATC SCM10 walnut £275 some marks. NAD T770 boxed, immaculate (£699) £150. Two pairs Menuets available. Tel: 020 237 4475 (Feb/I)

MCINTOSH MA6400 as new with box and manual £1400. DNM Series 2 pre-amp £350. Tel: 01189 617 375 or Email: claes.larsson@ntlworld.com (Berkshire) (Feb/I)

HORNING ZEUS hybrid horn speakers, maple, original condition, 18 months old £1095. EAR 859 single ended valve amp, excellent condition, boxed £995. Sony SCD777ES SACD player, mint, boxed, champagne £995. Tel: 01978 780 580 or Email: robert@robertbaker.org.uk (Feb/I)

PMC DB1 speakers, cherry finish (555) £355. Castle Isis standmount speakers £100. NAD 3130 amplifier £55. Tel: 01295 275 983 (Banbury) (Feb/I)

LEAK DELTA 30 £50. Leak 2020 speakers £40. Leak Stereo 30/Stereofetic/teak sleeve £100. Leak Stereo 70 £70. Leak Troughline3 mono tuner £75. Leak Troughline3 stereo tuner £100. Armstrong 425 tuner/amp £25. Goldring 88 turntable £100. Ditton 44 speakers £120. Ditton 25 speakers £150. Tel: 07733 097 673 or Email: nnh@dmu.ac.uk (Leicester) (Feb/I)

LINN KANS original late Mk1 with Linn logo, solid wood cabinets vgc, sonically perfect. Linn Mk2 Kan stands £250. Happy to demonstrate. Tel: 01484 841 482 (West Yorkshire) (Feb/I)

QUAD II Monoblocks, Garrard 301, SME 3009, Thorens TD124-II, Yamaha NS 1000M, Quad ESL57, Black Oracle Dephi-I, Thorens RB250, Michell Mycro RB300, Quad 405-2, Koetsu Black retipped, unused SME 3012-R. Tel: 0117955 6555 or 07979 514 450 (Feb/I)

CHARTWELL LS3/5a's including stands £250. M.F. XLP £125. Cambridge power amps £75 each. Denon TU260 £65. Tel: Tim 020 8249 3856 evenings or Email: stocker10b@hotmail.com (Feb/I)

WANTED: ASSEMBLAGE (Sonic Frontiers) DAC 3.1 and D2D-1 sample rate converter. Must be in mint or good condition. Tel: Phil 01942 216 967 (Feb/I)

REVOX A77's, B77's and other Revox - NAB hub adaptors - various condition but cosmetic perfection. Some workshop and owners/handbook original - photocopy - offers invited. Ring for details 07710 828286 (Brighton) (Feb/I)

WANTED: CROFT Micro II special pre-amp or similar. Tel: evenings 01292 269 477 (Feb/I)

AUDIO RESEARCH PH3SE phono stage. 6 months old, perfect, boxed £1450 ono (£2800). Siltech SG180 silver speaker cables 2.00m, VBT spades perfect £950 (£2700). Siltech classic SQ110 0.5m XLR-XLR £300 (£750) never used. Tel: 01925 656 990 (eves) (Feb/I)

CONCORDANT EXEMPLAR Power amp 100W/C (transistor) & Lumley VTPI000 line pre-amp, £600 the pair, may split. Both in excellent condition & boxed. 01275 853926 (Bristol) (Feb/I)

AUDIO RESEARCH D115 £1000. Audic Research LS2 £750. Marantz CD94 + CDA94 (DAC) £650. Audio Innovations S700 £600. QED Profile 4x4 5m (bi-wire) £50. Tel: 0870 853 3011 (day) or 01264 771675 (eve) (Feb/I)

AVI PRE-AMP, stereo power £475. Trichord Genesis CD £275. Teac VDRS10SE £300. Primare A20II integrated £300. Wanted: Lescon Cylinder power, Pioneer SA9900 amp, Target R1-R2 speaker stands. Tel: 01226 710 605 or 0777 927 4655 (Feb/I)

CD TEAC VDRS transport TDI DAC boxed £600 ovno. May split. Tel: Mark 020 8547 2397 or 01959 572030 (Feb/I)

EXPOSURE POWER Supply VI, dual pre-amp VII, power-amp VIII £675. Michell Focus One deck £475. Nakamichi BX2 tape deck £160. Linn Sara speakers with metal stands £325. Lowther Classic speakers - offers. Tel: 01202 512 915 (Bournemouth) (Feb/I)

REVOX G36 tape recorder, 2 track, perfect condition, excellent sound, very clean £199. Tel: 01933 678 251 (Feb/I)



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FROM JANUARY 2004 ISSUE

LOWTHER FIDELIO speakers piano black finish factory made fitted PM5A units no service required £1600. Tel: 01293 824667 after 6pm or Email: jlc@beeb.net (Jan/I)

MUSICAL FIDELITY Tri-Vista SACD Super Audio CD player, mint, boxed £3000. Tel: 020 8531 5979 or 07903 265205 (Jan/I)

OFFERS INVITED: 2x Class 'A' valve monoblocks. Class 'A' pre with Panasonic for audio pot. Many spare valves. Custom built by VRR. Recently revalved, super sound. Vgc. Tel: 023 92 753 833 (Jan/I)

CUSTOMISED 300BPSE monoblocks chromed chassis, Dact attenuators, three switched inputs, reviewed HFW Dec 2002. Jensens, Black Gates, DC power £1650. Crown ES-212 electrostatic hybrids, like Quads with subs £650. Tel: 01474 871 735 or Email: andydaish@aol.com (Jan/I)

MERIDIAN 506, Royd RRI, Rotel 1060, £600 the lot. Densen Beat integrated amplifier, £200. Buyer to collect. Lancs. Tel: 01744 736 218 (Jan/I)

QUAD ESL63 loudspeakers. Condition as new. Complete with manuals and boxes. Black stockings and brown woods. Ideal present for one who has almost everything. £1200 ono. Reluctant sale. Tel: 01480 411 203 (Jan/I)

WAD HD83 valve headphone amplifier plus Mullard ECL83 Nos valves x6 £150. Tel: 01248 853157 (Anglesey) (Jan)

AUDIO RESEARCH D70/II amp Absolute Sounds serviced £850, Quad ESL57's late black pair recent Quad service £750, Lumley Ref 120 monoblocks revalved £1100, Spendor SPI00 monitors with stands £975, all in excellent condition. Tel: 0113 257 7793 (Jan/I)

CROWN DC300A power amplifier, 190wrms per channel, semi re-built, exemplary sound, very clean. £375. Tel: 07932 664480 or 07949 160 772 (Jan/I)

AUDIO MAGIC ST-1's, very like Wilson WATT's, £1200 (£3800). QIn Signature Splitfield speakers/stands, Nordost re-wired, HFW March '96, £800 (£2200). Wanted: AR-CD2, Wadia 830, AV rack. Tel: 0131 6610126, 07811 335060, or Email: zeb@relax.uk.com. (Jan/I)

NORDOST: SPM, 3m, bi-wire, £1250 (£2970). Red Dawn, 2.25m, bi-wire/amp, £250 (£730). Red Dawn RCA-DIN, DIN-DIN, £150. Acoustic Zen Hologram bi-wire shotgun, new, 2m, £800 (£1450). Tel: 0131 6610126, 07811 335060, or Email: zeb@relax.uk.com. (Jan/I)

PIONEER RTU11 open reel tape recorder, logic control, half track, 7 1/2 & 15 ips, permaloy heads, 10 1/2 reel, tape calibration, lovely condition £300. Tel: 01782 256 087 (Jan/I)

NAIM NAIT 3, boxed, instructions £275. Creek OBH-9SE M/C Pre, boxed £100. Harbeth HL-P3 £275. Nakamichi CR2-E, mint £100. NAD 3020, mint £50. Nakamichi BX-150 £60. Tel: 0772 962 0621 (Jan/I)

MUSICAL FIDELITY A308CR dual mono pre-amp and four M250 monoblock power amps, mint, boxed £3000. Less than one year old. Reason - going valve. Tel: 01623 861 103 or Email: dmjem@tiscali.co.uk (Jan/I)

MONITOR AUDIO speakers, PMC 703s, rosewood with plinths, boxed, mint £500. Speaker cable Audioquest Cobalt bi-amp runs £70. Audiolab 8000C pre-amp, boxed £150. Apollo AT5 table £50. Cerwin Vega IS15 speakers, mint £500. Tel: 07743 408717 or Email: johnhollander495@hotmail.com (Cheshire) (Jan/I)

QUAD SYSTEM: 44 pre-amp £225. 405-2 amp £200. FM4 tuner £200. All three on Quad rack £600. Quad serviced, all boxed, phon MM MC. Tel: 01268 758378 (Benfleet, Essex) (Jan/I)

AVI PRE-AMP, stereo power £475. Trichord Genesis CD £275. Teac VDRS10SE £300. Primare A20II integrated £300. Wanted: Lescon Cylinder power, Pioneer SA9900 amp, Target R1-R2 speaker stands. Tel: 01226 710 605 or 0777 927 4655 (Feb/I)

QUAD 77 Preamp + remote, CD player, FM tuner £795 ono. Ruark Crusader Mk2 floor standing speakers £545 ono. All superb condition with makers boxes. 2x 10m VdH CS122 speaker cable with Airloc connectors £65 ono. Tel: 023 8073 8935 (Jan/I)

DECCA S, checked by UK distributor. 78, FFSS, H4E heads all working. Mono LP head, C4E cartridge need retip. Decca arm. Decca head to SME arm adaptor. Collection - £500. Tel: Richard 020 8991 0762 (Jan/I)

AUDIOLAB 8000S £320, Audiolab 8000DAX plus Tag CDT20R transport £1100. No splitting this item. Epos ES11 £110. No stands. Will demonstrate North Somerset area. Tel: 01275 462 948 (Jan/I)

REVOX PR99 MkII £300. Revox A77-Dolby £225. Revox B77 MkII £275. Tascam Model 32 £275. Ferrograph Series 7 £150. Akai A000 D £65. Teac 3300 £200. Nakamichi BX300E £150. Nakamichi CR3 fault £90. Others available details 01388 815216 (Jan/I)

AUDIONOTE DAC I Signature £299 as new. Rothwell stepped attenuator pre amp £250 as new. Van Den Hul integration interconnect 0.6m £99. Tel: 01457 834465 (Jan/I)

HERTFORDSHIRE/NORTH LONDON Audio/Record Fair. Sunday 14th December 2003. 11.00 to 4.00. £3. 9.30am early entry £10. At Cuffley Hall, Maynard Place, Cuffley, Herts. 5 minutes from M25 Junction 25. Tel: 07944 909 209 for details (Jan/I)

MUSICAL FIDELITY Nu Vista integrated amplifier mint £1800. Quadraspire Six shelf equipment stand £150. Tel: 01977 620558 (Jan/I)

GARRARD 401, SME3, DL110 £415. Gale 401'S £395. Quad 34 (boxed) £135. Revox A77 £150. Rotel RT2100 tuner £85. Sony Quadophonic 2244 pre £75, B&O 1200 tape £45. Tel: 01273 541 462 (Brighton) (Jan/I)

MISSION 752F floor standing speakers £150. Project RPM4 turntable £160. North Star Model 3 24/96 DAC £120. NAD PP-1 phono preamp £10. DR66 two way crossover £10. Tel: 01248 853157 (Anglesey) (Jan)

CYRUS 2 amplifier with PSX. Cyrus tuner. Mission PCM 7000 CD. Ruark Sabres with stands. Comes with all leads, remotes, boxed. £600. Will separate. Tannoy Oxfords £80. NAD 402 £70. Tel: 01722 334694 (Salisbury) (Jan/I)

TDL RLT4's speakers boxed manuals rewired excellent condition £225. Buyer collects. Pioneer F-91 tuner boxed vgc £230. Tel: 01934 813666 after 6pm or Email: jpmc@supanet.com (South Bristol) (Jan/I)

CLASSIC ROTEL amplifier RA-820 BX3. Bi-wire, remote speakers, phones MM/MC phono stage £85. Kenwood cassette deck KX550HX. Dolby B.C. DPSS, timer mic. phones £65. Both excellent condition. Tel: 0113 273 3744 or Email: jsormerod@hotmail.com (Leeds) (Jan/I)

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MERIDIAN 557 power amplifier, 200 wpc, under warranty until October 2004, mint, hardly used £995. Quad ESL-63 electrostatic speakers, fully serviced by Quad, fine condition £995. Tel: 01993 883523 (Jan/I)

NAIM AUDIO Allae speakers beautiful cherry finish, 12 months old, excellent condition, reason for sale upgrading, please call Rod 020 8689 8750 Home 020 8666 1309 Work (Jan/I)

CD TEAC VDRS transport TDI DAC boxed £600 ovno. May split. Tel: Mark 020 8547 2397 or 01959 572030 (Feb/I)

AUDIOLAB 8000 DAC £350. Con-Johnson PFIL-pre-amp £695. TubeTech Genesis monoblocks £1495. Marantz CD17K1 £595. Grant GM200 mono's (£4000) £1595. Meridian 601/602 (£4500) £1395. Audiostatic ES200 £1395. Apogee Calipers (new) £1695. Tel: 07966 267404 or Email: coom@btinternet.com (Jan/I)

DPA ENLIGHTENMENT pre/pwr £695. Roksan DAC/PWR/supply £385. Nakamichi CRI £195. ECA Vista £395. Soundlab Quantum £695. Trichord Pulsar/pwr/supply £495. Meridian 500trans £595. Arc Audio Quintet £695. Counterpoint SA12 £545. Tel: 07966 267404 or Email: coom@btinternet.com (Essex) (Jan/I)

2x LINN Ninka floorstanding loudspeakers, American cherry, perfect condition, £950 boxed. Arcam Alpha Nine CD player excellent condition, £350 unboxed. Contact Ed on 07753 662297, 01753 823468 or Email: edturkington@hotmail.com (Slough) (Jan/I)

RUSS ANDREWS The Powerblock 5 foot Reference Powercord £386 - £250. Four 5ft high current Power Cords fitted with 350 IEC £244 - £120. Tel: 0161 345 9804 or 07966 458940 (Jan/I)

MF A3.24 upsampling DAC £500. Northstar Stardac Model 3 multibit 24/96 DACS £250. Teatrack 3.2m biwire cable terminated £90. Marantz PM66SE amp remote mint £40. Original boxes. No offers. Tel: 0151 608 4481 (Wirral) (Jan)

LOWTHER DX3's £250, in JT Horn enclosures; complete speakers £1000. Dynavector Superstereo Adp2 processor, mint £350. Cartridge MANS Music Maker Two, unused £300. Tel: 01373 301423 (Jan/I)

TECHNICS SERIES 2000 pre-power amps, 100 watts channel, compact disc player, mint £975 (originally £2800) Thorens TD124 turntable, SME arm, plinth, mint £275. For details 01782 256087 (Jan/I)

MISSION CYRUS 2/PSX vgc £300 ovno. Tel: 01628 440073 Email: dav.ard63@ntlworld.com (S. Bucks). 2 KEF B139 bass, vgc £100 ovno Tel: 01628 440073 Email: dav.ard63@ntlworld.com (S. Bucks). Oscilloscope, Scopex 14D-10 dual trace, 10MHz, probes, instructions vgc £50 Tel: 01628 440073 (S.Bucks) (Jan I)

VIENNA ACOUSTICS Mozart speakers (floorstanders), black piano finish, Hi-Fi Choice recommended v.g. condition with boxes £640 (£1500). Supra Lo-Rad power cable £25. Russ Andrews purifier block £320. Tel: 0131 4437686 or Email: autobahn111@aol.com (Jan/I)

CYRUS 2 + PSX £150. Kef Reference 101/3 speakers £200. Excellent condition and boxed. Tel: 07736 126028 or 01304 832681 or Email: peter_sandiford@lineone.net (Kent) (Jan I)

WANTED - ROGERS, Harbeth or similar, one pair of BBC LS 3/5a speakers. Private buyer. Tel: 01394 388399 (Jan/I)

ZINGALI 212 Home monitors. Patented wooden compression horns. Fantastic sound from these beautiful Italian speakers. 18 months old, very good condition. Maple finish (£10,700) £5000 ono. Tel: 020 7439 1365 or Email: troy@runbox.com (Jan/I)

CEC BELT drive CD transport. Superb Japanese transport immaculate condition. One of the best transports money can buy. Wonderful sound great value (£5000) £2000 ovno. Tel: 020 7439 1365 or Email: troy@runbox.com (Jan/I)

TACT MILLENNIUM Mk2. The original and best digital amplifier absolutely brilliant. Immaculate condition. Move away forces sale of all. (£6250) £2500 ono. Tel: 020 7439 1365 or Email: troy@runbox.com (Jan/I)

MAGNEPLANAR SPEAKERS Model MG1 Imp. Clear, detailed and dynamic sound very good condition £380. Tel: Peter 07967 487543 (South Staffs) (Jan/I)

AUDIO RESEARCH SPI6 valve pre amp with phono stage and remote control £1495 (£2499). American Acoustic Developments (AAD) E-48 slim-line floorstanding 3-way speakers, 90dB sensitivity, 5 stars What Hi-Fi, £395 (£595). Both mint with boxes & manuals Tel: 01202 767873 (Poole) (Jan/I)

WANTED: KEF T27 tweeter(s) type I027 Tel: Steve daytime 01293 654749 (Jan/I)

TDL STUDIO 3 transmission line speakers walnut veneer vgc with spiked plinth, stands and original boxes. £200. Tel: 01635 676620 (Berkshire) (Jan/I)

MERIDIAN 504 tuner £300. NAD C370 amplifier £300. Rotel RCD 971 CD player £150. Pioneer PDR 509 CD recorder £150. B&W P4 loudspeakers light cherry £250. Epos ES14 loudspeakers £175. Tel: 0161 723 2835 evenings (Jan/I)

QUAD 22 pre, new, caps, gold phonos, wired for CD vgc 3125. Cambridge Audio CD4SE with remote and handbook £95. Tel: 01225 315401 (Bath) (Jan/I)

LEAK TROUGHLINE 3 GWO. KLS9 kit. Hagerman Bugle phono stage. Faulty Beam-Echo valve amplifier. Valve amplifier. 16" paper woofer. Target rack-ing. HK610. Speaker cable. Marantz RC-52CD. Auction: www.stores.ebay.co.uk/afewfewrics Wanted: oak plinth turntable Tel: 07960 369666 (Jan)

MAGNEPLANAR MG 1.4 boxed mint £600. Leak Troughline III £110. Krell KSA50 boxed mint £750. Rotel pre amp MC & MM £65. Linn LPI2 Valhalla with silver 250 arm (new arm) boxed, mint £750. Tel: 0121 530 0600 (Jan/I)

KEL 80 Valve monoblocks - (World Audio Design) Enchanting sound of valves with 80 watts per channel of valve power. Used as part of Home Cinema setup. Upgraded, matched Quad EL34 valves, Blackgate and Jensen capacitors. recently serviced. Cost over £1200, asking £600. Tel: 020 8205 4710 (Jan/I)

WAD HD83 valve headphone amplifier plus Mullard ECL83 Nos valves x6 £150. Tel: 01248 853157 (Anglesey) (Jan)

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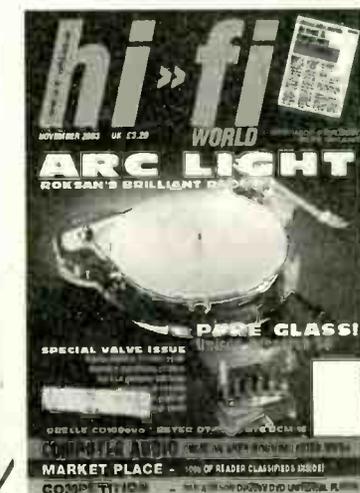
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AUDIO RESEARCH LS25 Mk1, 4yrs, boxed as new (£5000) £2999. Audio Research M300 Mono Blocks MkII status (£12000) £3600. Tom Evans the Groove, phono stage, 2yrs, (£1800) £1350. Sonus Faber Extrema's on stands (£7800) £3450 All mint, boxed. Telephone Jules on 01792 280061, Email: info@sounddrjuleshifi.co.uk Web: www.sounddrjuleshifi.co.uk (Feb/1)

TRANSPARENT ULTRA Bi Wire 12ft, WBT Bananas (£3440) £1950. Mandrake 1mtr, RCA-RCA (£600) £300. Siltec Arm cable, Icheman bullets RCA's 1.5mts (£400) £260. Siltec 1.0 mtr RCA-RCA (£300) £180. Telephone Jules on 01792 280061, Email: info@sounddrjuleshifi.co.uk Web: www.sounddrjuleshifi.co.uk (Feb/1)

LINN KLIMAX Twin Power amp, 8 months old, as new (£6000) £4700. Linn Kellidh's, black ash, active cards, passive (£1000) £450. Audio Technica OC9 cartridge brand new £270. Telephone Jules on 01792 280061, Email: info@sounddrjuleshifi.co.uk Web: www.sounddrjuleshifi.co.uk (Feb/1)

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MARK LEVINSON ML383 integrated amp (as new) (RRP £6000) £4300. Wadia 16, 4yrs, mint (£7450) £3400. Basis Debut Gold Standard Turntable, inc custom dust cover, (£8,500) £3800. Koetsu Red Signature *, 20hrs, (£2200) £1300. All mint, boxed. Telephone Jules on 01792 280061, Email: info@sounddrjuleshifi.co.uk Web: www.sounddrjuleshifi.co.uk (Feb/1)

LINN MAJIC amp, as new, 1yr new, mint (£1000) £600. Mission DAD 5 & DAD5 Dac, (£800) £250. LFD Mistral CD player, stainless steel & gold livery, boxed. Mint (£1050) £380. Telephone Jules on 01792 280061, Email: info@sounddrjuleshifi.co.uk Web: www.sounddrjuleshifi.co.uk (Feb/1)

AUDIOQUEST OPAL Truth RCA, 1.0 mtr (£260) £175. QUAD 989 Brand new, cancelled order (£4600) £3900. Naim NAC 32.5 pre, with phono stage, mint condition £250. Telephone Jules on 01792 280061, Email: info@sounddrjuleshifi.co.uk Web: www.sounddrjuleshifi.co.uk (Feb/1)

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WANTED: DAMAGED or non-functioning Krell power amplifiers. Telephone Nick Sheldon 07947 245 651 or Email: nick.sheldon@yahoo.com Cash waiting, will collect. (Feb/1)

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BARGAIN BULBS



If you've always thought of valve amps as temperamental and expensive beasts, think again. World Audio Design's latest kit is designed with the budget conscious beginner in mind.

The Kecl82 was created from a brief that demanded simplicity, ease of build and a super low cost. In order to achieve a reasonable power output we went for a push-pull amplifier.

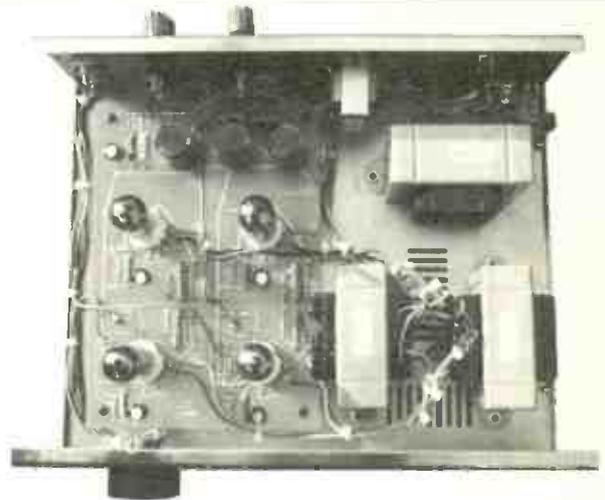
We chose the ECL82, a triode/output pentode. This tube is readily available and has a good sound. In push-pull mode it delivers 8Watts. Realistically you need a speaker of around 89dB or above. This is possible at a budget price - try the smaller Triangle models, or a Tannoy mX3 or even one of the older Missions like the 773e, or if you like building your own speakers, try the Adire Audio HE10.1, as reviewed in HFW October 2002 issue.

You will see that the front has only a volume control, and it is fed by one pair of phono sockets. A selector and tape/source switch were not used in this amplifier as they are tricky to wire up, and the aim was to make it easy to build. In fact, in many ways the Kecl82 would be great powering a second system, using a CD player as a source, and will definitely give you a taster of what valves can offer. Measuring 30cm wide, 23.5cm deep and 11cm height with feet, it is entirely self-enclosed. The valves are visible through the four upper circular vent holes (one directly above each valve). We have kept the look simple with the minimalist front panel holding the volume potentiometer. The two-part chassis is constructed from 1.6mm mild steel with a durable black powder-coat finish. The whole unit is very sturdy, weighing in at 9kgs.

The signal input is in the form of a pair of gold plated RCA phono sockets that sit at the rear of the chassis. The speaker sockets accept 4mm banana plugs as well as bare wire. The mains switch is positioned at the rear of the amplifier, on the right hand corner for easy access. Mains power is received via an IEC lead. The Kecl82 is based on a printed circuit board (PCB). The PCB is easy to follow with all component names, locations and orientations shown clearly. The amplifier requires no set up, you just turn it on. The kit will come with comprehensive instructions taking you through the build step-b-step.

SOUND QUALITY BY SIMON POPE

Purity is the key to this amplifier's design and sound. Because there's very little to get in the way of the signal what you get is an exceptionally sweet and simple sound that also has a superbly wholesome roundness to it. A high quality recording of Mahler's Das Lied Von Der Erde on Reference Recordings showed that the Kecl82 faithfully reproduced all the depth and space of a full symphonic orchestra without any problems. Violins were smooth and sweet, as was percussion (which virtually sparkled) and the woodwind section was especially impressive, with a spacious and airy sound.



A run through Miles Davis's Kind Of Blue saw the little integrated delivering a detailed and precise sound that highlighted the warmth of Coltrane's tenor sax and the rich, deep sound of the upright bass. Rock and Pop records such as Radiohead's 'Lucky' demonstrated that the valves inside the amp, whilst small, are quite robust sounding, with commendable clout and bass depth for a humble budget 8W valve amp. This is a great introduction to the sonic art of the valve amp and a big upgrade for anybody with a mid-price solid-state amp that wishes to swap over to something more musically engaging, for a price that's virtually as cheap as chips!

MEASURED PERFORMANCE

Frequency response	+/-3dB 15Hz - 75kHz
power output	8 watts into an 8 ohm load
sensitivity	850mV (suitable for CD)
hum	0.5mV

**The Kecl82 amplifier kit is available from World Audio Design
Tel/fax: 00 44 (0) 1908 218836 or order on-line at
www.worldaudiodesign.co.uk**

**Kecl82 amplifier kit (UK price) £195.00
(inc. vat & carriage)**

**Kecl82 amplifier kit (EU price) £195.00
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FOR THE BUYER

1. Not everyone is honest - Buyer Beware!
2. **Don't send cash!**
3. Accept no verbal guarantees.
4. Have you heard the item or something similar? If not, why do you want it?
5. Don't pretend to have knowledge - it's your fingers that will get burnt!
6. Is it working? If not, why not?
7. Has it been modified and, if so, have notes been kept?
8. Was it any good in the first place?
9. **Don't send cash!**
10. If you are in the slightest doubt, arrange an audition (see point 5). If it's too far, wait for another time.
11. Either buy it or don't: vendors are excusably impatient with 'consultation' exercises.
12. **Don't send cash!**

FOR THE SELLER

1. Not everyone is honest - Seller Beware!
2. Make no verbal guarantees.
3. Even 'nearly new' is still second-hand. If the manufacturer's guarantee is no longer in force, your price should reflect this.
4. There is very little intrinsic value in second-hand hi-fi; it's only worth what someone will pay for it.
5. The best guide to pricing is last month's Classifieds: that a 'classic' was worth £xxx a year or two ago is no guide. Values fall as well as rise.
6. Amateur second-hand dealing is not a big money game: you win some, you lose some.
7. Be prompt with despatch. If in doubt about buyer's bona-fides, either wash out the deal or send C.O.D.
8. There will always be time-wasters; be tolerant within reason!

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ADVERTISERS INDEX

Absolute Sounds	82
Affordable Valve	128
Audio Jumble	112
Audio Reference	58
Audio Solutions	IFC
Audio T	10
Audio Venue	58
Audusa	108
Beauhorn	56
Billy Vee	85,86,87
Central Audio	114
Choice Hi-Fi	84
Classique Sounds	109
Connoisseur Audio	113
Custom Cable	107
Definitive Audio (Brighton)	56
Definitive Audio (Notts.)	56
Diverse Vinyl	116
E.A.R.	22
Emporium (The)	122
Heathcote Audio	107
Heatherdale Audio	115
Henley Designs	6,78
Hi-End Cable	120
Hi-Fi Sounds	112
Hi-Fi Trading Co.	104,105,106
Ian Edwards	82
Ian Harrison	115
Icon Audio	82
Jem Distribution	103
Mantra Audio	78
Matrix	118
Midland Audio Exchange	110
Midland Hi-Fi Studios	120
Mission	BC
Musical Images	111
Naim	IBC
Origin Live	54,118
Oxford Audio	114
Pinewood Music	109
Retro Reproduction	103
Sevenoaks	27,28,29,30,31,32,33,46
Sound of Music (Crewe)	109
Sounds Expensive	115
Soundstage	111
Sugden Audio	120
Sussex Surplus	113
The Chord Company	18
The Listening Rooms	116
The Right Note	18
Trichord	54
Tube Shop	78
UKD	22
V'Audio	115
Walrus	38
Weald Audio	112
Williams Hart	111

DIY Supplement No.77

Audio Laboratories (Leeds)	98
Audio Xpress	92
Chelmer Valve	92
Falcon Acoustics	92
Langrex Supplies	100
Sound Spares	98
Watford Valves	100
White Noise	92

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MARCH 2004 ISSUE - 7TH JANUARY 2004
 APRIL 2004 ISSUE - 5TH FEBRUARY 2004

Belting Stuff

David Price looks at Sansui's long, lost and largely forgotten SR222 II, the best budget belt drive turntable to grace the shelf space of any self respecting 1970s hi-fi dealer...

Popular wisdom has it that Pioneer's classic PL12D is in fact the best budget belt drive ever made, and for my money at least, it's not far off. But as with so many products, there's always something that comes along a couple of years later, that's better in many ways but which doesn't comprehensively out-class it. Sansui's SR222/II is such a deck. It's an altogether slicker affair than the redoubtable PL12, but the fact that [a] it wasn't the first to market and [b] it didn't paste the Pioneer in every respect - has insured its relative anonymity. As such, it's a bargain - you can pick one up for £30 or less if you're lucky.

To recap briefly. Being a 'record buff' in the nineteen sixties was all very well if you could afford the likes of Garrard's 301, mount it in an SME plinth and add a 3009/SII arm (plus the compulsory Shure V15II), but those starting out on the hi-fi journey were limited to the likes of a BSR BDS80 or Garrard's own SP25/III. These were a step up from playing your prized vinyl on your sister's Dansette, but frankly not much. Allied to a Sonotone ceramic

cartridge, and you'd get similar sonic results to growing the nail on your index finger and judiciously applying it as you span your disc on its axis. Frankly, sixties budget decks were God-awful, and didn't it show?

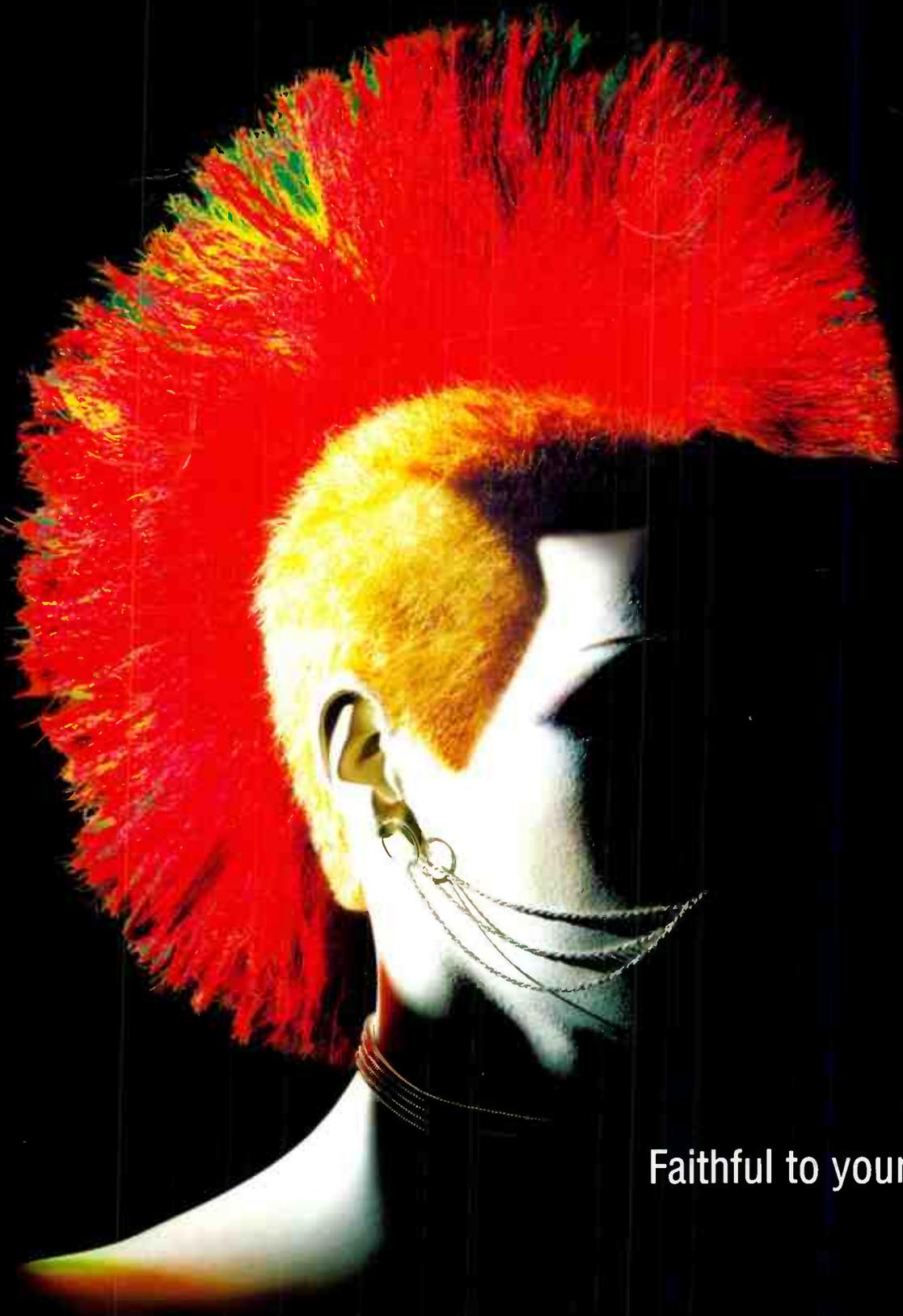
Then, sometime around 1973, came Pioneer's PL12. Whereas the Brits had been making Neanderthal rim-drive 'auto-changers' with tonearms that could double as tyre levers, this Japanese creation sported a stable belt drive system and an S-shaped tonearm with relatively low friction, that was capable of tracking at surprisingly low weights - all for some £35. Japan Inc. had for several years been manufacturing some very slick belt drives, modelled - if we're brutally frank - on Goldring Lencos - and Pioneer took the formula, added an integrated pick-up arm and chopped a few bucks off the price tag. The result was an instant 'best of breed', a thoroughly engineered turntable with real audiophile features at an affordable price. (At this point, hi-fi transpotters may be interested to know that one of the people working on the PL12 project was a young, tube-enthused audio engineer by the name of Ken

Ishiwata...)

Anyway, the PL12 well and truly socked it to the competition, and Pioneer - unsurprisingly - couldn't sell enough. The company's rivals wanted a piece of the action, and first on the scene was Trio with its KDI033 deck. This was no less worthy than the Pioneer, but didn't really advance the breed. Then came Sansui's SR222/II. Like the PL12 and KDI033, it had a very smooth, crisp and warm sound, with no obvious nasties (such as wow and flutter) that the previous generation of Brit budget fare had so conspicuously suffered from. Partnered with a Shure M75ED cartridge (a particularly symbiotic match, it must be said), the result was a very big and punchy sound. In fact, you'd be amazed - put either of these three (set up well with a decent cartridge) against a £400 CD player of today and it's the record player that would still be spinning in the early hours...

The SR222/II added exquisite build and finish to the PL12D's 'affordable audiophile' recipe. It's not quite up there in Rega Planar 3 territory in engineering terms, but the 452x139x370mm (6kg) piano black plinth looks better than the latter's painted MDF. The 220mm arm is a cracker - it's a variation on the archetypal Jap 1970s Acos Lustre theme - giving fine results with budget cartridges, although Rega's own Lustre-built R200 (fitted to the Planar 2, at twice the price) was better still. Together with the 300mm die-cast aluminium alloy platter and four pole AC synchronous motor, the Sansui sounded very smooth and pleasant. By modern standards, it lacks grip, incision and focus, but it still makes a very nicely musical 'analogue' sound. By Rega standards, you'll hear a lack of dimensionality, and curtailed frequency extremes, but it can be picked up for just one third of the price of any decent Rega thanks to its relative obscurity. It's a lovely little bit of kit, the SR222/II, from one of Japan's best hi-fi names - more's the pity that it is no more.





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