DVD-AUDIO DYNAMITE
Cambridge Audio's bargain DVD 57

DIGITAL STAR WARS!
Arcam, Cambridge, Creek, Marantz, NAD
and Rega CD players lock lasers
with Philips SACD

plus
- Quadraphonic rediscovered - analogue 4.0 vs. digital 5.1
- Heart Audio Beat 300B valve monoblocks
- Linn Classik Movie System Di
- T&A DVD1230R audiophile DVD player
- Write On - 16 pages of your questions answered!

COMPETITION
Five Xitels Hi-Fi Link USB
soundcards to give away in our special Computer Audio World competition!

+ 100s of classified ads full of secondhand bargains!!!
Digital has truly come of age

Our old first generation friend, CD, is already looking decidedly like Old Hat. Super Audio CD and DVD Audio are with us, assuming you can find the titles you want (rather than the titles they want you to have) at a record shop near you, or indeed in a record shop anywhere. Music (and gadget) lovers can revel in the multitude of ways to store and play their (compressed) music, from home or portable hard disk players, hand-held memory card players, or the humble home computer itself.

So why do we fill our adverts (and our shop) with obsolete mechanical machines from a bygone age to spin huge discs at 33.3 and 45rpm with a sharp diamond on the end of a moving arm to read tiny squiggles in the vinyl? How quaint!

We have the largest selection of vinyl players anywhere in the UK (and possibly further afield too) - just a small selection on this page.

More importantly, nobody assembles and tunes turntables like we do - to perfection!

Warning!

We have a huge selection of accessories for the vinyl enthusiast which can be purchased either by personal callers to our shop, or by mail order world-wide. Please consult our web site for product details, and how to order.

For info on these, and much more, including our numerous second-hand items, please visit our popular website: www.walrus.co.uk

* interest free credit available on most items, subject to status *
The reasoning goes that, with the backing of the major music companies, these two new ‘advanced resolution’ digital formats are bound to catch on, so why not go for it? After all, aren’t the new ‘super players’ supposed to play standard CD well too?

Well - as this month’s group test shows - good as the likes of our ‘fave rave’ Philips DVD9635A SACD player are with 16bit, the latest generation of purpose built Compact Disc machines blow them into the weeds with existing digital discs. Frankly, I was surprised by just how good they are – read our group test and you’ll see that we got some serious sounds from a £200 Cambridge Audio player, and approached hi-fi heaven with the latest £600 ‘so’ Creek and Marantz machines. Value for money in audio is alive and kicking!

Speaking of Cambridge Audio, its new DVS57 is all about getting the best sound per pound - £199 of them, to be precise. This buys you a DVD-Audio spinner that’s great fun to listen to, and will even play DVD movies half decently too. The value theme continues with Monitor Audio’s new B4 loudspeaker, which is an essential audition - £350 gets you what’s effectively a three way design using seriously smooth drive units. The result is a box that fills even quite large rooms with sweet and lyrical sounds.

And now for something completely different – quadraphonic! Bet you thought it was dead and buried? Well in typical Hi-Fi World style, we’ve exhumed the choice bits of quad kit from way back when Slade was ‘toppermost’, with surprising results – if you like digital surround, you’ll be amazed by what analogue can do with four speakers and an old matrix decoder. The major downside proved to be a lack of decent quad software titles and some seriously dodgy multichannel mixing. Some things never change...

WORLD VERDICTS: This issue marks a change in our rating system, to make it clearer and better understood. 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 remains, as we often come across flawed gems that are great value for money.
reviews

digital players
GROUP TEST 10-21
Hi-Fi World listens to six of the very best affordable sixteen bit CD players, from Marantz, Rega, Creek Audio, Cambridge Audio, Arcam and NAD, with a Philips SACD spinner thrown in for good measure...

PHILIPS AX7201 34
Here's a serious sounding CD portable - David Price listens in.

T&A DVD1230 39
Noel Keywood puts this svelte looking slice of German high-end through its paces, but isn't totally won over.

CAMBRIDGE AUDIO DVD57 50
A brilliant budget buy - as well as doing the usual DVD and CD spinning duties, it plays DVD-Audio pretty well!

amplifiers
HEART AUDIO BEAT 54
Want a pair of 300B monoblock valve amplifiers for under £2,000? Andy Grove is unusually impressed with what he hears.

loudspeakers
MONITOR AUDIO B4 58
David Price is beguiled by this exceptionally smooth and sweet sounding pair of standmounters.

systems
LINN CLASSIK CMS 61
Linn Products' baby multichannel music system gets some trick technology from the forthcoming flagship Unidisk digital disc player. David Price listens in.

vinyl
THORENS TD190 56
A new turntable from this old name, and it's even fully automatic and comes complete with a 78rpm facility. Hadden Boardman approves.

features
SNAKES & LADDERS 22
Stuck on a rung up to hi-fi heaven? Noel Keywood compares the relative merits of CD, SACD and DVD-A, to give you a better sense of how to get there.

FOUR PLAY 35
David Price traces the history of quadraphonic sound, and compares it with digital multichannel - with surprising results!

FAIR FUN 42
Haden Boardman goes off in search of a bargain at the National Vintage Communication Fair...
SOUNDBYTES 81
The latest tantalising tidbits from the world of computer audio.

CARA SOFTWARE 82
Noel Keywood spends a lost weekend getting to grips with a computer solution to your loudspeaker set-up problems.

SUBSCRIPTIONS HOTLINE
01923 270833
MON - FRI 9.30AM - 12.00 NOON
FAX: +44 01923 260 588

competition
Transform your computer audio by winning one of five fiendishly clever Xitel Digital Hi-Fi Links in this month’s competition!

letters & emails Xtra
WRITE ON
The Hi-Fi World team gets to grips with your hi-fi problems, rants and raves - in depth!
Put The Needle

On The Record

And The Drum Beat

Goes Like This

**Pro-ject**,

stunning record playing systems from £115

Distributors: Henley Designs Ltd, 01235 511166
www.henleydesigns.co.uk, e-mail info@henleydesigns.co.uk

The following dealers have been chosen for their exceptionally high standards in customer service, staff training and demonstration facilities.

We recommend them wholeheartedly.

**Scotland / Ireland / Wales**

- **Edinburgh** - Chain Stores (0131) 225 9898
- **Inverness** - Chain Stores (01463) 205292

**North East**

- **Darlington** - Carltons Audio (01325) 310090
- **Middlesbrough** - Carltons Audio (01642) 624444

**North West**

- **Bolton** - Carltons Audio (01204) 553333
- **Wigan** - Carltons Audio (01942) 727222

**Midlands**

- **Leicester** - Carltons Audio (0116) 235 2352
- **Derby** - Carltons Audio (01332) 222 322

**South West**

- **Bristol** - Carltons Audio (0117) 929 9292
- **Cheltenham** - Carltons Audio (01242) 222 222

**South East**

- **London** - Carltons Audio (020) 7222 2222
- **Brighton** - Carltons Audio (01273) 727272

**South Coast**

- **Brighton** - Carltons Audio (01273) 727272
- **Hove** - Carltons Audio (01273) 727272

**South East**

- **Kent** - Carltons Audio (01622) 777 777
- **Sussex** - Carltons Audio (01273) 777 777

**London**

- **Cambridge** - Carltons Audio (01223) 222 222
- **Buckinghamshire** - Carltons Audio (01296) 777 777

**Hampshire**

- **Newbury** - Carltons Audio (01635) 555 555
- **Wokingham** - Carltons Audio (0118) 999 999

**Essex**

- **Luton** - Carltons Audio (01582) 666 666
- **Hertfordshire** - Carltons Audio (01279) 777 777

**North West**

- **Manchester** - Carltons Audio (0161) 777 777
- **Liverpool** - Carltons Audio (0151) 222 222

**Yorkshire**

- **Leeds** - Carltons Audio (0113) 222 222
- **Bradford** - Carltons Audio (01274) 222 222

**North East**

- **Newcastle** - Carltons Audio (0191) 222 222
- **Durham** - Carltons Audio (0191) 222 222

**North Wales**

- **Wrexham** - Carltons Audio (01978) 222 222
- **Chester** - Carltons Audio (01244) 222 222

**Wales**

- **Cardiff** - Carltons Audio (029) 222 222
- **Swansea** - Carltons Audio (029) 222 222

**Scotland**

- **Glasgow** - Carltons Audio (0141) 222 222
- **Edinburgh** - Carltons Audio (0131) 222 222

**Ireland**

- **Dublin** - Carltons Audio (01) 222 222
- ** Belfast** - Carltons Audio (028) 222 222

**Wales**

- **Cardiff** - Carltons Audio (0144) 222 222
- **Swansea** - Carltons Audio (01792) 222 222
UP TO PAR

Founded in 1981 in San Francisco, Parasound specialised in 'affordable audio and home theatre' components for many years. The company's latest bit of kit is the strikingly styled JC 1 monobloc power amplifier, which provides a hefty 400W of Class A/B power or 25W in pure Class A mode (user-switchable to 10W of Class A when heat dissipation is a concern). Balanced XLR or unbalanced RCA connectors, adjustable turn-on delay and ground lift switch are featured. It also boasts circuitry and audiophile componentry, including Nichicon "Gold Tune" filters for the output stage and REL and Nichicon "Muse" capacitors. Vital statistics — in old money — are 17-1/4"x7-5/8"x20", with a net weight: 64lbs. Price is £2,600. For more information, contact:

Tel: +44 (0)1423 359054

ISO-TONIC

The Notek Mini Sub claims highly effective mains power conditioning and distribution from six individually filtered outlets. Outputs 1 and 2 combine high quality paralleled Evox Rifa capacitor filter circuits with transient suppression, ideal for power-hungry components such as power amplifiers, projectors and powered subwoofers. Outputs 3 and 4 are tailored for source components. High performance series filters compliment a huge purpose-built low frequency choke. Outputs 5 and 6 are similar, but incorporate extra circuitry especially tailored for digital components. The entire unit is constructed from non-magnetic materials, avoiding any new distortion generated by Eddy currents. It costs £495 from Activ Distribution.

Tel: +44 (0)1635 291357

TWICE AS NICE

Details are leaking out of Sony's forthcoming DVD recorder, claimed to be the world's first dual-format home recording machine. Said to be called the RDR-GX7, it will be the only domestic DVD recorder that supports DVD-RW, DVD+RW and DVD-R recording formats, the company has claimed. To date, home DVD recorders — such as Philip's DVDR 890 — only write to recordable discs in either DVD-RW or DVD+RW formats, but not both. Sony's new machine writes both, however, as well as reading CD, CD-R and CD-RW discs. It includes Sony's iLink (IEEE 1394/ FireWire) interface for high-speed file transfers with devices such as digital video cameras. Price is expected to be around $800 (£505) from May. Click on:

www.sony.com
NEW ACOUSTIC
The Acoustic Transducer Company has just launched a new tasty looking three-way loudspeaker, "capable of outstanding levels of music and soundtrack reproduction". The SCM35 is suitable for amplifiers of 50-300 watts per channel, and is capable of a maximum continuous SPL of 112dB. A soft-domed Neodymium magnet tweeter provides a smooth and detailed response to beyond 20kHz, while the famous ATC super-dome 3" transducer takes care of mid-band duties. An entirely new 8" bass driver has been developed, featuring ATC's short voice coil/long magnetic gap topology. The heavy-duty crossover comprises close tolerance air-core inductors, metallised polypropylene capacitors and ceramic wire wound resistors for minimal distortion at critical cross over points, and is tri-wire ready. Its substantial closed, braced, 35 litre cabinet is available in real cherry wood veneer with other real wood finishes and professional black to special order. Price is £1999.00 per pair. For more information contact Tel: +44 (0)1285 760561 www.atc.gb.net

TOTAL ECLIPSE
Some fifty years after its inception, Marantz has launched a new premium 'lifestyle' system. The company, which now has 1600 employees in more than 50 countries, says its Eclipse '36 takes its Style Series into audio-visual home entertainment a proper, thanks to its separate PS110 amplifier and a DV110 DVD/tuner, 50W per channel, Dolby Digital, DTS 5.1 and Pro Logic II decoding, plus a new quick set-up function. Auto Surround mode are included in its feature set. Marantz AV gear sounds sweeter than most, so expect this to be a winner. Watch out for a full review in Hi-Fi World soon.

REAL LIFE
RealNetworks Inc. has announced its acquisition of Listen.com, giving it two of the Internet's leading subscription content services, the market-leading RealOne SuperPass and the award-winning RHAPSODY music service. CEO Rob Glaser said, "RealNetworks has long been a pioneer and leader in digital music, going back to our invention of Internet streaming in 1995 and introduction of RealJukebox in 1999. The opportunity for us to add Listen.com's RHAPSODY, the best music subscription service, into our family of services was just too compelling to pass up." Listen.com's RHAPSODY pioneered integrating artist guides and customised radio stations within a music subscription service, and its acquisition enhances RealNetworks' music programming. RealNetworks remains a committed partner of MusicNet, a leading online music company formed by RealNetworks, AOL Time Warner, Bertelsmann, and EMI in 2001.

DINKY DIGITAL
TEAC's award winning Reference Series 300 mini system now offers the option of a triple-band tuner which includes Digital Radio. Although the TH300DAB is custom designed for the 300 Series, it can be used with any stereo amplifier as a miniature stand-alone product. Purchased singly with its dedicated remote handset, it costs £219.95, or as part of the Reference 300DAB Option 1 package (comprising A-H300amp, T-
TRUE STORIES
Over to hi-fi's PR svengali Robert Follis for the following audio anecdote. "Dear David, I wired a Freeview box into my AV system, then I moved the TV and the SCART lead pulled the digibox off the shelf! Then I added a TIVO which needed 3 more SCART connections and things got much worse. Two aspirins, one vodka and three IXOS flexible 611 SCART leads solved the problem. Cheers, Robert." So there you have it... spend from £39.99 on IXOS's new XHT611 and you'll have an ultra-flexible bit of wire that's ideal for "tidy installs" such as that inside Rob's swanky West London designer home. Visit his bijou pad, click on www.ixoscable.com.

Tel: +44 (0)1844 219 004
www.ixoscable.com

MUSIC FOR SALE
The most significant move yet towards selling music on the internet has just been made by EMI, which has made over 90% of its back catalogue - including artists such as Robbie Williams and David Bowie - available for online purchase. Analysts say that it is a symptom of the increasing concern in the music industry that today's teenage music consumers go online to get their music, rather than buy it in 'record shops'. Deals with 20 digital music distributors, such as Freeserve, MSN, MTV and HMV, to offer over 140,000 tracks for download, have been made. This move is an attempt to redress the sharp slump in music sales over the past three years - last year, global music sales fell a further 7.2% to £20bn, according to the International Federation of the Phonographic Industry, the world-wide music trade organisation.

There are a number of reasons for this. Although Napster, the original home of 'free music downloads', has been forced offline, a host of 'peer to peer' (P2P) sites such as Kazaa and Soulseek have taken its place, offering effectively the same service as Napster. Users can search for and swap music directly via the net, at no charge. The IFPI also cites online piracy and CD burning as key reasons for this music sales slump. EMI UK's chief executive, Tony Wadsworth, is reported as saying that the industry needs, "to use all legitimate means... to hamper piracy and make as much music available online as possible."

The EMI deal means that paying consumers will be able to make permanent copies of songs and transfer them to recordable CDs, portable music players and hard drives, as well as purchasing singles online once they hit the radio airwaves. The hope is, now that music buyers are used to going online for their music, they won't mind paying for a simple, easy-to-use system that gives good quality results with no further restrictions on use. Until now EMI and other major labels had placed limitations on the songs available and how they could be copied, causing people to seek illegitimate alternatives. Not all artists have agreed - both the Rolling Stones and The Beatles have so far refused to make their tracks available online in this way.

WEBWATCH DOTMUSIC
Eschewing gimmick for ease of use can never be a bad thing, but this site's 'sensible-shoes' visuals seem inappropriate for the glitzy world of popular music. Still, its colour coded navigation bars and category and title based searches are a breeze to use, and there's even some strong editorial content too. Subscription packages comprise Unlimited (£9.99 per month for as much music as you can download), Basic (£4.99 for 50 downloads and 500 streams) and Pay As You Go (from 99p per track). Varied as the downloads are, any Napster-weaned music completist will find them lacking in breadth compared to the admittedly illegal peer-to-peer sites. Factor in a curious lack of Mac support, and dotmusic just misses the spot.

www.dotmusic/ondemand

August's issue is a tuner special. Now you know the best affordable CD spinner around, it's time to upgrade your tuner and we have the answer for you! Also, look out for:

ARCAM'S DV89
Britain's first affordable audiophile DVD-A player?

QUAD 909 POWER AMPLIFIER
A modern 'piece of wire with gain'?

MISSION'S 782SE LOUDSPEAKER
Still commanding the mid-price floor?

LINN'S LATE, LAMENTED KREMLIN TUNER
The best Linn product, ever?
Right now, all the talk is of the new 'advanced resolution' digital audio formats - SACD and DVD-A. But CD is very much alive and kicking, and remains the world's favourite music carrier by far. We've dedicated this issue to Sony and Philips' venerable 16bit format, to help you choose what to buy. What follows is a comprehensive test of the best 'affordable' players on the market and a look at the alternatives.

It was back in 1983 that Philips' new 'Compact Disc Digital Audio' format reached British shores, at the peak of the high street 'microcomputer' boom. All the talk was of lasers, microprocessors and 'silicon chips', and CD fitted in perfectly. Compared to vinyl, digital discs were a revelation. With poor pressing quality, music buyers were sick of the 'snap, crackle and pop' accompanying every new LP they bought. CD banished all this at a stroke - lasers reading tiny pits in lacquer coated aluminium discs were altogether more reliable than lumps of coal dragging through wiggly plastic grooves!

Still, the new format took a while to catch on. High prices explain this - Sony's first ever CD player, the CDP-101, originally cost the best part of £800, nearly £2,000 in today's money, and a lot to pay for a format nobody was sure would catch on, and for which only a few software discs were available. Most folk had to wait until prices came down, so manufacturers duly rushed to bring out new machines using the same mechanisms and digital convertors, but in more affordable packages. By 1984, prices were down to the £350 mark. Still, CD players were very much a 'yuppie' fashion accessory for much of the 1980s - regarded by the general public as an exotic indulgence.

Specialist hi-fi buyers were altogether more circumspect. The new machines gave unpredictable results, not least because many high end systems had been built around the ubiquitous Linn Sondek LP12 turntable, which was still a very warm and soft sounding machine back in 1983. The arrival of CD, with its ruler-flat frequency response and 'chrome plated' upper midband made for an ear-splitting listen back in 1985! The early discs themselves were also poor - stories abounded of old generation master tapes being used, often with the wrong equalisation.

CD's role in life has slowly moved from being an audiophile standard bearer to a universal, high quality music source - a job it performs far more happily. It is now cheap, recordable and highly flexible, finding its way into everything from cars to computers. It forms the vast bulk of most people's existing collections, and carries the vast majority of new music - US market figures show the vast majority (90.5%) of all recorded music sold last year was on CD [source: RIAA], with DVD-Audio releases accounting for just 1.3%. Factor in the new generation of discs with high quality mastering (often with Super Bit Mapping or similar), superior packaging and interactive elements, and 'classic' 16bit digital audio still has real appeal.

CD is suffering from the general malaise in the British music industry. Just two years after a record year, when yearly sales of CD albums broke through the £1billion mark for the first time, the rise of computer audio, CD copying and illegal file sharing has hit corporate bottom lines. UK recorded music sales sagged by an unprecedented 13% in the first three months of this year [source: BPI]. Album sales dropped 4.8%, but prices dropped 9.4%
GAME ON!

As the hi-fi world accepts SACD and DVD-A, is there life still left in the humble sixteen bit CD player? Hi-Fi World weighs up the odds in this month's group test, throwing the very best mid-price CD players we know into mortal combat with one another, and adding a highly rated DVD/SACD player for good measure.

As the hi-fi world becomes increasingly aware of 'advanced resolution' DVD-Audio and SACDs, so the sales of conventional Compact Disc players are falling. Indeed, read some of the hi-fi magazines reviewing these new multi-channel marvels, and you'd be forgiven for thinking the end of CD is nigh. After all, they suggest, what's the point in buying into old hat sixteen-bit technology when 24bit, 192kHz digital awaits you — with 5.1 channel surround and DVD playback thrown in?

Well, it ain't necessarily so. Indeed, if we go back to hi-fi basics and reconsider that oft-forgotten rule that 'you can't have something for nothing', then what percentage of the £500 you're proposing to spend on the latest shiny new DVD-A spinners will actually be devoted to two-channel sixteen bit CD replay? The answer is, of course, much less than that of a purpose-built CD player!

The point is that, if you have a large collection of Compact Discs, then a Compact Disc player will play them best. Playing your CDs on a DVD spinner is all well and good if you're the kind of buyer who gets your audio hardware from a supermarket, but if you're serious about sound then you need the real deal. Many committed audiophiles find the sound of DVD spinners playing CD to be thin, flat and as exciting as a Tuesday afternoon on the Isle of Man.

That's why we're running this group test of machines that many hi-fi headline writers would have you believe are due to go the way of the dodo.

We've rounded up the very best 'budget audiophile' players for your entertainment — precisely the sort of product that may now be overlooked by casual hi-fi buyers in favour of a DVD spinner. And just for fun, we've thrown a wild card into the mix, in the shape of Philips superb DVD963SA CD/SACD/DVD-video player — one audio-video product that's good enough to really sock it to the two-channel specialist hi-fi brigade!
A3.2 Series

Integrated amp, preamp, power amp, tuner, CD player and DAC.

Musical Fidelity

A3.2 Series.

Machined, mil-spec aluminium front panel.


Powerful, robust, built.

For details of your nearest stockist ring 020 8900 2866. www.musical-fidelity.co.uk
CAMBRIDGE AUDIO CD500 £200

The CD500 is the more expensive of the two specialist Cambridge CD players on sale. It uses higher quality components than its CD300 stable mate.

As far as looks and build go, it's probably safe to say that this wouldn’t be the deciding factor in buying the CD500! The chassis isn’t the sturdiest or heaviest around and the player’s fascia controls have a lightweight and rather dated feel. However, like in some Sony models the jog-like ‘shuttle’ dial control for skipping tracks is quite a handy addition.

The CD500 uses, like the CD300, an advanced control system designed for Cambridge by Sony. At the core of the system is a very large scale integration (VLSI) circuit that’s able to dynamically adjust the focus, tracking and output level of the laser for minimum error correction. This system is shielded by a sort of metal can’ from the power supplies and other cuitry.

The high quality Delta Sigma DAC is courtesy of Crystal and there are regulated power supplies for both digital and analogue circuits, a high stability clock and numerous dual-mono topologies. Both optical and coaxial digital outputs are fitted. The company claims that the implementation of proprietary jitter reduction results in a low level of distortion that betters many high-end players.

SOUND QUALITY
Kicking off with the Badly Drawn Boy CD, the Cambridge got right down to the goodies straight away. It was a big sound, with very good detail. Damon Gough’s voice was very clear but also forward sounding which some could find a bit wearing over time. Bass was fast and taut and the cymbals at the top-end not too hard sounding, with a touch of smoothness. A good three-dimensional quality to the sound was another trait of the CD500.

Where the Cambridge impressed us most, though, was with classical music. Here, in the Fauré Piano Trio, the CD500 showed great delicacy and a smooth, warm sound to the instruments. Although the violin and cello had, again a slightly forward nature, it made them all the more realistic sounding. The sound of the piano was excellent — very open and rich with plenty of air, space and depth. Overall there was also an impressive height and depth to the sound stage, which are the traits of far more expensive players. Jony Iliev’s vigorous gypsy tunes sounded big and speedy, with good rhythmic attack and a very involving nature. Instruments were clear and neutral and there was good detail. The CD500 managed to give a fast and forward sound that never erred to the rough side of things and made listening very enjoyable.

Although an ugly duckling, the CD500 is a swan with full plumage when it comes to sound. It has a very high standard of playback that makes it a brilliant contender in the price sector – it's the best here in value for money terms, bettering even the NAD. Its ability to create a big and high soundstage, along with a forward, realistic but rich sound is its real endearing feature, and utterly unexpected at the price. If you find the likes of the Rega too thin and sinewy sounding, then you’ll love this, and save loads of money too.

Cambridge CD500 £199.95
Audio Partnership
Tel: +44 (0)20 7940 2200
www.cambridgeaudio.co.uk

MEASURED PERFORMANCE
One look at the convolved impulse response of this player shows clearly it has a quite pronounced high frequency roll off. As a result it will sound warmer than the others, or will seemingly display less forward sounding treble. To many it may sound more ‘analogue like’. All the same, the upper reponse limit was a high 21.8kHz.

Distortion levels were low on both channels over the full dynamic range of CD, a low ~60dB distortion result of 0.35% leading to a very high EIAJ dynamic range value of 111dB - about the best possible.

With out at a normal 2.3V and noise a low ~104dB the D500 SE measures very well. It will have a smooth, warm presentation noticeably different to the norm and will stand out sonically as a result.

NK

- Frequency response 4Hz-21.8Hz
- Distortion left right
- -6dB 0.004 0.004
- -30dB 0.006 0.007
- -60dB 0.35 0.36
- -90dB dithered 7 6
- Separation left right
- 1kHz 111 110
- 20kHz 76 75
- Noise (IEC A) -104dB
- Dynamic range 111dB
- Output 2.3V
NAD C541i £330

The C541i is a 'special edition' version of the previous C541 player. Although the company now gives an option of an aluminium front panel on some products, the C541i you see before you sticks to NAD drab grey. In a way, I rather like this — it says 'I’m here to do a job and not look pretty'. The design is simple, ordered and without quirks.

Under the bonnet there is advanced circuitry in the player and use of a high quality conversion process. The toroidal transformer leads to two separate power sections for both the analogue and digital sections and there's also a fully buffered digital output and a low impedance analogue output.

High quality audiophile grade components are used throughout, such as Nichicon Muse capacitors. The 24/96 DAC is a Burr Brown delta-sigma model and there's the inclusion of a HDCD digital filter - a bonus at the lowish price. In line with NAD's take on custom install, there are a number of features included for this market, such as NAD link sockets and trigger signal operation facility.

SOUND QUALITY
In common with practically all the other competitors in this group test, the NAD also had a rich and smooth sound that matched well with a variety of musical styles and recordings. Badly Drawn Boy's Everybody's Stalking had a good tonal balance; bass was firm and fast, midrange vocals clean and open and the cymbals at the top end were sweeter than one would expect at the price. Another great trait of this player is the very fine imaging and depth of soundstage; the drum kit was far back in the mix but no way out of earshot.

With the Fauré Piano Trio, the NAD had a good, firm sound with smooth strings. Although warm, the strings could also sound a bit veiled at times when compared to the group test competitors, covering over some detail. The piano had a good roundness to the bass but the midrange and treble weren't the most open in the test, with the violin sometimes erring on the edgy side in the higher registers.

Jony Iliev’s Bulgarian gypsy music sounded a little laid back with the C541i when compared to some others in the test. It had the fluidity of the CD6000K1 but lacked some of that player's fullness, although rhythms and overall cohesion was very tight and focussed. At the very complex dynamic climaxes in the disc the C541i sometimes appeared to bend under the extreme pressure by not being able to glean all of the admitted very fine detail out of a very muddied picture. This said it can handle big rock music excellently, delivering a dynamic and full on sound when the music demands it.

The NAD is a fine player for the money. It has a lot going on inside that is relayed to the listener by that deep soundstage and competent tonal balance. The only small gripes are with high register instruments and rough recordings which show a bit of edginess at the very top end — admittedly compared to some far more expensive designs! All-in-all, though it's a real class act that outshines its price rivals in every aspect, which includes Marantz's cooking CD60000SE. The fact that it can be mentioned in the same breath as the likes of the KI is testament to this. Once again then, if you want near group topping sound at half the price, think NAD.

NAD C541i £330

Lenbrook UK Ltd
Tel: +44 (0) 1908 319360
www.lenbrook.co.uk

MEASURED PERFORMANCE

The much recommended NAD C541i has a slightly unusual response in that there is a small lift in output around 10kHz before higher frequencies roll away. This may well add some sheen to the sound, possibly accentuating detail at little. This NAD looks as if it will be a little more forward sounding than those of yore.

Distortion levels in this sample were a bit lower than before, our -30dB analysis now showing a complete absence of distortion and quantisation noise spikes. All the same, at lower levels distortion in this sample began to rise, as before. As a result the player's EIAJ dynamic range figure measured out at 108dB, a few dB down on the best. So the C541i still isn't the most linear, but then it is no different to the Marantz in this group, so it is in good company. The C541i measures well enough in all respects. NK

Frequency response

<table>
<thead>
<tr>
<th>Frequency (Hz)</th>
<th>NAD</th>
<th>Marantz</th>
</tr>
</thead>
<tbody>
<tr>
<td>4Hz-21kHz</td>
<td>-0.5</td>
<td>-0.3</td>
</tr>
<tr>
<td>Distortion</td>
<td>left</td>
<td>right</td>
</tr>
<tr>
<td>-6dB</td>
<td>0.006</td>
<td>0.006</td>
</tr>
<tr>
<td>-30dB</td>
<td>0.006</td>
<td>0.007</td>
</tr>
<tr>
<td>-60dB</td>
<td>0.49</td>
<td>0.48</td>
</tr>
<tr>
<td>-90dB dithered</td>
<td>5.7</td>
<td>5.2</td>
</tr>
<tr>
<td>Separation</td>
<td>left</td>
<td>right</td>
</tr>
<tr>
<td>1kHz</td>
<td>114</td>
<td>115</td>
</tr>
<tr>
<td>20kHz</td>
<td>88</td>
<td>89</td>
</tr>
<tr>
<td>Noise (IEC A)</td>
<td>-98dB</td>
<td>-96dB</td>
</tr>
<tr>
<td>Dynamic range</td>
<td>108dB</td>
<td>110dB</td>
</tr>
<tr>
<td>Output</td>
<td>2.2V</td>
<td>2.0V</td>
</tr>
</tbody>
</table>
REGA PLANET
£498

One way of making a mid-price player more attractive is to make it stylish in an 'esoteric audiophile' kind of way. This is Rega's philosophy with the striking looking Planet.

Its top loading Sony mechanism provides that famous audiophile CD rite of raising the lid. The chassis is custom-built for Rega and made of extruded aluminium with a small array of cool symbol shaped operation buttons to the right. The Rega logo to the left cleverly doubles up as the remote sensor. The display window has an attention-grabbing red hue, along with CD text ability, to add to the alternative appeal of a player in this price bracket.

Inside there are improvements on the original Planet. The new DAC is a 24-bit Delta Sigma design based around a custom-made IC40 chip. The Planet uses the same RADS conversion stage as the original Planet, and has an extra power supply for the digital section of the DAC. Rega's own chassis isolation system is employed, and TOSLINK and coaxial digital outputs sit at the back.

SOUND QUALITY

So, it's all well and good looking the part, but how does the Planet measure up in the sonic stakes? It's very, very interesting and relatively unique sounding among this group. Badly Drawn Boy's Everybody's Stalking first struck as having immaculate detail. Acoustic guitars that accompanied deep in the mix were clear and exact and vocals were very lucid with every word discernible. The nice 'deep' nature of the recording showed up a decent wide and deep sound stage, with the drums kicking away well back into the wall.

This player also has a sound that is tonally thinner than many rivals. It doesn't go for the big, warm and cuddly sound but delivers a leaner and perhaps more audiophile sound. At the price point this trait can often deter from cohesive listening, in that the whole package is lacking in lyricism and warmth.

The next two discs in the form of the excellently recorded Ravel Piano Trio on Hyperion and the high tech demonstration standard recording of mad, bad gypsy Jony Iliev's band showed that the Rega revels in a good recording. And it's all about detail. Whilst the piano trio didn't enthral perhaps musically as well it could have done, it had a superb grip on the intricacies in the recording. The cello sounded as though it were in the room - all sinewy and woody - and the violin, whilst a bit on the edgy side of the fence, was also very detailed and realistic. The piano had a little less body than found elsewhere, but was very rhythmic, percussive, and as clear as a bell.

The Rega showed what it could do with the Jony Iliev disc. In Badly Drawn Boy's CD, bass was a tad thin.

What you can gather from this is that the Rega loves a top notch acoustic recording that excels in speed and bass depth. Kodo's drums would be a great match. But because of this and the way it sometimes lacks fullness of body with other discs it's a mixed bag - but a pleasant one, and definitely something different. So overall, the Planet is one very interesting customer well worthy of an auditioning ear. It's Compact Disc Captain, but not as we know it!

Rega Planet £498

Rega Research
Tel: +44 (0) 1702 333071

MEASURED PERFORMANCE

This player's frequency response has a pronounced rise in output at high frequencies, our analysis shows. Subjectively it will give the Rega a more incisive sound that with good recordings will usually be OK, but with bad ones may well accentuate problems. With modern loudspeakers that are flat to 20kHz and a mediocre digital recording the end result won't be nice. The Planet needs to be matched with care, which means not with bright sounding amp or metal dome tweeters.

Measurement showed the player's convertors were as linear as the best, with no sign of harmonic distortion or quantisation noise our analysis shows. Dynamic range (EIAJ) was predictably high as a result, measuring 110dB.

The Planet needs careful system matching to avoid brightness.

NK

<table>
<thead>
<tr>
<th>Frequency response</th>
<th>4Hz-21.3kHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distortion</td>
<td>left</td>
</tr>
<tr>
<td>-6dB</td>
<td>0.003</td>
</tr>
<tr>
<td>-30dB</td>
<td>0.006</td>
</tr>
<tr>
<td>-60dB</td>
<td>0.35</td>
</tr>
<tr>
<td>-90dB dithered</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Separation</th>
<th>left</th>
<th>right</th>
</tr>
</thead>
<tbody>
<tr>
<td>1kHz</td>
<td>121</td>
<td>120</td>
</tr>
<tr>
<td>20kHz</td>
<td>99</td>
<td>98</td>
</tr>
</tbody>
</table>

| Noise              | 121dB       |
| Dynamic range      | 110dB       |
| Output             | 2.02V       |

World Verdict

Esoteric hi-fi at a very un-esoteric price. Cutting edge design and a well detailed sound mean the Rega is competitive but some discs can suffer from a lean sound.
### Watt's the Solution

The AC mains is the most vital link in the hi-fi chain. Pollution and voltage inconsistencies all play a part in spoiling musical enjoyment. Just listen to your equipment late at night - it will sound less grainless and more fluid and involving.

We have a range of mains cabling starting from £22.99 (or £7.00 per metre) which will open up and focus your system providing transparency and speed. Our silver OFC cables, due to their high current capacities (up to 240 Amps), produce effortless music from current hungry devices. All mains connections are treated with a contact enhancer prior to shipping and soldered with Lead free 4% silver solder.

Our analogue, video and digital cables make the most of available resolution. With precisely manufactured high bandwidth video cables you will experience an immediate improvement in picture quality. High purity silver and silver plated copper interconnects and speaker cables offer superior quality at down to earth prices.

We have a cure for your noisy fridge or central heating boiler enabling you to throw away that big noise suppressor that has been giving you that "sat upon" sound.

### Definitive Audio

- **Record players:** SME models 10, 20 and 30; Kuuma Stabi, Stabi Reference; Nottingahm Analogue Interespace, Space Deck, Hyperspace and Dais; Michell Orbe; VPI ArieteScout; Avid Volvere, Saquei and Acusitions
- **Amps:** Rega 300/600/900, SME Series IV and V; Kuuma Stabi; Trifilar; Cartridges: VanDenHul Grasshopper and Colibr; Kuuma KC Ref; EMT, Reson Reza and Elite; Cartridge Man Musicmaker; Bane Micro including Ruby Open Air; Konvoio to J.
- **Amplifiers:** Border Patrol; Canary; Sugden; Art Audio; Monarch; Western Electric; Icon; Tom Evans Audio Designs; S.S. CD Players: Wadia; Sugden; Primare; Resolution.
- **Launchers:** Living Voice; Vitavox; Lawlor.
- **Cables and Tables:** Living Voice.

<table>
<thead>
<tr>
<th>Product</th>
<th>Sale</th>
<th>New</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear Audio Solution - no arm</td>
<td>£800</td>
<td>£1000</td>
</tr>
<tr>
<td>Horning Afterglow - 96dB 2 way horn</td>
<td>£1600</td>
<td>£3800</td>
</tr>
<tr>
<td>Art Audio Concerto - E650 line integrated - lots of amp for the money</td>
<td>£1200</td>
<td>£2650</td>
</tr>
<tr>
<td>Canary Audio CA 301 - 3008 - 22 watts - very good</td>
<td>£3400</td>
<td>£5400</td>
</tr>
<tr>
<td>Canary Audio CA 303 - 3008 - 22 watts - better</td>
<td>£5400</td>
<td>£7400</td>
</tr>
<tr>
<td>Canary Audio CA 309 - 3008 parallel p.p. - 45 watts - superb</td>
<td>£5900</td>
<td>£13500</td>
</tr>
<tr>
<td>Canary Audio CA 300 - single ended monos - valve net, - 8 watts</td>
<td>£2000</td>
<td>£3500</td>
</tr>
<tr>
<td>James Concert B - loudspeakers - 2 years old - maple - spotless</td>
<td>£700</td>
<td>£1385</td>
</tr>
<tr>
<td>Townsend Seismic - speaker stands - ugly but wobbly</td>
<td>£450</td>
<td>£1050</td>
</tr>
<tr>
<td>Tube Technology MAC - mm and mc phono - nearly new</td>
<td>£700</td>
<td>£1400</td>
</tr>
<tr>
<td>Audio Innovations Series 1000 - silver circuit - 50 watts class A</td>
<td>£1100</td>
<td>£12500</td>
</tr>
<tr>
<td>Alchemist Fonetti AOP 15A - integrated amp</td>
<td>£700</td>
<td>£1400</td>
</tr>
<tr>
<td>AudioNote Sono - phono integrated - serviced - new valves</td>
<td>£700</td>
<td>£1400</td>
</tr>
<tr>
<td>Clear Audio Master Reference - turntable - no arm</td>
<td>£6000</td>
<td>£5500</td>
</tr>
<tr>
<td>Audio Research LS2 B - line pre - fine condition - giveaway</td>
<td>£1000</td>
<td>£1000</td>
</tr>
<tr>
<td>Pro Ac Tablette - Cherry - cute - perfect</td>
<td>£300</td>
<td>£300</td>
</tr>
<tr>
<td>Vovost Standard - turntable - Black - perfect - collectable joy</td>
<td>£1000</td>
<td>£1000</td>
</tr>
<tr>
<td>Pink Triangle PT TOO Export - black - very good</td>
<td>£300</td>
<td>£300</td>
</tr>
<tr>
<td>B&amp;W DM303 33 - black - good condition</td>
<td>£350</td>
<td>£600</td>
</tr>
<tr>
<td>VPI Ariete Scout turntable with JMW9 tonearm - two months old - perfect</td>
<td>£1000</td>
<td>£1350</td>
</tr>
<tr>
<td>Snell Type EII - walnut - industry classic - new bass not driven</td>
<td>£700</td>
<td>£700</td>
</tr>
<tr>
<td>Snell Type JII - french polish walnut - industry classic - very nice sound</td>
<td>£400</td>
<td>£400</td>
</tr>
<tr>
<td>AudioNote ALU - walnut - Hugens high mass stands</td>
<td>£500</td>
<td>£1400</td>
</tr>
</tbody>
</table>

**Contact:**
- Tel: 0115 973 3222
- Fax: 0115 973 3666
- Email: shout@definitiveaudio.co.uk
- Website: http://business.virgin.net/cad.cables/
**ARCAM CD82T**

£599

The CD82 is a very attractive customer indeed. Not wacky and not too staid, it will look smart and elegant absolutely anywhere. The company’s midrange CD players have long been amongst the best around and the CD82T aims to carry on this tradition with a combination of high quality engineering and a range of useful facilities.

Inside the casework we have two Wolfson 24/192 DACs (the cheaper CD72 uses Burr Brown models) in dual mode configuration, with one DAC chip used for the left channel and another for the right. Joining the DACs are high quality Burr Brown op amps in the analogue output stage, and the digital convertor module includes a Class I crystal oscillator, with clock precision being improved to reduce jitter.

Round the back you’ll find both optical and coaxial digital outputs and on the front there’s a full range of control buttons and big, clear and green display in the DiVA fashion.

**SOUND QUALITY**

Badly Drawn Boy’s ‘Everybody’s Stalking’ saw the Arcam deliver a sound that was immediately attractive. It’s quite a dry and smooth sound but also very well detailed. This isn’t a silver disc spinner that’ll grab you by the lapel and shake you around — rather, it is somewhat easy going but very enjoyable nonetheless.

Bass was rounded and tight, with the drum kit focussed in the mix. A deep sound stage, good imaging and smooth treble all contributed to a good audiophile standard of playback. Damon Gough’s vocals were smooth and clean and the sometimes rough ride-cymbal was sweet and smooth here.

Moving to chamber music with Fauré’s Piano Trio, the CD82T was again quite dry and exact but also well focussed. The cello sounded very smooth and rich and likewise the piano had good body and presence, along with warmth. My only little gripe here was that whilst the listening was enjoyable the Arcam couldn’t quite involve me as much as other players due to its slightly laid back nature. Little things such as the violin sounding a tad too smooth detracted from the ‘live’ feel that this SACD/CD hybrid Hyperion recording has in shed-loads.

The player also gave these instruments a big, full toned sound - very impressive.

The CD82T is in true Arcam spirit, a very reliable player. It won’t offend in either looks or sound and will often, with the right recording, excite. It’s a well balanced presentation that plays everything in your collection to great effect and has elegant looks to match and fine build as well. Its naturally smooth and laid back sound, with just a touch of dryness to its tonality, makes it hard to criticise. It does so much so well, but shines in no particular area. Some will dislike this player’s lack of charisma, others adore its meticulously even handed nature. Whatever your perspective, I’d go so far as to say that this is one of the top three players in the group.

**MEASURED PERFORMANCE**

This CD82 measured much like an earlier sample, having a smooth top-end roll off in its response characteristic, as our impulse analysis shows. Arcam consistently engineer in this sort of response, to get a smooth, easy sounding tonal balance.

Distortion levels were very low throughout the player’s dynamic range, our analysis at -30dB showing clearly the absence of harmonics or quantisation noise, with measured distortion a low 0.006%.

At lower signal levels distortion remained low, hence the very good EIAJ dynamic range figure of 110dB.

With normal output at 2.2V and wide channel separation the CD82 measures well in all areas. **NK**

<table>
<thead>
<tr>
<th>Frequency response</th>
<th>4Hz-21Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distortion left</td>
<td>0.005</td>
</tr>
<tr>
<td>Distortion right</td>
<td>0.005</td>
</tr>
</tbody>
</table>

| Distortion left    | 0.006 |
| Distortion right   | 0.006 |

| Distortion left    | 0.35   |
| Distortion right   | 0.36   |

| Distortion left    | 3.3    |
| Distortion right   | 3.8    |

**Separation left**

| 1kHz   | 123 |
| 2kHz   | 124 |
| 20kHz  | 105 |

**Noise (IEC A)**

| 105dB   |
| Dynamic range |
| Output    | 2.2V |

**World Verdict**

A very reliable and well built player with a good, solid sound. Smooth and a bit dry but also well detailed. Could be a bit 'staid for some.
MARANTZ CD6000 KI SIGNATURE £600

Traditionally anything with the KI Signature logo betters its standard stablemates by some way - and this one is no exception...

The 6000 KI includes a dual-differential mode delta sigma DAC which aims to decrease noise levels and give better overall performance. We also see the added bonus of Marantz's HDAM, found in the company's high end products (that's HDAM as in 'Hyper Dynamic Amplifier Module' — Ed), which handles analogue audio output duties. Essentially a high slew rate buffer amplifier, it's a trick replacement for your common-or-garden op amp.

Build is best in the test by far. The front panel is thick metal and the display is a high quality, easy to read dot matrix type. Front panel controls are kept relatively slim but the supplied remote is adequately comprehensive. We have the KI Sig trademark copper plated bottom, and wide use of the material within the acoustically damped casework for best sound.

Also on-board is CD Text, a remote controlled variable output and remote controlled auto music scan. Both optical and coaxial digital outputs sit at the back.

SOUND QUALITY
Marantz's top of the range disc players are smoother than the 'immediate' sound of the lower range products. Badly Drawn Boy had a big and rounded sound that was very easy going yet fully involving. The whole picture was exceptionally rich toned which perhaps a few may find off-putting, but most will find very pleasing to the ear.

Bass was full and powerful, yet tuneful and the midrange smooth and detailed — another plus at this price point. This is a sound that is full and fat. Vocals are excellent - fluid and clean and lyrical.

The Hyperion disc showed that the 6000KI takes to classical music like a duck to water. Strings were silky smooth and warm, without any edge but still detailed and realistic with it. The piano sounded muscular with good definition and the 6000 KI showed the realistic dynamics in the instrument perhaps more than others in the test. There's a great three-dimensional element to the sound, to boot, with good depth and a fine sense of space.

The Jony Iiiev's disc was well defined and powerful sounding but seemed at times, due to the rich nature of the sound, just a little too laid back. The acoustic instruments however, had superb timbre and a well detailed presence, the clarinets, for example, hooted away with focus and conviction. There's copious drumming on some of the tracks and this was relayed with superb tonality, although a slight lack of speed was discernible compared to some of the other candidates. However, this player can reproduce the whole spectrum of timbre and colours with acoustic instruments, which is the sign of a truly great machine.

Marantz CD6000 KI Signature £600

Marantz (UK) Ltd.
Tel: +44 (0) 1753 680868
www.marantz.com

MEASURED PERFORMANCE

This player has a predictably flat convolved impulse response, but without any top end peaking or the sort of brick wall fall in output of classic Sonys. There's also just a slight trend up toward low frequencies, enough plateau lift to ensure its bass end delivery gets heard and there is a sense of body in the sound.

Distortion levels were not the lowest of the group but all the same, at ~30dB, or normal music level, our analysis clearly shows an absence of harmonics. A measured distortion at this level of just 0.007% is little different to the others.

However, at ~60dB with distortion measuring 0.5% or so the Marantz turned in a lower dynamic range value than is common — 106dB. There may be just a little incision added from this source. Otherwise the CD6000 KI measured well enough, as we might expect from Marantz and Ken Ishiwata.

NK

Frequency response

-6dB 0.005 0.005
-30dB 0.007 0.007
-60dB 0.53 0.5
-90 4.2 4.2

Separation

1kHz left 128 127
20kHz 124 123

Noise (IEC A)

-105dB

Dynamic range

106dB

Output

2.05V

World Verdict £££££

A simply excellent all-rounder. Sound is big and powerful yet refined when need be, build quality superb and it's loaded with facilities. Great with all music and recordings, this is one of Marantz's shining stars.
CREEK AUDIO
CD50 £699

Much of Creek's output can knock the competition at twice the price into a cocked hat with its superb three-dimensional and resolutely audiophile sound. Now the company has started to creep slightly more to the higher end of the market - no bad move as this is where the new 'budget hi-fi actually starts - and so The CD50 is designed to match Creek's new 50 and 53 series products. The mechanism is the tried and tested quality Philips CDM-12 model and the CD7 chipset. Creek has added a fair amount of its own stamp in the control circuitry. The internal DAC is a Crystal Semiconductors 24/192 single-bit Delta Sigma version. Added to the Creek style portfolio are the aforementioned 10mm thick front panel and a (slightly) more robust chassis, although the small but perfectly formed dimensions still remain. A comprehensive arrangement of ten control buttons is found on the fascia but the player is supplied with Creek's new, good quality system remote. As smart as it looks, you can't help feeling the Creek tradition of getting the insides sorted first is still (rightly) the company prerogative. This is no battle ship player in the traditional Japanese mould, for example!

SOUND QUALITY

Although the CD50 differs from earlier players it was a real joy to hear, because differences were for the better: Whilst earlier models were impressively smooth and well balanced, this new model continues in this vain but adds a very impressive sprinkling of speed, accuracy and good old unreconstructed excitement. With Badly Drawn Boy's Everybody's Stalking, the sound had a good, deep and rich bass line that was combined with a forward - but in no way harsh - vocal, as well as good emphasis on rhythms. Drums were big and involving and were positioned impressively to the rear; creating a fine depth of stage. Detail was impressive, the metal snare on the drum was discernible and multi layered guitar tracks were clean and crisp. It's a fast and immediate sound - no slouch at all - but one that is married to subtlety and balance.

Moving on to the spiky and superbly recorded CD of the mad, rampaging Bulgarian gypsy music of Jony Iliev's band, the Creek responded with a fantastic sound. The acoustic drums had fine clarity and the detail here was simply excellent. Accordions breathed and clarinets wailed and wept as the acoustic guitars' accompanying strumming remained clearly audible through the rumpus. This was a very taut and exciting sound with realistic body and substance - 'budget' audiophilia at its best.

Likewise, Fauré's Piano Trio had fine body and exceptional detail, too. The piano, again well back in the sound stage had an organic and realistic presence, with good resonant bass notes and the strings were clear and lyrical. The Creek had a good way with classical music, creating a rich, natural and detailed sound.

The CD50 has supreme clarity, detail and control yet also can be subtle and very musical. In complex passages or big scale pieces it doesn't get its knickers in a twist. Music is relayed exactly as it was out on the disc and nothing is tampered with. And this is with all types of recording and music, although being a true audiophile player it really sings with well recorded discs.

Creek Audio CD50
Tel: +44 (0) 1442 260 146
www.creekaudio.co.uk

MEASURED PERFORMANCE

The CD50 has a ruler flat frequency response reaching 21kHz, our analysis shows. A small amount of filter ripple affects the top end but this doesn't directly affect sound quality. The Creek will be fairly 'obvious' at the top end, much like a Philips player I suspect. There was little distortion to be measured at any music level. Our analysis shows a -36dB test signal - a typical music level - where there is an absence of harmonics or quantisation noise. Distortion measured a low 0.008% here. Good performance at -60dB resulted in a healthy EIAJ dynamic range value of 110dB being achieved. With low noise, normal output of 2.2V and good channel separation the CD50 measures well in all areas.

NK

Frequency response 5Hz-21.2Hz

Distortion left right

-6dB 0.006 0.006

-30dB 0.008 0.007

-60dB 0.38 0.4

-90dB dithered 3 3.2

Separation left right

1kHz 116 115

20kHz 110 108

Noise (IEC A) -104dB

Dynamic range 110dB

Output 2.2V

World Verdict

A superlative sounding player that brings out the best in any disc. Rhythmic, sweet and detailed at the same time as far as sound quality is concerned it's the biz.
PHILIPS DVD963SA

£400

The joker is wild! Unlike all the other machines here, this is not a purpose built CD separate, but a DVD video player that also spins SACDs and CDs, and very well too, I might add! We've included it because right now, lots of people are pondering the move to multichannel, and would love to know if there's something affordable out there that will play CDs half decently and spin SACD as well (which this machine most certainly does).

It will play anything you can chuck at it except DVD-Audio discs. It can play the Dolby Digital 5.1 or DTS mix that comes on every DVD-A disc, however, so you're not completely at sea with this. Build is very good for such an affordable player. The layout of the front panel is clean and tidy yet very comprehensive. The Philips (and Sony) DVD/SACD mech is a slow loading and reading a disc through.

A welcome feature is Upsampling - the word upon everyone's lips right now! The 963SA upsamples CD to 24/96 or the default 24/192, which of course doesn't result in DVD-Audio quality but adds refinement to what is already there. Another bonus is the button for switching off the video circuit to further improve the sound from CD and SACD - essential in my humble opinion.

Overall, it's a very attractive looking player, with classsy blue LEDs around the front panel buttons and a clean and clear display window. Outputs are aplenty as you'd imagine - both optical and coaxial.

**SOUND QUALITY**

For the purposes of this group test, we auditioned the Philips as a CD-only machine. Yes, we know SACD will paste CD, but that's not the point - if you want to play all your old discs, you'll need serious CD sound.

Badly Drawn Boy had a well detailed and smooth sound. Bass was good and full but perhaps not the fastest or best focussed in the test. Yet there was a fair amount of detail not picked up on by the 963SA, and this took a little excitement away from the music.

Midrange vocals were okay, but again a little bland and lifeless compared to the best in the test. At the top end, cymbals were refreshingly sweet and smooth for a DVD player, but again this was at the expense of intricate detailing.

Things turned out a little better with classical in the shape of the Fauré piano trio, where the player ran close to the likes of Creek's CD50 with its lyricism and involvement. The piano didn't quite deliver the fullness of body that it could have done, but the full range of the instrument was realistically produced, with a nice rich bass register.

Upsampling or not, the Philips is not as capable as the others here when playing CDs. It is a good Compact Disc spinner considering both its price and feature count, but simply can't keep up with the very high standards here. We honestly did not find it wanting until we compared it carefully with the best.

Philips DVD963SA £400

Philips Consumer Electronics

www.philips.com

---

**MEASURED PERFORMANCE**

With CD the DVD963SA has a ruler flat frequency response. With SACD it runs from 2Hz right up to 40kHz within 1dB, reaching −11dB at 100kHz.

Usually, this sort of characteristic with CD makes for a brittle sound. In the 963SA, based on past experience, it is likely to make treble sound 'obvious'.

Distortion levels were very low over the entire dynamic range of the player with CD (upsampling on), no harmonics being visible in our −30dB analysis. Levels were low at −60dB, hence the very high EIAJ dynamic range value of 111dB. With SACD distortion measured 0.1% at −60dB.

In line with Philips usual performance nowadays the DVD963SA measured very well in all areas, with both CD and SACD. **NK**

**Frequency response**

<table>
<thead>
<tr>
<th>Level (dB)</th>
<th>50Hz</th>
<th>1kHz</th>
<th>20kHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD</td>
<td>101</td>
<td>100</td>
<td>123</td>
</tr>
<tr>
<td>SACD</td>
<td>100</td>
<td>123</td>
<td>101</td>
</tr>
</tbody>
</table>

**Distortion**

<table>
<thead>
<tr>
<th>Level (dB)</th>
<th>1kHz</th>
<th>20kHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>−60dB</td>
<td>0.006</td>
<td>0.005</td>
</tr>
<tr>
<td>−30dB</td>
<td>0.005</td>
<td>0.005</td>
</tr>
<tr>
<td>−60dB</td>
<td>0.35</td>
<td>0.33</td>
</tr>
<tr>
<td>−90dB</td>
<td>4.0</td>
<td>4.2</td>
</tr>
</tbody>
</table>

**Separation**

<table>
<thead>
<tr>
<th>Level (dB)</th>
<th>1kHz</th>
<th>20kHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>−108dB</td>
<td>111dB</td>
<td>2.07V</td>
</tr>
</tbody>
</table>

**Noise (IEC A)**

<table>
<thead>
<tr>
<th>Level (dB)</th>
<th>−108dB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dynamic range</td>
<td>111dB</td>
</tr>
</tbody>
</table>

**Output**

101 100 123 121 101 100

---

World Verdict

*Another good value option. One of the increasing number of DVD players with audiophile credentials, including SACD playback. But don't expect it to quite match the class rivals with CD.*
CONCLUSION

All the products here are damn fine players, but the one that really made us want to sit through our CD collection again was Marantz’s CD6000KI Signature. A beguiling music maker, the standard of sound it gives for £600 is sensational — there’s relatively little difference between this and most machines at twice the price. Spend several hundred pounds more and you’ll get a touch more incision, and maybe slightly better bass articulation, but generally this machine does the job superbly. Its characterfully fat, big, warm, valve-like sound is a joy. Factor in the superlative build and finish and it’s very hard to think of anything to criticise, aside from the fact that you can get Creek’s CD50 for the same money...

You see, the CD50 lacks that last scintilla of the Marantz’s warmth and lyricism, but it’s oh-so-close and at times punchier and faster too. This is very much the one to go for if your system has a need for speed above tonal colour. It’s only a whisker behind the CD6000KI — and in some contexts even pulls ahead – which makes it an absolute corker. It has a beautifully crafted sound that neither swings one way or the other. It simply does everything superbly — detail, warmth, fluidity and depth. The only thing against it is the merely ‘adequate’ build quality and facility count for your £600.

Next down the list comes Arcam’s CD82T, which is so damned competent that you can’t fault it, but neither does it thrill, excite or inspire like the Marantz or Creek. It simply makes a great job of playing music in an even-handed and accurate way. It’s a testament to Arcam’s digital engineering expertise than they can come up with this sort of result time and time again. And it looks and feels dramatically better than the old ‘swoopy’ styled Alpha range of players of a few years back.

Then comes Cambridge’s CD500, which although not the best sounding is definitely the best value for money. A very full and enjoyable sound by the standards of the group – let alone at the price – plus a clean, precise way with vocals, makes it a superb buy. The downside is its pug-ugly styling and clunky build, but ultimately it’s dramatically cheaper than the others here and CD players should be heard and not seen, anyway!

The NAD C5411 comes oh-so-close – it sounds virtually as good as the Cambridge, but adds better facilities, more sturdy build and HDCD to the equation. Its sound is ever-so-slightly thinner than the Cambridge, but we’re talking whiskers here. The fact that it comes close to the best of the group but for far less money shows that NAD is most definitely still a class act. It’s the value for money choice, if you can’t quite persuade yourself to live with the poverty-spec Cambridge.

The Rega is an extremely interesting player, and along with the Marantz, possibly the most charismatic and esoteric in the group. Its styling and ergonomics are a joy, and it offers an extremely fluid, analogue sound with well recorded discs. Only its slightly thin, mid-forward tone puts it down the group, but it’s most positively not a bad machine. We could very happily live with it, especially if the rest of our system is a little coloured or overly full sounding.

And so to the Philips, which comes last. Amazingly, it still manages to sound better than most sub-£250 CD players, but pushing up into the next bracket of £350-plus makes it an altogether tougher ball game. Against all the others here, it sounded thinner, with less authority and detail. Vocals were insipid compared to the Marantz, Creek or Arcam, for example. We can’t emphasise how good it is at the price, however – it’s a cracker with SACD and a fine DVD video spinner, and it does CD very well. Even the best value DVD/SACD machine on the block can’t compete against specialised sixteen bit CD.
AGAINST SNAKES AND LADDERS

That old Compact Disc player of yours isn’t sounding so good anymore, so you want a new one — or do you? Perhaps you should buy a DVD-Audio or SACD player instead? Noel Keywood looks at your options, to help clear your way through the audio jungle.

Upgrading CD players used to be easy. Now you have something altogether more complex to wrestle with — ‘high resolution’ digital in the shape of DVD-Audio and SACD. These bring all sorts of new possibilities (and pitfalls) to the table, at a stroke turning your simple CD upgrade ladder in a veritable snake pit of difficult choices. How then are you to make sense of it, and what are the respective strengths and weaknesses of the formats?

FOR PERFORMANCE: music CDs give the best sound on dedicated CD players.

CONVENIENCE: load the disc, press PLAY and the music starts.

BACKWARD COMPATIBILITY: Most music is released on CD, and will be for years.

PRICE: the world’s standard music carrier is now very affordable.

SOUND: significantly better sonics now available from DVD and SACD.

FUTURE: DVD is taking over, as CD sales now go into steady decline.

MODE: CD is stereo only, no 5.1 surround available.

AGAINST

SOUND: significantly better sonics now available from DVD and SACD.

FUTURE: DVD is taking over, as CD sales now go into steady decline.

MODE: CD is stereo only, no 5.1 surround available.

FORWARD COMPATIBILITY: will not play any type of DVD disc.

COMPACT DISC

The first ever digital music disc for consumers, using a straightforward sixteen bit digital coding scheme called PCM (Pulse Code Modulation) developed in the 1970s. The real wonder of CD was its laser-read, non-contact optical disc media, rather than the digital coding format on it, which was soon shown to be inadequate as a truly high fidelity music carrier, despite Philips’ famous claim of “pure, perfect sound forever”!
**DVD-Audio**

DVD Audio players will play both DVD-Video discs and DVD-Audio discs, in practice making them more 'universal' than either CD players or DVD video players. DVD-Audio discs forego video content for higher quality audio, usually accompanied by still pictures. Most possess six tracks (three front channels, two rear channels and subwoofer) of 24bit, 96kHz surround-sound, but some also boast a super high resolution (24bit, 192kHz) stereo mix. This is fairly rare at present but should be more widespread in future.

**For**

- **Hardware cost**: DVD-A players barely cost more than DVD video or CD machines now.
- **Compatibility**: all DVD formats are played, including DVD video and CD.

**Against**

- **Software cost**: DVD-A discs are expensive at £12-£25.
- **Legacy audio**: poorer CD sound than a purpose designed CD player.
- **Availability**: DVD-A discs are rare on the High Street; best bought at specialist on-line retailers.
- **Convenience**: a TV is needed for menu navigation, menus often complicated.
- **Connectivity**: with the exception of Pioneer, Meridian and Denon, no external digital processing of high res. is possible.
- **Features**: loudspeaker distance compensation unavailable on high resolution analogue outputs.

**DVD Video**

DVD video players can offer fine sound. They offer video accompanied by audio. Because video takes up so much disc space, the audio tracks are usually data-reduced (compressed) digital, most commonly Dolby 5.1 surround-sound which is akin to mp3 or DAB in sonic terms since the amount of compression (10:1) is similar. Compressed digital like this sounds subtly softened and 'insubstantial' or hazy when compared to uncompressed CD, which sounds stronger, harder and more forceful. They can also play two channel 24bit, 96kHz PCM digital audio, but these discs are few and far between.

DVD video players can be set to mix down surround-sound to stereo and most players have stereo outputs, so a DVD video player can be substituted for a CD player in a stereo system. It will deliver stereo sound from video DVDs and play CD too.

The main function of these players is to reproduce video and its accompanying soundtrack, not play CDs with any special ability. So you will spend a few hundred pounds and your CD collection will sound no better – and very possibly worse. You will, however, be able to play music videos and movies, and their Dolby and dts sound tracks can sound quite impressive.

**For**

- **Cost**: massive sales mean prices are coming down.
- **Sound**: good quality surround-sound from Dolby or dts digital, or even 24/96.
- **Compatibility**: will play DVD-Audio discs, but only the low resolution tracks.
- **Upgradeability**: digital outputs allow external DACs or processors for better sound.

**Against**

- **Convenience**: menus must be pre-set or format selected manually via a TV display.
- **Sound**: bitrate lower than CD when playing Dolby Digital or dts.
- **Legacy audio**: poorer CD sound than a purpose designed CD player.
- **Incompatibility**: why buy one when DVD Audio players now cost the same? No SACD playback.
RELATIVE AND ABSOLUTE SOUNDS

How does a modern CD rate in the great audiophile scheme of things, and how much better are SACD and DVD-Audio. David Price opines...

Compact Disc was touted as being a better sounding format than LP when launched back in 1983, but that has come to be regarded as a fallacy. Audiophiles now agree that it lacks the three-dimensionality, organic sound and sheer musicality of analogue. Put, say, a £5,000 Michell Orbe/SME V/Ortofon Kontrapunkt against Linn's £12,000 Sondek CD12 and you'll find the turntable has oodles more bass power and articulation, a far more open, lyrical and expansive midband and sweeter, silkier and more extended treble.

The new 'advanced resolution' formats, SACD and DVD-Audio, attempt to make up the ground that CD gives. Far higher bitrates give a more accurate representation of the original analogue waveform. This is not to say that either format surpasses vinyl, but it romps ahead of CD nonetheless.

All the same, the theoretical superiority of the new formats don’t automatically make for better sound. As always with hi-fi, you get what you pay for, and so a £200 DVD-A player will not surpass a good £600 CD in many respects.

SACD and DVD-A are technologically quite different. SACD, which is theoretically inferior, often gives more amenable results. It sounds smoother and more analogue-like than either CD or DVD, both of which use Pulse Code Modulation (PCM). SACD uses DSD digital, which Sony claim gives superior results to PCM - and it can sound quite beguiling. Musical Fidelity's TriVista SACD player (£4,000), for example, has a strikingly sweet and enchanting sound, not dissimilar to listening to vinyl via a classic Koetsu moving coil cartridge. Even at the budget end, Philips' DV963SA (£400) is impressively smooth, open and lucid.

It’s important to remember that DVD-A discs are mastered at either 24/96 or 24/192, but the latter gives a smoother, less clattery and more three-dimensional sound.

SACD

The spiritual successor to CD, SACD uses Sony's DSD (Direct Stream Digital) music archiving format to give six high resolution channels of audio in the usual surround-sound format comprising three front loudspeakers, two rear and a subwoofer. Bandwidth is specified as reaching 100kHz and our measurements confirm this, so SACD is much like 192kHz PCM in this respect (i.e. DVD-A).

However, although SACD offers the equivalent of 20bit resolution up to 20kHz, above this noise rises steeply, limiting dynamic range to around 60dB, smothering any low level music harmonics that might exist. This defeats the purpose of having wide bandwidth and it has drawn criticism as a result. Amplifier and loudspeaker manufacturers are concerned about the wisdom of amplifying this noise and passing it through super-tweeters. DVD-Audio does not have this limitation. Still, SACD sounds good and is easy to use. SACD discs do not carry either video or stills. Usefully, you do not need a TV to use SACD and SACD players generally play CDs well.

FOR

COMPATIBILITY: plays SACD, CD and often DVD video now.
SOUND: despite the measurements, most audiophiles prefer its smooth, natural, analogue-like sound.
MODE: surround-sound or stereo supported.
CONVENIENCE: no TV required, no fussy menus.
PRICE: only a small cost premium over DVD video or CD players.

AGAINST

COMPATIBILITY: does not play DVD Audio at full resolution.
FEATURES: does not routinely provide video, unless specially equipped.
SOFTWARE COST: expensive (£12-£25) discs.
AVAILABILITY: discs are hard to find on the High Street, online is easier.
CONTENT: SACDs are ostensibly back catalogue releases.
CONNECTIVITY: analogue output only of high resolution material, no external digital processing possible.
FEATURES: loudspeaker distance compensation usually unavailable (Philips DVD963SA is an exception).
LEGACY AUDIO: poorer CD sound than a purpose designed CD player.
UNIVERSAL PLAYER

This new type of player demands the use of a special transport mechanism, enabling SACD, DVD-A, DVD video and CD playback. Other formats are also supported, such as VCD (video CD), MP3 CD and sometimes even photo CD.

The first universal player was Pioneer’s DV-747 back in 2001, but now a wide range of machines are appearing from Pioneer’s popular DV656 (£350) to Linn’s new Unidisk 1.1 (£6500). Denon is shortly to release the DVD2900 (£899.99) and Teac, Marantz and Luxman have players coming too. Audiophiles are raising questions about the logic of running DSD through digital convertors designed for the PCM format.

FOR

COMPATIBILITY: DVD video, DVD-Audio, SACD and CD supported, plus more.
SOUND: 24/96, 24/192 and SACD all provide superb sonics
CONNECTIVITY: digital output allows external convertors or processor connection to improve sound of low resolution tracks only.
CONVENIENCE: offers the luxury of buying and playing anything.

AGAINST

CONVENIENCE: a TV is needed for menu navigation, menus often complicated.
CONNECTIVITY: with the exception of Pioneer, Meridian and Denon, no external high resolution digital processing is possible
FEATURES: loudspeaker distance compensation usually unavailable.
LEGACY AUDIO: poorer CD sound than a purpose designed CD player.

THE OBSCURE ALTERNATIVE

Noel Keywood proffers an intriguing way to improve the sound you get from your existing CD.

If you want to hear more from your Compact Discs, turn them into surround-sound! This has nothing to do with trying to get sounds whizzing around the room, so much as greatly improving frontal stereo. But you do need five loudspeakers at least. Oh, and you can use it with LP too!

Buy a surround-sound amplifier or receiver possessing Dolby Pro Logic II and connect your CD player to it via a digital link. Use Pro Logic II to unravel the stereo signal and direct it to the five loudspeakers.

What you get is a clearer and often smoother sounding front sound stage. Vocals in particular can emerge from a sea of apparent muddle to be represented with easy clarity centre-stage. Ambience and out-of-phase information folded into the front channels has been removed to the rear channels where it belongs.

The de-matrixing process of Dolby Pro Logic II literally unravels L/R stereo, which is better viewed as Left-total and Right-total (Lt & Rt) rather than real L/R. It pulls out L+R of course and puts it into the centre channel, which becomes a real channel rather than a phantom constructed in your head! As a result, most vocals and drums have better centre-stage presence. The left and right loudspeakers now handle true L&R info. and they will sound clearer too. Support harmonics usually go to the rear speakers.

Discs I thought sounded muddled and congested were simply carrying too much information – and the wrong information - crammed into the front channels.

A de-matrixing system like this will also sort out LP and give interesting results, if not strictly correct, with old SQ and QS quad discs, since they were matrix encoded. It will also reveal many TV ads as matrixed surround-sound and even have you suspecting some of your CDs are really matrix four channel - and not stereo at all!
WIN A XITEL HI-FI LINK, COURTESY OF THE WEB'S NEWEST ONLINE GADGET SITE WWW.NIFTY-GADGETS.NET!!! THIS MONTH, HI-FI WORLD HAS TEAMED UP WITH NIFTY-GADGETS.NET TO OFFER FIVE LUCKY READERS ONE OF XITEL'S HIGHLY ACCLAIMED HI-FI LINKS!

Competition Questions
1. Which computer part usually handles audio?
   [a] Hard disk
   [b] Soundcard
   [c] Mouse
   [d] Keyboard

2. What does the hi-fi link contain?
   [a] A scanner
   [b] A 20-bit DAC
   [c] An optical coupler
   [d] A bit of cheese

3. Which port does the hi-fi link use?
   [a] Printer port
   [b] USB port
   [c] Mains socket
   [d] Bristol

4. What is nifty gadgets' web address?
   [a] Nifty.com
   [b] www.nifty-gadgets.net
   [c] Nifty online
   [d] Nifty net

July Competition
Hi-Fi World Magazine
Unit G4
The Park Business Centre
Kilburn Park Road.
London NW6 5LF

If you want great sound from your computer, you used to have to go to the trouble of buying and fitting a serious soundcard. Now though, thanks to Australian company Xitel and its Hi-Fi Link, it’s possible to get fine sound from any PC or Mac simply by plugging this miniature marvel straight into your computer’s USB socket!

A simple, no-nonsense product designed for folk who simply don’t want to trust to luck and suffer their computer’s (invariably poor) built-in soundcard, it boasts a 20-bit DAC and carefully selected componentry for high quality sound. This, plus the fact that it removes the sensitive audio electronics from the electrically noisy environment of a desktop or notebook computer, makes it a far better performer than all but the best semi-pro aftermarket soundcards.

The Hi-Fi Link means that you’ll no longer need to rely on second-rate soundcards to play Internet radio, streaming audio or MP3s from your computer. It even gives great results with Dolby Digital 5.1 soundtracks (downmixed to stereo) from DVD movies played in your computer’s DVD drive.

Normally retailing at £59.99, the easy-to-use, palm-sized Hi-Fi Link is optimised for delivering top-quality digital audio from PCs and Macs, direct to your system. Just plug it into your computer’s USB socket at one end, and the supplied 10m studio-quality audio cable with gold plated connectors into your amplifier’s auxiliary input at the other, via its 3.5mm stereo mini-jack socket. With no need to open up your computer, make any modifications or download any drivers, it’s a breeze to use! For more information about any Xitel products, log on to www.nifty-gadgets.net.

If you would like to take up nifty-gadgets’ great offer, just answer the questions on a postcard together with your name, title, address and telephone number and send it to our address on the left.

The five lucky winners will be notified directly. No entries accepted from anyone connected with the company. Responsibility will not be accepted for any entries lost or delayed. No cash alternative. The winners will be the first correct entries selected after the closing date of 30th June 2003, and will be notified shortly afterwards.

CONGRATULATIONS
...to Mr. Trevor Kelly of Kings Heath, Birmingham the winner of our May 2003 competition. A pair of Tannoy Sensys 1 loudspeakers are on their way to you!
Summer Blockbuster Sale 7 June - 12 July

Don’t bother going to the cinema this summer - treat yourself to a hi-fi or home cinema system from the Sevenoaks Sale instead...
**Turntables & Tuners**

Arcam DVA T61 Tuner £199.95
Cyrus FMX Tuner £499.95
Denon TU260L MKII Tuner £99.95
Michell Gyro SE/RB300 Tuntable £1049.95
Michell TecnoDec Turntable £599.95
Project Debut Phono SB Turntable £219.95
Project Debut II Turntable (Black) £119.95
Pure Evoke 1 DAB Radio £219.95
Sony ST-D777ES FM/DAB Tuner £499.95

**PROJECT**

RPM4 Turntable £349.95

"If you want severe turntable styling on a budget, you need look no further than this. The shape of the main plinth here follows the outline of the record platter and arm to give a cut away look to the deck, and while it looks a bit like a cakestand with the dustcover in place, in use the RPM4 looks much more the business.

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

Selecti,i1 outlets are Project Turntable Centres. Colour Options are available at additional cost.

**PRO-JECT**

RA-02 Amplifier £349.95
RA-02 Amplifier "The amp has a fast, detailed and yet satisfyingly full presentation. That allows it to make a fine job of the beats of Groove Armada's Goodbye Century set without losing sight of the fine details of the mix, and also hunking out Marianne Faithful's deliciously smutty vocals on Kissing Time with real relish. Add in decent levels of equipment - and the convenience of remote control, and we reckon Rotel has a winner on its hands."

**Wharfedale**

Pacific Evo 30 Speakers £649.95

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

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

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

**Free audioquest Cable**

Speaker Cable worth £40 with ALL Speakers over £170 *NICW400

Also Available

Acoustic Energy Aegis Evo One £179.95

Please Note: Some products may not be available at all outlets. *NICW400 - Not in conjunction with any other offer. E&OE.
**Amplifier Selection**

**Claim 10% Off RRP On Selected British Amplifiers**

Ask instore for details - NINCAD

<table>
<thead>
<tr>
<th>Amplifier Type</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arcam DWA A65 Plus Amplifier</td>
<td>£369.95</td>
</tr>
<tr>
<td>Arcam DWA A75 Plus Amplifier</td>
<td>£429.95</td>
</tr>
<tr>
<td>Arcam DWA A80 Amplifier</td>
<td>£599.95</td>
</tr>
<tr>
<td>Arcam DWA A85 Amplifier</td>
<td>£799.95</td>
</tr>
<tr>
<td>Arcam PMJ A32 Amplifier</td>
<td>£1149.95</td>
</tr>
<tr>
<td>Cyrus 6 Amplifier</td>
<td>£599.95</td>
</tr>
<tr>
<td>Cyrus 8 Amplifier</td>
<td>£799.95</td>
</tr>
<tr>
<td>Denon PMC-555 Amplifier</td>
<td>£199.95</td>
</tr>
<tr>
<td>Harman Kardon HK670</td>
<td>£299.95</td>
</tr>
<tr>
<td>Linn Kollector Pre Amplifier</td>
<td>£494.95</td>
</tr>
<tr>
<td>Linn LK95 Power Amplifier</td>
<td>£484.95</td>
</tr>
<tr>
<td>Marantz PM4300 Amplifier</td>
<td>£149.95</td>
</tr>
<tr>
<td>Musical Fidelity A3.2 Pre Amplifier</td>
<td>£999.95</td>
</tr>
<tr>
<td>Musical Fidelity A3.2 Power Amplifier</td>
<td>£999.95</td>
</tr>
<tr>
<td>Musical Fidelity A308 Amplifier</td>
<td>£1999.95</td>
</tr>
<tr>
<td>Musical Fidelity Tri-Vista 300 Amplifier</td>
<td>£3964.95</td>
</tr>
<tr>
<td>Quad 99 Power Amplifier</td>
<td>£549.95</td>
</tr>
<tr>
<td>Roksan Caspian Amplifier</td>
<td>£894.95</td>
</tr>
<tr>
<td>Rotel RA-01 Amplifier</td>
<td>£249.95</td>
</tr>
</tbody>
</table>

**ARCAM SOUN & VISION**

**GRAND SYSTEM** £999.95 **Save £290**

**CD72T CD Player**

**A75 Plus Amplifier**

**T61 RDS Tuner**

**Free beyerdynamic DT531 Headphones**

Worth £99.99 When you purchase the Arcam Grand System

**MISSION**

**780SE Speakers** £349.95

**Free audioquest**

Speaker Cable worth £60 with ALL Speakers over £280 NINCAD

**Mission 782SE** £899.95

"The Mission 780s held our Product of the Year title until the pesky Quad 11Ls appeared and knocked them off the winner's rostrum. So how does Mission respond? Simple. It designs a 780 Special Edition. The main aim is to increase detail and resolution throughout the frequencies, and after a 50-hour run-in, this wish seems to have been fulfilled... The revamped Mission 780s are hugely enjoyable: anyone with up to £400 to spend should consider the standmounters. Mission's clever move has paid off."

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

Cyrus 8 Amplifier “The 8 is a large step forward from older generations of Cyrus amplifiers, and takes the company back into the leading pack in the sub-£1000 integrated amp sector... The Cyrus 8 is a must-audition product.” MIMI ****** January 2003

ROKSAN

Kandy KA1 MKIII Amplifier £544.95

When we last reviewed Roksan’s Kandy integrated amp in February it fought off serious competition to come top in a Supertest. This is its replacement, the MkIII.

Internal changes include an uprated power supply for the preamp section and identical mono modules for the left and right power amp sections. Roksan also claims 50 percent lower distortion on line-level inputs and a whopping 150 percent less on the phono input. The rated power output is an impressive 120 watts per channel into 8 ohms, and this amp has a confident, muscular way with music that bears this out. But don’t be fooled into thinking this amp is raw but unrefined. With Van Morrison’s Down the Road the Kandy has the guts to render the performance exciting and dynamic, but also the guile to deliver subtle details.

The upgraded Kandy MkIII is an excellent amp. the MkII version was impressive, but MkIII is a stunner. It betters all the amps here in the timing department, and has a wonderfully robust character that works well with all types of music. It manages to retain the good points of the MkII while adding extra resolution and subtlety. All the amps here have a place in the market. It’s just that at £550 the Kandy really does set the pace. ****** October 2002

QUAD

11L Speakers £379.95

Quad is best known for its superlative electrostatic designs, which start at £3500. So any £379 pair of speakers that carries the company’s name has to be going some to avoid tarnishing the family reputation. The first surprise is that the 11Ls come in real-wood veneers covered with piano gloss lacquer. This type of finish is almost unheard of at the £1000 mark, let alone at this price. Has anything been sacrificed for such a luxury finish? Here’s the second surprise: apparently not.

The final surprise? Well, saving the best for the last; the sound quality of the 11Ls is phenomenally good. These are small speakers at just 33cm tall, but the scale and authority of their performance is terrific. The laws of physics dictate bass extension limitations, but thanks to a clever dual rear firing port arrangement the 11Ls plumb the depths with the determination of a.rottweiler even when placed in free space.

If you’re in the market for a pair of top quality standmounters these Quads are a must listen. Quite simply, they’re good enough to scare the competition Please Note: Some products may not be available at all outlets. *NICWA00 Not in conjunction with any other offer. **WE big time. ****** August 2002

Speaker Selection

Acoustic Energy Aegis Evo Three £349.95
B&W CD7 1NT £749.95
B&W CD7 7NT £1249.95
B&W DM303 £1799.95
B&W DM601 S3 £249.95
B&W DM602 S3 £299.95
KEF Q1 £249.95
KEF Q3 £399.95
KEF Q51 £999.95
Linn Katan (Cherry/Maple) £634.95
Linn Ninka (Cherry/Maple) £1044.95
Mission 780SE £349.95
Mission 780SE £899.95
Mission 780SE £999.95
Mission m74i £299.95
Monitor Audio Bronze B2 £199.95
Monitor Audio Silver 51 £299.95
Monitor Audio Gold Reference 10 £799.95
Monitor Audio Gold Reference 20 £1499.95
Quad 23 2 £895.95
Ruark Epoque II £344.95
Ruark Exude £649.95
Wharfedale Diamond 8.3 £199.95
Wharfedale Pacific EVO 30 £649.95
MUSICAL FIDELITY A3.2 Series

A3.2 CD Player £999.95
A3.2 Amplifier £979.95

Replacing the WHAT HI-FI? SOUND AND VISION Award Winning A3 CD and Amplifier, the new A3.2 models have been further refined and re-styled. The A3.2 CD Player now incorporates the same DAC, filter assembly and control mechanism as the highly-acclaimed Nu-Vista CD Player. The A3.2 Amplifier draws on experience gained through the development of the Nu-Vista M3 amplifier and as such has inherited many of its qualities, producing a sense of ease and flexibility that is normally only associated with far more expensive designs.

MUSICAL FIDELITY

Claim £350 Off the Speakers of your choice when purchased together with any A3 CD & Amplifier combination. Min Dept Value £500. Not in conjunction with any other offer.

MONITOR AUDIO Silver S6 Speakers £599.95

British loudspeaker manufacturer Monitor Audio has introduced a replacement series for its acclaimed and award winning Silver Series speakers. "The aim has been to offer real advances in performance and value", says technical director Dean Hartley. "New models include the S1, S2 standmounters, the S5, S8 and S10 floorstanders.

"With a close-miked track such as James Taylor's 'Line 'Em Up' from SACD they really deliver the character of the singer's voice and they're just as expressive with the cultured rhythms of Groove Armada's latest outing, having just the right mix of rhythmic control and fluidity... But amazingly the best is yet to come: these are simply beautiful speakers for classical music, once a few days' 'seasoning' has toned their initial rawness. With the latest release of Holst's The Planets on DVD-Audio, they thunder out Mars with true conviction. These are rather magical speakers, with a poise and grace that belies their ability to turn on the power when required. Pair them with a good CD player and suitably accomplished amp, and you won't go far wrong."

Gold Reference GR10 & GR20

Also Available

Pioneer PDR609 CD-RW Recorder £189.95

"While it looks simple, the Pioneer has an impressive array of features, including the handy double-speed disc finalization and CD-Text compatibility. Internally, the PDR609 is a big step up from the Award-winning PDR-509 it replaced: the DAC is now a 24-bit/96kHz number, added and abetted by Pioneer's Legato Link conversion technology, and it has 24-bit A-to-D conversion, which is ideal for copying your vinyl onto CD. If this is your plan, you'll appreciate that the Pioneer makes it easy to create first-rate copies from any source, helped by the manual recording-level controls. It was hard to tell our copy of Jim White's 'No Such Place from the original. While the Pioneer's replay quality can't match the Marantz, it costs £120 less, which would buy you a lot of blank discs. If you've already got a dedicated CD player, we'd go with this recorder."

Recorder Selection

Harman Kardon CD-R30 CD-RW £499.95
Marantz DR6000 CD-RW £269.95
Sony PCW-3 CD-RW £219.95
Yamaha KX93 Cassette Deck £119.95
Yamaha KX95SE Cassette Deck £199.95
Yamaha CDR-HD1300 CD-RW £499.95
Claim £250 Off
the Speakers of your choice when purchased at the same time as the
Linn Classik Music System
Minimum Speaker Value £350
Includes audioquest® Cable Worth £50 FOC
*Not in conjunction with any other offer

Linn Classik
Music System £999.95

The Classik Music System is an alternative to the sound and looks of mass market compact systems. Designed to be useful throughout the home, the Classik is simple and stylish with all the advanced features needed to satisfy the most demanding hi-fi enthusiast or discriminating music lover.

"Since the Scottish company added a tuner to the amp/CD player, mouths have gaped even wider in appreciation. The addition of colour options ponders to the public's taste for kit to match their interior design, but it doesn't just look lovely in the lounge: the Classik sounds simply marvellous. Boosting fine detail and drive, it retains its grip even as it thumps out rock and dance tracks. Ask it to play quiet acoustic music and its smooth, liquid presentation impresses still further. The Classik offers the performance you'd expect from high quality separates in one lovely package - this is a very superior product."

Linn
Classik
Music System £999.95 • SAVE £500

Strata III Subwoofer (Wood) £699.95
REL is an audiophile company who take great pride in designing and building their highly acclaimed subwoofers. Because of their total commitment to performance, REL sometimes adopt unusual solutions to otherwise straightforward problems.

"The aggression of Rage Against The Machine's 'Take The Power Back' is near-tangible, the midrange a spitting, spiteful companion for the tight, deep, air-agitating bassline. As for the more deft creations of Chick Corea, the REL's articulate nature serves subtly to underpin basslines, rather than swamp them. The adaptability makes the Strata III a highly recommended subwoofer - it's a very versatile, musical piece of kit, and it doesn't cost the earth."

**** July 1999

Free audioquest. Cable
Worth £100 When You Purchase any REL Subwoofer Over £499
*Not in conjunction with any other offer

Quake (Wood) £424.95

TAG McLaren's AV3OR AV Processor is aimed at the home cinema enthusiast who is concerned with keeping up-to-date with the latest surround formats. When partnered with TAG's 100x5R Power Amplifier it makes an exceptional combination.

According to What Hi-Fi? Sound and Vision magazine in their October 2002 issue: "In use, the AV3OR, connected to TAG's 100x5R power amp, is superb. True, it can't quite match the clarity and power of the latest specification TAG flagship, the AV32Rbp-192, but by any AV standard this is a very high-end piece of kit, with excellent impact and fine detail across a range of movie soundtracks from Once Upon A Time In America to the explosive actionfests. Channel steering is immaculate, and the sense of a soundfield wrapped around you - even in 5.1-channel mode - entrancing, with spine-tingling rear-channel effects. The fine Pro Logic II implementation serves music as well as it does non-discrete AV soundtracks, and with an SACD machine hooked up via the 5.1 channel inputs, the lack of coloration and sheer bass oomph is extraordinary."

***** October 2002

Please Note: Some products may not be available at all outlets.
*NICW0001 = Not in conjunction with any other offer. £500
outlets nationwide

Aberdeen 491 Union Street 01224 587070
Bedford 29-31 St Peters Street 01234 272779
Birmingham Arch 12, Livery Street 0121 233 2977
Brighton 57 Western Road, Hove 01273 733338
Bristol 92b White Ladies Road, Clifton 0117 974 3727
Cambridge 17 Burleigh Street 01223 304770
Cardiff 104-106 Albany Road 029 2047 2899
Cheltenham 14 Pitville Street 01242 241171
Crawley 32 The Boulevard 01293 510777
Edinburgh 5 The Grassmarket 0131 229 7267
Exeter 28 Cowick Street 01392 218895
Glasgow 88 Great Western Road 0141 332 9655
Guildford 73b North Street 01483 536666
Hull 1 Savile Row, Savile Street 01482 587171
Ipswich 12-14 Dogs Head Street 01473 286977
Leicester 10 Losseby Lane 0116 253 6656
Lincoln 20-22 Corporation Street 01522 527397
Liverpool 18 Lord Street 0151 707 8417
Maidstone 36 Week Street 01622 686366
Manchester 69 High Street, City Centre 0161 831 7969
Newcastle 19 Newgate Street 0191 221 2320
Norwich 29-29a St Giles Street 01603 767605
Nottingham 597-599 Mansfield Road 0115 911 2121
Oxford 41 St Clements Street 01865 241773
Peterborough 36-38 Park Road 01733 897697
Plymouth 107 Cornwall Street 01752 226011
Poole

new outlets now open

We are delighted to announce that we have opened new stores in the following locations:

Poole 01202 671677 • Solihull 0121 733 3727 • Swindon 01793 610092

sevenoaks online

The Sevenoaks Sound & Vision website has news and information on the Sevenoaks group and its 48 outlets nationwide. The website is designed to provide you with answers to the questions you may have when buying new equipment.

There are regularly updated stock clearance lists with hundreds of products on offer and detailed pages to help you locate your nearest outlet.

For impartial advice and information, just click on sevenoaksoundandvision.co.uk

stock clearance

With 48 outlets nationwide, the Sevenoaks Sound & Vision group stock and display a wide range of products. As individual models and product ranges are changed or superseded, the preceding models are made available at a reduced price, for clearance. Visit our Website for an up-to-date list of the clearance stock, listed by outlet, within the Sevenoaks Sound & Vision group.

0% finance option

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

pricing policy

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

In the event you can find the same products and excellent service at a lower price, please bring it to our store managers’ attention. We will always endeavour to offer you the best deal.

www.sevenoaksoundandvision.co.uk

who are sevenoaks?

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

Each Sevenoaks Sound & Vision outlet stocks a wide range of quality products, covering all categories of specialist home entertainment, from Hi-Fi Separates to widescreen Plasma Televisions and projection systems, all at highly competitive prices.

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

within the M25

Bromley 39a East Street 020 8290 1988
Chelsea 403 Kings Road 020 7352 9466
Croydon 369-373 London Road 020 8665 1203
Epsom 12 Upper High Street 01372 720720
Holborn 144-148 Gray’s Inn Road 020 7837 7540
Kingston 4 Fife Road 020 8547 0717
Southgate 79-81 Chase Side 020 8886 2777
Swiss Cottage 21 Northwitre Parade, Finchley Rd 020 7722 9777
Watford 478 St Albans Road 01923 213533

Please call to verify hours of business.
Contact our outlets via E-Mail outlet@sevenoaksoundandvision.co.uk
WEIGHT FOR IT

Here's a CD player you can use about town – the remarkably light new Philips AX7201 portable.

U

nashamedly a high end design, Philips AX7201's £100 price tag puts it well above the average cheap and cheerful piece of mass produced plastic you see on the high street.

For under £50 you can buy Aiwa's perfectly capable XP-V731. It has ropey build, dodgy ergonomics, but sounds dangerously close to far more expensive designs, such as Sony's sleek D-EJ1000.

Philips new machine is interesting inasmuch as it looks like a concerted effort to out-Japanese the Japanese. This, lest we forget, it takes as a matter of pride, its ability to produce ever-smaller and ever more powerful gadgets and gizmos. It is very much their thing to make music players as small as the format permits, so when Europe's very own consumer electronics giant announced it's own take on the 'less is more' theme, we couldn't resist a look.

At 14.3mm thick, you'd have very little reason to doubt Philips' PR people's claim that it's "about the slimmest model on the market" – until you measure its more expensive Sony rival, which clocks in an almost sub-atomic 13.2mm. Frankly, the extra 1.1mm bulk of the Philips machine isn’t an obvious extra encumbrance – indeed you could almost view it as a visibility aid in low light! Speaking as an avowed Minidisc user (yes, still!), the truly significant dimensional disadvantage lies in its diameter, which for obvious reasons cannot be less than CD's 12.7cm girth. The AX7201 comes in at around 13cm, which is still too big for my top pocket.

It is exquisitely hewn from die-cast magnesium alloy, a unique composite material that allows for a featherweight frame that's both strong, stiff and heat resistant (quite why it needs to be is unclear, however). Inside lurks the latest CD, CD-R and CD-R/W compatible mech, complete with 45 second electronic shock protection and the latest 1 bit DAC. Also inside are a pair of rechargeable gum stick-type ECO-PLUS Ni-MH batteries, and there's a separate twin AA battery pack that plugs in to a socket on the side. Together, they achieve an outstanding 72 hours of playback. On the underside are play/pause, stop, track search and volume controls.

The unit also comes supplied with a remote that offers an LC display, dynamic bass boost switch and CD programme modes such as repeat, programme and shuffle. It plugs into a non-standard 2.5mm socket in the main CD player via its own flying lead, and offers a 3.5mm socket for headphones or line output. It's a shame that there's no 3.5mm socket on the machine itself, as it could offer a direct port to a hi-fi system without having to go via the remote and its (invariably) sonically deleterious flying lead. Likewise, unlike Sony (with its passion for MD portables) no direct digital output is offered – shame.

Anyway, the good news is that this machine sounds as good as it looks and feels – which is very good indeed. It is smooth right across the frequency band, just a little rolled off up top, and with a good degree of musicality. There's a decent degree of detail, depth and image articulation here – allied to a smoother sound than your average £100 cheapo separate would give.

Overall then, this comes heartily recommended. It's easily as good as Sony's 'lifestyle' rival (at nearly twice the price) bar a few niggles, and far better than most price rivals. It's also a great step up (in every way) from the likes of Aiwa's great value XP-V731. It sounds good, looks great and is beautifully screwed (glued?) together. A great argument for taking music out on the move with you.

Phils AX7201 £100

Philips Consumer Electronics
Tel: +44 (0)20 8781 8251
www.philips.com
FOUR PLAY!

Remember Quadraphonic? Not many do, it seems. But look closer and it's a weird and wonderful world of eccentric analogue audio for your pleasure. David Price, Hi-Fi World's very own 'quadfather', investigates...

Ah, quadraphonic! The very name conjures up the worst of nineteen seventies excess. At a time when technology barely enabled decent two-channel stereo, a number of hardware and software manufacturers came together to bring us four channel hi-fi surround sound, whether we wanted it or not.

Unfortunately for them, the latter was true. Maybe it was the music buying public's eager adoption of stereo, which by the early seventies was catching on apace, that made the audio and music industries alike believe that if two speakers were better than one, then four were better than two and quad would sell.

Unlike today's digital surround sound, quad was all about music; there were no pictures. The very first domestic quadraphonic recordings weren't vinyl-based at all, but open reel - which was seen by many as the only serious music carrier around. With this in mind, a handful of music companies, such as Vanguard, released 4-channel pre-recorded reel-to-reel tapes as early as 1969. Fully discrete quadraphonic (using completely separate channels right along the replay chain) wasn't a practical domestic proposition however, as few could afford expensive reel-to-reel tape decks and buy their music on 10.5 inch spools of magnetic tape, so vinyl stepped in to fill the void.

When Peter Scheiber presented a paper to the Audio Engineering Society on how to make two channel recordings matrix to four channel quadraphonic, LP-based quad finally became a reality. CBS Records duly snapped up the rights and spent a couple of years developing the hardware. Then in 1972, SQ (Surround Quadraphonic) was finally launched to a bewildered public. Naturally CBS wanted every other label to pay royalties, which went down like a lead balloon, so arch rival RCA (part owner of JVC) came up with an altogether more elaborate, non-matrixed system called CD-4 (Compatible-Discrete four channel).
Yesterday and Today

Here's how the original analogue SQ pressing of Pink Floyd's "Dark Side Of The Moon" compares to the brand new digital multichannel SACD mix!

The amount of surround sound information on LP isn't huge, but very much there nonetheless. The analogue quad mix provides gentle ambient detailing and cues, with the odd strong lunge to the back left or right when the producer demands.

By contrast, the digital 5.1 mix gives far stronger discrete soundstaging, pushing instruments out of the back channels more explicitly. The SACD mix is quite breathtaking at times.

The matrixed analogue LP sounds softer, warmer and more woolly but is actually more beguiling. While the whirling synthesizers and special effects (cash registers in "Money", for example) are so much more precisely located from SACD, the guitars in "Us and Them" sound more plaintive and powerful on LP, giving greater emotional impact.

Both analogue 4.0 and digital 5.1 proved surprisingly good in practice.

Stereo Quadraphonic - the first to market, and it showed!

The result of three new systems rolling out in the space of a year was, as you'd expect, sheer confusion. The essential similarities between SQ and QS, and their complete incompatibility with CD-4, were hard to explain to music buyers who'd only just started routinely buying stereo LPs! The fact that SQ and QS matrix decoders could not demodulate CD-4 records to give discrete four-channel surround, yet could 'synthesise' surround sound in much the same way as Dolby Pro Logic II does today, was even harder to explain.

As for CD-4 — suffice to say that the hi-fi magazines of the day had an uphill struggle in explaining it to a perplexed public.

Despite this, the industry made a concerted collective push on both hardware and software. Hundreds of titles appeared, ranging from Hot Butter, Barry Manilow, Cat Stevens, The Temptations and Frank Zappa on CD4, to Billy Joel, John Lennon, Pink Floyd, Santana, Paul Simon, Sly and the Family Stone, Steely Dan on SQ.

Even 45RPM singles got quad releases, the very first 7" SQ release being Art Garfunkel's "Mary Was an Only Child" on CBS.

Despite their endeavours, in the classic mould of a hi-fi format war, no sooner had the legal wrangles been resolved, the products developed and debugged, advertising money spent and the magazines invested countless column inches on explaining it all, then the whole quadraphonic shebang fell flat on its feet!

Although 'quad' can be viewed as an object lesson in how not to develop a new format and present it to the public, it wasn't a complete waste of time. It's a matter of historical record that the format(s) flopped, but there were still several redeeming factors. First, they did actually sound quite good. Matrix quadraphonic synthesised from stereo could actually be highly impressive, despite the relatively poor separation of early decoders. CD-4, in theory a fully discrete system, was capable of excellent results — although of course it couldn't always achieve them in practice.

CD-4 also brought vinyl some valuable spin-offs. For example, JVC developed its own special virgin vinyl formulation with super low noise and wear characteristics, which went on to be used in many Japanese-pressed stereo LPs — and even Mobile Fidelity Sound Labs' first Original Master Recording series. (Play a standard US pressing of, say, Steely Dan's "Aja" against a Japanese version and you can hear the difference — the latter being dramatically smoother, sweeter and quieter sounding.)

CD-4 also catalysed advances in pick-up cartridge technology - with the carrier running at 28kHz, it was necessary to develop a stylus profile that went deep into the record groove yet didn't wear out the delicately embedded back channel information. The resulting Japanese-developed Shibata stylus both contacted a larger surface area of the record and lessened groove forces, sparking a wave of extended groove contact cartridges, such as Pickering's 'Stereohedron', Stanton's 'Quadral', Bang & Olufsen's 'Multi-Radial' and Shure's 'Hyperbolic'. The benefits of this stylus tip transformed the next generation of cartridges.

Finally, much of the research work that went into matrix surround sound made today's digital surround possible. It laid the blueprint for what is now proving to be the biggest revolution in recorded music since the introduction of digital audio — digital surround. Although it has taken a circuitous route via 'home cinema' and movie sound, multichannel music is fast becoming the new standard. To play the wealth of two channel music - the vast...
former can easily be derived from the world had gained an transformed vinyl Although RCA had over for quadraphonic. The two systems work the cinema thing. In truth, summing the front left and right, and the centre and subwoofer channels - the difference between 4.0 and 5.1 are the majority of most peoples' music collections - matrix decoding is appearing again, albeit in digital format. Dolby Pro-Logic II uses a steering logic, just like the SQ and QS systems before it. In truth, it's not far away from quad systems, inasmuch as it has full range front left and front right plus rear left and rear right. The only real difference between 4.0 and 5.1 are the centre and subwoofer channels - the former can easily be derived from summing the front left and right, and the bass channel isn't needed with full range loudspeakers anyway - it's more of a home cinema thing. In truth, the two systems work surprisingly similarly.

By 1975 it was all over for quadraphonic. Although RCA had poured millions of dollars into CD-4, JVC had single-handedly transformed vinyl pressing technology and the world had gained an important new stylus profile, the public simply didn’t want to know. A raft of new ‘bolt on’ quad formats arrived on the scene to confuse things still more (i.e. Denon’s UD-4, Stereo-4 and Dynaquad). Quadraphonic preamps, decoders and receivers got ever better - the 1976 model year designs were dramatically more musical than those of 1973 - but it was all too late. The equipment hung around in manufacturers catalogues until as late as 1977, where Sony - for example - was still proudly displaying its high end SQ decoder, but the end was nigh for quadraphonic and by 1979 the whole gloriously ill-conceived project had simply disappeared from the face of the earth.

QUAD – THE RIVALS
STEREO QUADRAPHONIC
SQ emerged from the CBS Technology Center in April 1971. Rear channel information was cut into the record using an intricate process which added double helical groove modulations, alongside vectored modulations for the front channels. By sensing the phase relationships between the channels, the SQ decoder attempted to send the appropriate signals to the appropriate loudspeaker. This idea of a 'non-symmetrical phase matrix' using phase shift networks to divide up the sounds was a very sophisticated one for 1971. The results weren't spectacular, giving only around 3dB of channel separation between the front and rear speakers - due to the need to retain excellent left-to-right separation at the front. Later 'logic decoders' gave far better results. Any matrix quad system (SQ, OS/RM, EV-4) decoded any matrix-encoded record, but the results weren't always consistent!

QUADRAPHONIC STEREO
Sansui introduced OS in February 1972. Like SQ and EV-4, it could decode any matrixed quad encoded record, and synthesise quad from a stereo source. A very close cousin was RM (Regular Matrix), which is said to be SQ but without logic in the decoder. OS was often said to be dramatically better than SQ when synthesising quad from a stereo source, giving up to 20dB front to rear separation and 10dB from left to right. By 1973, Sansui had developed its SQ decoders with logic circuitry and a range of parameter adjustments to give 'Vario-Matrix'. The quad cognoscenti generally agreed this works very well, making stereo and matrixed quad discs sound vibrant and engaging.

COMPATIBLE DISCRETE-4 CHANNEL
A discrete four channel surround sound from vinyl, CD-4 pushed record manufacturing technology to the limit! A high frequency carrier signal (a la FM stereo) handled two extra channels of audio in RCA's CD-4 Quadradisc system launched in May 1972. Super-fine grooves were cut into the vinyl to carry signals between 20-45kHz, which the CD-4 demodulator sensed and 'downconverted' to the audio band of around 100Hz-15,000kHz and sent to rear loudspeakers. The limitations of tonearms of the day created difficulties. Shibata styli needed tracking at less than 2g - routine today but fanciful back then. Mistreatment, dirt and worn styli simply wiped out the HF information. Finally, CD-4's channel separation wasn't obviously better than later matrix decoders, which were far easier to use.

SOUND AFFECTS
Matrixed analogue quadraphonic (i.e. SQ or OS) sounds surprisingly soft, warm and cohesive. Anyone reared on digital surround will be amazed! Quad albums do offer a sense of surround, with instruments moving around between all four speakers, but there's a quite strong central image - in part due to SQ's poor separation figures. This isn't a bad thing, however, as it doesn't detract from the overall musical experience and can actually sound quite cohesive. The absence of a front centre channel simply isn't obvious. Ultimately, OS (RM) sounded more vibrant than SQ, but this could be down to the equipment used. Nonetheless, on well-recorded discs, the surround effect was obvious but not intrusive.

CD-4 was probably the most impressive in a 'hi-fi' sense - the back channel information was most explicit - although it didn't gel and cohere as well as OS. Some CD-4 recordings showed crass use of multi channel mixing spreading musicians all over the place needlessly, although the occasional CD-4 cut, such as Harry Nilsson's Nilsson Schmilsson, worked superbly with outstanding clarity of detail and wide stage images. Ultimately, CD-4 gives real sound fields between any combination of channels, which matrix recordings cannot - and it shows.
EXPERIENCE THE CHORD EFFECT!

The first time you hear your sound system with Chord interconnecting cables will be the first time you've really heard it. Be warned - the effect can be shattering. Your eyes and ears will be opened. Your music will never sound the same again. Specify Chord cables - Hear the light!
Although you'd never expect serious sound from just any old mid-price DVD video spinner, you may well from a high end delight such as this. Sporting no fewer than five selectable digital filters, T+A's 1230R has real audiophile pretensions, so how does it stack up? Noel Keywood does the maths...

Want a high quality DVD player that also plays CDs as well - if not better than your last Compact Disc spinner? Then this is precisely the sort of thing you may be considering. T&A's 1230R would seem to have it all - exquisite build, superb finish, audiophile pretensions and a price tag to match - £1,999!

Not having much experience of T+A products, although aware of their reputation as serious German high-end, I lifted the review machine out of its box carefully and placed it on my equipment rack. With six phono leads in my hand I went to make connection but then realised that this is a video player without on-board decoding, and sans DVD-A or SACD output, so there are precious few sockets on the back and certainly not enough for my handful of leads. You get stereo - and that's it! For surround-sound the player outputs Dolby and DTS digital, which I channeled into an A/V receiver through an optical digital link. Video is output from a SCART, S-Video or CVBS socket, with accompanying audio from stereo phono sockets (for a TV or suchlike). Another pair of stereo sockets channel high quality audio out to a hi-fi system. In a non-T+A system like mine a small remote control receiver must be plugged into a rear 3.5mm jack socket. This is an extra wire and device which some may object to as unnecessary complication when everyone else manages to incorporate the remote receiver into the main chassis. There are occasions however, when a player is not in view for example, when a distant receiver like this is a benefit, allowing remote control to work around corners, as it were; it depends upon your domestic set up.

There is an on-screen setup menu, Philips style. This gives you some basic video options like Widescreen, expanded widescreen for 4:3 sets or 4:3 (TV). The digital output can be set to Off, PCM or All and the analogue output can be set to Pro Logic (i.e. matrixed output) or Stereo. There is also Night Mode (compression applied) and Karaoke. There are no other picture quality settings however, making this a pretty basic set of features by current standards. My sample came set with all German menu text too, although fortunately the Philips control system comes with just about every language possible as an option for on-screen menus.

The 1230R is solidly made and quite heavy as a result. Measuring 443mm wide by 370mm deep it will fit a standard '19in' rack, but not with much to spare. The T+A is both wide and deep. It is fairly shallow though, measuring just 78mm high.

As a video player the 1230R is pretty basic. As a CD player though it is complex. T+A say they use 8x oversampling and a high performance DSP engine to carry out this process with great precision. A number of different digital filter algorithms are used in order to provide no fewer than five different responses. Each...
with its own unique set of properties. More detail on this is provided in our Measured Performance section, but in outline because it is difficult to be sure whether optimal frequency domain or time domain behaivour is best, T+A give users an option – or five of them! Sitting behind me as a write lies a venerable Cambridge CD-1, which had an array of filters fitted for much the same purpose, so it has been done before, but not in DSP. What I know from my time with the Cambridge is that you usually alight on one preferred sound and stick with it, although radical filters will at times rescue a bad sounding disc and demand to be used. To this end it was a pity filter selection was unavailable on the remote control; this is a missed opportunity. And these filters do affect sound significantly, although I should note that they don’t really alter the basic character of the player: in other words don’t.

**Internal view of the T+A.**

**SOUND QUALITY**

I was intrigued by this player – at times it could really deliver. One of those times was with Steve Earle’s Esmeralda’s Hollywood, a tight fast piece of Rock with percussive drums strikes and hissing rim shots, Earle’s voice sounding gravelly in the middle of it all. The T+A made this track sound explosive, with transients echoing around the room from ringing cymbals and strummed steel guitar strings. There was a great sense of damping and control too, making the player sound both vivid and clean at the same time. Mostly, I used the default filter (no number), which was less muted than No4. Whilst the T+A has good bass resolution and a nice amount of heft, overall the player has a somewhat dulled sense of tonality; it really doesn’t get out the timbral qualities of instruments too well, so whilst technically it showed admirable clarity and time domain resolution, it lacked some expressiveness I felt. Steve Earle’s The Hard Way was vivid enough and very hi-fi, but a little mechanical.

The conspicuous clarity of the 1230R, its fluid dynamics and smoothness gave Celine Dion’s I’m Alive a good sense of drive and weight. She sang from a clear soundstage which had a nicely established sense of depth and dimensionality, if not with the well drawn and clearly placed images that the best dedicated hi-fi CD players can manage.

Rachmaninov’s Piano Concerto No 2, with Ashkenazy at the ivories, sounded pleasant enough, violins rising and falling as of one, against a nice clear background. The violins did sound a little amorphous though; I couldn’t hear into them as such, to get any feeling of individual instruments playing. You couldn’t accuse this piece of music of being without feeling, nor Ashkenazy’s playing as being anything other than wondrous in its deftness, modulation and sheer sensitivity, but sadly I have to say that whilst the T+A conveyed the general outline in nice enough terms but it didn’t get into the performance and reveal just how the playing was so interpretive of the music and the composer’s intentions. This isn’t a review of the Marantz as clearly revealed by the Marantz as to be breathtaking, I’m reminded this is why we listen to hi-fi.

The 1230R excels in the area you’d expect, that of general cleanliness and control, especially at high frequencies. I found from my days with the Cambridge CD-1 that you soon end up using just two or so filters, usually the best all-rounder and most-damped to eliminate CD nasties in as far as possible, otherwise you spend all your time switching and listening to the filters rather than the music. This player sounded best with either Filter 4 or the brighter default setting, its dynamics, sense of form, clear timing and lack of muddle with these settings was impressive. However, as Marantz have so ably demonstrated with their KI Signature models, addressing component quality issues in a way most hi-fi manufacturers (outside Japan’s high-end) are just not prepared to consider, offers other benefits and, for all its undoubted ability, I felt the T+A 1230R could have done with just a bit more resolution of the timbral properties of instruments and singers to become a bit more lifelike and less mechanical. To place it within the scheme of things I compared it to both the Creek CDR-50 and Marantz CD6000 KIS. The Creek showed clearly differences in tonality between instruments from a recording; we all know it’s a property that exists in real life but digital can suppress this sort of thing without us realising it. It would be difficult to choose between the T+A and the Creek, since they were almost diametrically opposed in sound quality. Creek have lightened up their sound and whilst clean open and revealing in a natural manner the Creek lacked the solid bass punch of the T+A. The Marantz, however, delivers such a vast sound it is almost a raging bull compared to others, with vast dynamics, incredible stage depth, an ultra-wide sound stage and the ability to reproduce everything with a lavish brush that seemingly overwhelms competitors. It’s quite an awesome audio performance, that’s for sure - and a yardstick for others.

In the DVD1230R, T+A have undoubtedly produced a very interesting CD player and an accomplished one too. But it isn’t...
competition for the £600 Marantz which, paired with a DVD player of some ability, would set you back no more than £1000 in total – half the asking price for the DVD1230R. So whilst I found the T+A player a pleasant companion and at times a technically intriguing one, it suffers an onslaught of competition from a wide range of experienced hi-fi manufacturers able to manipulate parameters other than digital filtering, which have a greater impact upon sound. Their lower prices put the DVD1230R out into a world of its own where it cannot really justify itself.

**T+A DVD 1230R £1999.99**

**BBG Distribution**
Tel: 020 8863 9117
www.taelektroakustik.de

---

**MEASURED PERFORMANCE**

The various filter responses were interesting, but those in the player didn't correlate with those in the brochure.

As T&A state in their literature, Filter 1 gives a nice smooth, flat response of the sort most commonly found in CD players, as our analysis shows. With this the player's frequency response reaches 21.3kHz but there is some pre and post ringing to an impulse.

Filter 2 reduces this ringing slightly, but at the expense of damping, meaning there's a pronounced rise in treble output of +1.5dB at 15kHz — enough to be clearly audible. In other words the player will sound bright — and it did.

Filter 3 and 4 look identical, as in the brochure, in the frequency domain at least. Both roll off treble quite strongly, measuring —1dB at 12kHz, and this should lead to a warm sound — which it sort of does. T+A says filter 4 is ideal and in the time domain it produced less noise than 3. Both gave a clean time domain impulse as T+A claim. However, both have worse stop-band suppression than the others.

T+A say Filter 4 is their 'basic (default)’ filter but this was another filter operative at switch on. I have called it Filter 5. This gave a large amount of time domain ringing but still sounded good.

One problem with directly comparing these filters is that output level jumps around by 1dB or so, enough to affect judgement. That's why direct A/B comparisons are always dangerous: only lengthy and relaxed listening with change of volume to alter this factor gets out essential differences.

Whether the ear is most sensitive to time or frequency domain effects (or both, one often being the reciprocal of the other) is open to debate, but such response changes are audible. The only point here is that such effects are most readily detected playing music with strong energy above 5kHz, meaning the filters will affect a bright CD most obviously and may be inaudible with some types of music.

These filter settings didn’t affect other properties, such as distortion, where the T+A measured well – up with the best. Channel separation was low but still high enough for normal stereo.

The T+A 1230R was interesting to measure. The different filters do measure as T+A state and give some useful options. Somewhere though, the Handbook seems to have got into a Lederhosen twist about all this. At the price, a little more effort needs to be expended here so anyone paying for such features gets them explained clearly. **NK**

<table>
<thead>
<tr>
<th>Frequency response 5Hz-21.3Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distortion</td>
</tr>
<tr>
<td>-6dB</td>
</tr>
<tr>
<td>-30dB</td>
</tr>
<tr>
<td>-60dB</td>
</tr>
<tr>
<td>-90dB dithered</td>
</tr>
<tr>
<td>Separation</td>
</tr>
<tr>
<td>1kHz</td>
</tr>
<tr>
<td>20kHz</td>
</tr>
<tr>
<td>Noise (IEC A)</td>
</tr>
<tr>
<td>Dynamic range</td>
</tr>
<tr>
<td>Output</td>
</tr>
</tbody>
</table>

**World Verdict ££££**

A smooth, clear sounding CD player that also plays DVD video, the DVD1230R is a little expensive in relation to its sound.
FAIR FUN

Haden Boardman spends a day at the National Vintage Communication Fair...

Amazingly now in its twelfth year, the biannual bash that is the NVCF took part over the May bank holiday weekend. Birmingham is such a sensible location for this kind of event, especially for a northerner like me, it is good to see the larger of the two annual events takes place there. As in previous years, there was a large attendance, with stall-holders and visitors from the north of Scotland to the depths of Cornwall... to Ireland, Wales, and the Far East!

For those not in the know, the NVCF covers any and all "communication" media, be it high fidelity equipment, radio sets, gramophones, juke boxes or even television sets and telephones. Under the roof of one of the National Exhibition Centre's many halls, a good few hundred stall holders gather with a monstrously large pile of old equipment to swap trade or simply sell! In the twelve years the show has been running, I have been lucky enough to attend every show, nine times as a stall holder - and every time has been a joy.

The show has always offered incredibly rich pickings for a wide range of quality audio equipment, and this year's show was no exception. My favourite vintage amp turned up in several places, the classic Radford STA 15 and preamp and there was a good selection of Leaks, although not as many as in past years. Vintage valve amplifiers do seem to be getting a little thin on the ground - there simply was not the quantity compared to last year - and the small amount that did appear were quickly snapped up, even at the hefty prices being charged. There were a couple of really stunning Leak Troughline tuners, plus a decent selection of Garrard 301 and 401 turntables, but SME arms appeared a bit thin on the ground this year, but that is possibly more to do with the fact that yours truly is desperate to buy one and replace a '3012... but perhaps I managed to miss them all!

As you would expect at a venue like this, there is a real cross section of prices and merchandise. The very rare and very desirable fetch high prices, but with so much kit for sale competing for new ownership there are many bargains to be had, especially for the 1970s grunge audio enthusiast. One stall had more than a dozen big 1970s receivers for sale, some quadraphonic - and nothing was over £50! Or how about a mint Bellini designed Yamaha TC-800G cassette deck for £50! Or two pairs of the slightly posy Grundig Audiorama 5000 speakers.

One stall in particular caught my attention. The particular gentleman had an incredibly early circa 1948/49 Connoisseur turntable, unusual because it only had two speeds of 33 and 78... predating the release of the 45rpm record! To make it an even rarer find, the deck was fitted with
Paul Greenfield of Classique Sounds, with a pair of ultra rare Jordan Watts Flagon ceramic speakers.

two very early Leak pick ups on individual arms, one for “LP” and one for “78”. At the side was the icing on the cake; a glorious Connoisseur Ribbon Microphone, again from a similar era, and the cherry on the top a simply stunning ex-BBC Garrard 301... all museum pieces.

There was an amazing glut of high-end 1970s loudspeakers, including ultra rare Tandberg Studio Monitors (with more tweeters than seems strictly necessary), and from the late 1960s a pair of surprisingly good sounding Ferrograph 51 monitors and a set of immaculate Leak 2075s resided behind one stall.

It was a toss up between a set of Grundig Audiorama 5000 loudspeakers and Jordan Watts “Flagon” for the silliest design of the decade on display at the show! For the more tweaky amongst us, there was a cracking array of loudspeaker drive units. I spotted a rare set of full range Goodmans Axiettes in perfect order, RCA HF pressure units, wooden BTH horns, ALTEC “Voice of the Theatre” speakers, and lots of decent paired-up drive units.

Open reel tape recorders seemed very cheap this year. How about a classic Revox B77 for only £200? Lots of interesting semi pro and pro machines, and not one overpriced. The bargain of the show was a fantastic Studer A80 pro machine, not mint but complete, and the price, well, take it away for free! Admittedly a transit van or large estate required! This machine may not guarantee domestic bliss!

One of my main passions is my audio book library, and with several dedicated booksellers, the NVCF is a veritable goldmine for audio and radio-related books. My collection will never be completed (i.e. every book ever printed on hi-fi!) but it is quite reassuring to see at the NVCF just how many of the books I do now own!

There was also a good selection of vinyl records for sale, some old, some new, with reasonable prices being charged.

With the radio connections, the show also has a number of vendors selling spare valves, valve sockets, hard to find new old stock (NOS) vintage capacitors and resistors. It really is an amazing medley of stuff. The good thing about the NVCF is the absolute variety of goods on display. From fifty pence to five grand, there is something to suit everyone and every budget. It is a grand day out.

After twelve years as organiser, Jonathan Hill has decided to pass on the organisation of NVCF to the British Vintage Wireless Society. Jonathan assures us he will still be at the NVCF and looks forward to meeting all the "regulars". Without Jonathan’s organisation skills the show would never have happened and I for one am truly grateful to him for dedication to the show over the past decade, and wish him well in his future projects.
SADNESS, PART I.

After talking to number of people about my problem, someone suggested to write you a letter, so here it is - my sad story. I decided to kiss goodbye to a certain amount of money and upgrade my system.

First on the list were the speakers, so I went through a comprehensive listening session at one dealer in Brussels. I ended up with ProAc Studio 125, as it clearly outperformed anything under 2000 Euro they had in the shop. Confident that I can really hear the difference in a sound, I decided to go for the next part of the system - a CD player. My old one was modified Marantz CD63 so I decided to go for Shanling CD-T100 unheard, hoping that I will get an improvement worth the money difference between the two. And that's where the sad story begins...

At first, I thought I heard an improvement over Marantz so I went on like that for a while without comparison. One day I decided to connect Shanling's solid-state output simultaneously to tuner input of my amp while tube out was connected to CD input, and to do some A-B tests between Tube Out and Solid State Out.

The results of this were devastating - I could not hear any difference whatsoever. I went further and connected Marantz CD63 on AUX and failed to hear a difference between the three. In desperation, I was throwing in HDCCDs, upsampling, you name it - nothing. Everything sounded exactly the same with big S. So, the question is, what is wrong with this picture?

I keep reading tests and posts on the internet with people being able to hear when they switch polarity of AC cable. I do have still pretty cheap amp, Harman-Kardon HK620, but I feel that with such an easy load as ProAc Studio 125 I should hear some difference even with this amp in the middle. RCA interconnects are Profi Gold and speaker cables are something called Eagle silver/copper.

I talked to other owners of Shanling and they swore to me that the introduction of CD-T100 made a big improvement in their systems. Okay, I said to myself, there must be something wrong with my ears, so I invited a hard-core hi-fi-addict friend of mine for a listening session. He failed to hear any difference between tubes and transistors as well.

Anyway, don't tell any of this to my wife. I have to play a game of "my goodness, our new CD sounds so good, this is money well spent".

I was thinking of going for Vincent SV236 hybrid amp (another 1000 Euro down the drain), but decided not to invest any more money before I can be sure that I will get something in return.

If anyone could tell me what am I doing wrong, it would be highly appreciated.

Nebojsa Zdravkovic

The Shanling CD-T100 is one of the hot discussion products in the industry at the moment. Undoubtedly the Shanling makes a big difference to any system when it comes to looks - it's simply stunning in this department. The sound, too, is detailed and big and we found it to be quite unique sonically. This said, there was a certain amount of distortion that was revealed by our measurements which may be audible to some golden-eared readers.

I've always been a tad sceptical of how much difference a change of digital source really makes, relative to cost. A Wadia 810 will blow an ordinary hi-fi out of the water perhaps, but would the difference be as exaggerated as a £3000 leap in price of loudspeakers? I personally don't think so. When you read someone raving about how a change of CD player changed their audiophile life, be warned that it may not be the same for you!

This said, the problem I feel lies with your Harman. Although Harman's amps traditionally measure well and are competently engineered they are quite a way off when it comes to audiosphere performance. If you had something better I'm sure that you'd be able to tell the difference, however small it may be. You may wish to go for something that has clout and transparency, such as a Musical Fidelity A3 integrated, or perhaps something that has a rounded, lyrical quality such as any of the new Exposure amplifiers, which certainly have more than a touch of the valve about them. Whatever you decide on, I feel confident that a change of amplifier will be your answer. There's plenty to hunt out that's relevant, so enjoy the chase.

SP

That differences between valve output and solid-state are inaudible in your system is likely down to the amplifier, although I also wonder whether you realise that differences are smaller than those between loudspeakers - and qualitatively different too. You may need to listen a bit more carefully, over a period of time, to discern the difference between the outputs of the Shanling. Quick comparative tests, switching
from one to the other, will soon con- fuse you. The valve output gives a slightly softer, smoother sound which is more spacious. Spend at least an evening relaxing with CDs you know, listening for an hour or so to one output, then a similar period with the other. And use classical music as well as Rock.

I would suggest you keep away from esoteric and expensive hi-fi like hybrid amplifiers until you can detect differences between the Shangling's outputs through the rest of your system. Listen to amplifiers from Creek and Marantz if you can, both of which resolve the nature of a source well, without adding or detracting too much. The Musical Fidelity A3 is also a great choice, as Simon sug- gests. NK

AMBISONICS

I was pleasantly surprised to read a couple of pieces about Ambisonics in Hi-Fi World (May 2003). I've been a great fan of Ambisonics for over a decade and a half, as it always seemed to me to be the only available method for true surround sound that both correctly encodes the original soundfield (or allowed a multi-track recording to be used for constructing a synthetic equivalent), and re-created it in the home to give realistic, musical and stable soundfields. I have lived in the hope Ambisonics would find its place in time, and give a better choice of recordings to buy. It's just a great pity it was not promoted well, and has languished somewhat since its invention. The pieces in Hi-Fi World help raise the profile of Ambisonics again, but they need one or two important corrections.

Ambisonic music recordings are indeed relatively few and far between, but virtually all Nimbus Records CDs are in Ambisonic UHJ format, and other small labels produce some. Nimbus range of material is a bit limited - mainly classical and 'World Music', but there is no reason other labels should not use the technique; UHJ is, after all, fully compatible with stereo by design.

For ordinary stereo reproduction, one of the great advantages of Ambisonic UHJ recordings is their ability, due in part to there being much smaller direction- related phase errors than in stereo recordings, to give a front sound image that is slightly wider than the outer edges of the loudspeakers, and a more stable one. There have been a few non-classical recordings, too. For example, Tina Turner - Break Every Rule (first 6 tracks), though I'm not altogether surprised this album on its own did not recommend Ambisonics to everyone.

The interesting point that a 5.1 channel system can be used to convey an Ambisonically encoded soundfield delays would cause the soundfield to be improperly generated, as the carefully reconstructed output from all 4, 5, 6, 7 or more speakers would not combine properly to generate the sound field.

The last point is that one does not have to sit at the centre of the speaker array; the soundfield is consistent throughout most of the listening space, thus allowing perspective to be maintained while a listener moves about the room. However, the more speakers are used, reducing the 'nearest-speaker' dominance effect (all too obvious in stereo), the better. A search on the Web will turn up quite a bit of information about Ambisonics - theory and application - so have a look.

Steve, Dartford, Kent

Music Fidelity A3 - sweetness and light.

FAVOUR FOR A FAVOUR?

I have been an avid reader for a number of years. I particularly appreciate your commitment to vintage hi-fi, and I applaud David Price’s willingness to test old Japanese gear. This is a refreshing approach, and a challenge to the "Quad, Leak and Tannoy is best" approach of many in the vintage hi-fi scene.

A few suggestions for your "Olde World" section. Firstly, it would be a great resource for readers if some of the reviews of vintage gear could be condensed into a Buyers Guide, or if the "World Classics" section could be expanded to include this information.

Secondly, could we have a feature on Goodmans drivers from the 50s / 60s? I use a pair of Goodmans Axiom 301s, which although fat and warm, are also absurdly sensitive - my 3W single-ended amplifier can drive them to levels which "disturb the peace" in our neighbourhood! Many Goodmans drivers are fetching hefty prices on eBay...
3 years of proven reliability. 2 years guarantee.

Shop prices are expensive because of rent, rates, wages, etc. Buy direct & save £££.

Price is not a guarantee of sound quality. We have signed testimonials to prove that customers prefer our amplifiers to £8,000 preamp + 320 watts power amplifier, £4,000 pre/power amp & power supply, £2,600 pre/power amp & power supply, £1,400 well reviewed 150 watts amplifier.

Money back guarantee (less £30 UK or £100 overseas) that you prefer:
- £1,000 or £1,450 "KT88 Triode Connection" amplifiers to most transistor amplifiers, most transistor / valve hybrid amplifiers, most Single Ended valve amplifiers, most Ultra Linear valve amplifiers selling for £2,000 to £20,000
- £2,500 or £1,800 "10 inch High End" speakers + our £1,450 amplifiers to overpriced pretentious £100,000 systems (at realistic life-size volume)
- £700 EL34 valve amplifiers (40 watts + 40 watts) to most transistor amplifiers and transistor / valve hybrid amplifiers costing £1,000 to £2,000
- £500 EL34 valve amplifiers (40 watts + 40 watts) to most £700 amplifiers.
- £380 to £800 valve phono stages to most transistor phono stages.

Telephone 01634 268662 anytime or 01634 373410 for Mr Andrew Everard’s review in Gramophone Magazine and Summary of 21 testimonials from satisfied customers.

www.affordablevalvecompany.com

Amplifier shown without CE safety cage, to prove that these are genuine valve amplifiers. Customers must not remove CE safety cage.

Free UK delivery.
Subsidised £50 UPS delivery to other countries.

Even our "standard" transformers are 'One of the best music appreciation devices available.’
Jason Kennedy Hi-Fi Choice Summer 2002. EDITORS CHOICE

Full details on the P20 and other BorderPatrol amplifiers and power supplies can be found on line at www.borderpatrol.net

Tel/fax 00 44 (0)1273 276716
 e-mail bp@borderpatrol.net
 www.borderpatrol.net

The BorderPatrol P20

Cable performance breakthrough will make your system sing or your money back*.

Cables are vital to the performance of your Hi-Fi or AV system. If you want the very best then Wireworld cables are the only choice.

Interconnect cables from £16.97 to £1500 per 1m pair
Loudspeaker cables from £2.97/m to £1500/m
Optical cables from £49.97/m. Video & Digital cables from £19.97/m

Wireworld cables outperform all others due to their unique Symmetricoax patented construction. This circular configuration distributes the electromagnetic field of the music signal evenly throughout the conductor to produce the highest fidelity of any cable design.

Free Cable Comparator CD

Wireworld cables offer the only objective demonstration of the breakthrough performance of Wireworld cables. The CD also includes comprehensive data on various other brands of cables and a full Wireworld catalogue to view on your PC.

Tel: 020-8991 9200
Fax: 020-8997 4060
Email: info@wireworldaudio.co.uk
www.wireworldaudio.co.uk

*7 days money back guarantee programme
at the moment - it would be interesting to review some of these lovely old 'speakers.

Thirdly, it would be great to see a feature on the Japanese hi-fi company Luxman. They have made some very special valve and solid state amplifiers, as well as a number of direct drive turntables that are worthy of note.

Now that I have finished telling you what to do, you can return the favour! I have a vintage set-up comprising the aforementioned Goodmans 'speakers (Axiom 301s, Goodmans tweeters) and SE amplifier, as well as a Thorens TD-124 mkII SME 3012 with a home-brew, tweaked phono stage. Like many, I bought the Thorens second hand - fitted with a Shure V1-5 II cartridge, which provided a number of years of great service before I had to finally put it to rest. I have since been using an Ortofon OM-30 which although detailed enough, seems quite thin and generally does not really live up to the grandeur of the old V15.

I come to my question: what modern cartridge would suit my Thorens I 24 / SME 3012 combination? I realise that given the dated arm it is probably pointless spending lots of money. What do you recommend?

Dinesh Wadiwel
Sydney, Australia.

Ideally, with the low mass SME3012 you should use a high compliance cartridge - and there aren't so many around these days. However, a Goldring 1042 will work well enough, tracking at about 1-6gms. Alternatively, you may well be able to buy a V15 VxMR which Shure claim can track down to 1gm. This is a great cartridge, one of the best modern MM systems in my experience. NK

K KLASS
I've bought a pair of Cerwin Vega (VS150) series 'speakers which are 400W each. The problem is that I need a powerful amplifier which will run these monsters! I'm always playing vinyl, so a phono stage is very important. I've been advised to buy mono amps to run these speakers to get the best sound out of them. Will a good valve amp do the business? The music I play is heavy stuff - dub/ reggae music, so please help a confused chap who doesn't know which amplifier will bring joy to my sound!

"K"

The spec. says from 5 watts minimum, 400 watts maximum. Cerwin Vegas are very efficient, but for reasons known to themselves - I suspect to appeal to their perceived audience who have spent too long with their heads stuck in bass bins - they like to quote enormous maximum power figures. The power handling of a loudspeaker tells you only at what level it will either mechanically disintegrate or - more likely - burn out and the 400 watt figure is of academic interest. Having three drivers and a huge 15in bass unit (!) doubtless the VS150 will absorb 400W peaks, but the real feature of interest is its quoted sensitivity figure of 102dB at 1meter from just one watt! This is enormous sensitivity and having measured CVs in the past I know it is likely true. Large speakers like this do tend to be sensitive, which means they go very loud with little power.

A 40 watt valve amp should do the business all right with these 'speakers so you could choose any 40watt valve amp. I would shamelessly recommend our own KEL80 monoblock power amp kits that give 80watts apiece, which at £649 a pair will give you all the pumping dub bass you crave. And we have a valve pre-amp and valve phono stage too. Have fun. NK

SUB SPEAK
I have inherited a pair of KEF C-75 loudspeakers. Like many renderers, this makes it my second - or is it third - pair of spare 'speakers! That's prosperity! I also have a good Quad 303 amplifier lying idle. I have just upgraded to a 5.1 set-up, but still need a good subwoofer. So I wonder if I can make a subwoofer from one ( or both) of the C-75s, by omitting the internal KEF crossover and by using an active (Maplin?) crossover, together with the 303 power amp? Or would you advise a more modern power amplifier?

Bep Peters
Rotterdam, Holland

Yes, you could do something like this but without acoustically dimensioning the enclosure to the bass units, using their Thiele-Small parameters, the outcome is unlikely to be very successful! At best you'll just get a booming sound I suspect. If you have a 33 preamp then the Quads are museum pieces worth preserving, or perhaps selling.

A lot of subwoofers are pretty poor, booming badly around 40Hz. Only the REL range offer real sub-bass down to 10Hz or so, with real control over output so you get decent quality. There is quite a lot to the art of producing well controlled subsonics so I would tend to avoid casual DIY if you are serious. NK
ON THE SLOPE

Read with interest May's mag but was rather surprised by David Price's comments on the Yamaha TC800 cassette. Although the styling of this machine was somewhat unique, with the exception of perhaps Akai's similar looking model, you could never say it produced great recordings. I recently had one in my workshop and found that the mechanism was not up to the high standards set at the time by the likes of Akai or Sharp for example. The cassette hubs bend on the chassis, the idler assemblies are weak and generally poorly made. Compare this with an Akai of a similar age and you will find that the latter is easier to repair and will sonically out perform the Yami. The Yamaha is rather a mess internally, and the slide controls do no one any favours - and why would you ever want a pitch control?

The best machine of its time was probably from the Akai GX series because of its incredible glass crystal head which gave it a longevity in producing tapes that most other decks just couldn't match. A year in the life of an Akai would generally see its head worn out and it ending in the bin. Indeed, a well set up GX38 or 325 or even the GXC730 would still be my choice as I know that they will produce something predictable! If you want a peak lead then the Akai C5707 had one for +7db and I used one of these with the better GX38 head for 20 years producing recordings of live music and copies for the cor.

Of course, you didn't raise the issue of incompatibility due to the changes in equalisation that occurred mid 80s which means that all old cassette decks sound pretty bad with all recent pre recorded tapes. Most old cassette decks really are not worth reparing as spares are generally unavailable, even for 5 year old machines, and the results can be less than worthwhile. Add to this the cost and man hours involved and you have to consider a pretty up market cassette before it becomes a viable option. Nak's, the top of the range Pioneers, Akai GX95D or GX325D, etc are worth it. Otherwise save your cash!

Dave Tutt

I think you'll find the likes of the Akai followed on just a little later than the Yamaha, but I take your point – it was no Nakamichi Tri-Tracer. My point was really that the TC-800GL offered fine sound (by the admittedly middling standards of the day), brilliant design and ergonomics, and flexibility too (how many other high end decks do you know that could be used with batteries?) I'd agree that most cassette decks are just trouble waiting to happen, but not all. Expect another exclusive Hi-Fi World exposition some time soon! DP

HOW MUCH?

I was wondering if you could help me? I have a pair of mint Leak TL12+ amplifiers and a reasonably good modern pre amp to go with them. I inherited them from my father a couple of years back and have recently made the reluctant decision to sell them due to financial difficulties. The only problem is that I don't know how much they're worth! When we bought them we also bought a pair of Leak 2075 speakers off the same guy and I think the total price was around the 700 mark, although I get the impression that the amps were worth somewhere near 500? I don't really have a clue, so any help would be much appreciated!

Robin Horn
BinwoB@hotmail.com

A pair of Leak TL12+ amplifiers in nice original condition will sell for round about the £350 - £400 mark at best, less if not in very nice cosmetic condition. You could always try for £500 and take offers! HB

ALL CHANGE?

As a reader of many years I have always followed the letters page with particular interest. I thought I'd drop you a line and seek your advice on my current system which has evolved over many years to reach its current state.

The line-up is: Thorens TD160B / SME3009 / Linn KS, Arcam Alpha One CD, Scan SC2000 DVD, Pioneer F91 tuner, Acoustic Solutions SPI 10 DAB tuner, LG AC959NI Video & PACE freeview,Yamaha XX200 cassette, NAD PP1 phono stage, Rotel RC970BX preamp, QUAD 405-1 power and Acoustic Energy Aegis Evo3 floorstanders.

Primary sources are CD and radio with occasional vinyl playback and video DVD audio playback. Generally, the sound is enjoyable but perhaps lacking some sophistication. However, despite some good kit (?) this setup just doesn't make me want to listen for hours on end. I really like the speakers and, having bought them last year, would be loath to change them. The SPI 10 DAB is most impressive for the price and, on first listening, it makes the F91 almost redundant. I generally listen to BBC radio (4, 7 and occasionally 1) and never use MW and LW. Should I be a true early adopter and dump analogue now?

I know that the 405 is old but it's still going strong; I've rehoused it with a chuckler power supply and I'm about to make various mods which will bring it up to 405-II spec and a little bit beyond. This should bring up the sound a little; I also have the option to build another 405-II which could also be put in to service. Would there be any great benefit in bi-amping the EVO3s? Or running the Quads in bridged mode (180W per channel seems a bit extreme for domestic use!). The preamp is nice and simple but lacking in inputs and r/c which would be a nice luxury. Maybe there should be a radical change on the amp front? I like pre-power amps but would an integrated be the way to go?

The vinyl side of things could probably be improved as well. I've rebuilt the deck with Linn springs, mat, KS and an MDF base with Sorbothane isolating feet. I'm not sure that the arm bearings are all that great so not really sure what to do next. What would this compare to in today's market?

The Alpha One still sounds okay, but I imagine that things have moved on since 1996 when I bought this machine - I wondered about something like the Philips DVD963SA? Music tastes are varied - from lighter classical to the likes of Massive Attack, Steve Winwood, Robert Palmer, Macy Gray, etc. Any suggestions appreciated - perhaps a £500 nominal budget with part exchange of spares kit on top of this?

Ben Bristow
London

WoW — what a lot of gear you've got! Frankly, you've amassed a lot of middling stuff which could usefully be distilled down to just a few choice bits of new kit. The good news is that you can probably get nearly £1,000 if you sell it all and start again. With a budget of £1,500 for example, your vinyl front end could be improved with a Michell Tecnodec/TecnoArm (with an Audio Technica AT110E to tide you over), your Scan and Arcam replaced by the Philips DVD963SA and your pre-power transformed by a Cyrus B integrated.

When funds permit, get some serious cable (like Chord Company's Odyssey II), a Cyrus PSX-R and the latest Trichord Dino phono stage. This would give you a far tighter and more incisive sound, that offers bags
more detail and real smoothness. 
You'll be thinking about the music 
you're playing, rather than what bit 
you need to solder into your Quads 
next... It would also look good too, 
and the pictures you'll get from the 
Philips (compared to your Scan 
DVD) will amaze... DP

Quad quietly confided to me a long 
time ago that, indeed, the capacitors 
inside the 405 could usefully be 
changed to something better. This 
was their first admission that passive 
components do affect sound quality 
and it explains why the original 405 
was a bit dismal sound quality wise.
As David notes, you have a lot of 'so-
so' items, like the 405s, and could do 
with refining many areas, in the way 
David suggests. I worry only that you 
think DAB betters VHF/FM — it may 
just be that your F9I needs a decent 
aerial. NK

Tidy things up with one modern 
quality amplifier like the Cyrus 8.

REMEMBERING QUAD
Interesting as I found your piece on 
surround, are all you guys at World 
Towers too young to remember the 
industry's "been there, done that" about 
three decades ago, and there have been at 
least five systems of "surround-sound" 
prior to the present DVD and SACD 
systems? They were of course all 
completely non-compatible and the 
public's interest was virtually zero. And 
as for 2 channel because that was what 
the LP could handle, with JVC's CD-4 
"discrete" system the old vinyl disc did 
accommodate 4 channels using a 
carrier frequency system which took the 
response of the LP up to almost 50kHz 
(a special cartridge was of course 
required). Records for this system were 
issued by JVC & RCA. Meanwhile the 
"matrix encoded" systems took the 4 
channels down to 2 on the LP. The 
Sansui (what happened to them?) QS system was used by Pye records but the 
Sony/CBS SQ system saw the most discs 
as it was adopted by EMI who for a 
short time issued most new classical LPs 
in "compatible stereo / quadraphonic" 
format. There were though some 
complaints that when played in normal 
mono there was some blurring of the 
audio image. I have a few but have 
ever heard them played quadraphon-
ically.
As for your comment that stereo 
was in 1965 "instruments being panned 
all over the place", I must totally 
disagree. The best ever engineered 
classical recordings ever made were 
already taped by 1965 and as early as 
1954 RCA in the USA and Decca in 
Switzerland were making analogue 
A/V mini speakers coupled to an 
awful subwoofer. However, 
Quadraphony seventies style did 
raise some interesting issues about 
how surround-sound should be 
recorded and replayed (see our next 
letter) that are alive today and just as 
relevant.
You do need a TV to view the 
menus from a DVD-Audio player, but 
televions are available at very rea-
sonable prices from your local ware-
house, although you will need a car 
to get there. To avoid all this faffing 
around you could alternatively try 
SACD which does not require televi-
sion. Only one button has to be 
pressed — and you've got to admit, 
this is easier than winding up the 
gramophone, assuming that is, elec-
tricity has reached your area. NK

Just to add that, if you place a DVD-
A disc in the tray and hit the play 
button on any of the latest DVD-A 
machines, it should auto-play without 
the need for any TV-based menu. 
Not all DVD-A titles offer this — 
some earlier titles didn't — but any 
new release should give you this 
facility without having to buy a telly!
DP

In 1972, when Led Zeppelin were appearing in stereo 
on the Atlantic label, S. Arima and his Misty Sounds 
were released in CD-4 quadraphonic by JVC.
True to form, Cambridge Audio has entered the ‘advanced resolution’ digital market with a bang, as the new DVD 57 DVD-Audio player offers apparently excellent value at a piffling £199.95. David Price listens in, and looks at the Cambridge Audio story so far...

The name goes back to 1968, when a team of young engineers set out to make products offering superb sound at a keen price, using the (then) recently introduced solid-state transistor technology. Warp forward thirty five years, and today's Cambridge Audio is an altogether different beast, owned by Richer Sounds’ Audio Partnership and manufacturing its products in China. Yet few would argue that its original credo has changed. The company has recently produced several corking sounding CD players (such as the CD4SE) and come up with a brilliant value Digital Radio tuner in the shape of the DAB300. It now hopes that the DVD57 you see before you will repeat the formula, but with shiny, new ‘advanced resolution digital audio’.

Pricing a digital disc spinner that plays CD, DVD-Audio and DVD video alike at a mere £199.95 is a bold, almost audacious move. It's true that there are a handful of Japanese DVD-A spinners (like Toshiba's £300 SD520E) which (although not originally priced this low) have been discounted dramatically, but the DVD57 sells for less still. To me at least, this looks like a declaration of intent from Audio Partnership that they won't give anything away in terms of 'value for money' in the new DVD market. They seem keen (in the extreme) to repeat the 'bargain basement audiophile' formula once more.

The new 50 series of DVD players comprises three machines, all housed in an identical 420x266x45mm enclosure complete with brushed aluminium front panel. The entry level DVD52 (£120) is the baby of the range, being a conventional DVD player, while the DVD54 adds progressive scan video to the feature list for an additional £30. The top of the range DVD57 adds DVD-A playback to the specification. All these low, low prices are claimed to be the result of working closely with chipset manufacturers, plus (I imagine) economies of scale - the company unsurprisingly expects to shift lots of these boxes!

The machine is a sleek looking bit of kit, considering its 'poverty pricing'. An obvious move away from the existing D series CD players, whose styling isn't so much functional as austere, its visual feel is fresh, modern and crisp. The 'trademark' raised corporate logo is retained, but looks altogether more integrated with the soft, slim lines of channel audio DAC. This gives the usual 16/44 CD playback, plus 24/96 from standard DVDs, 24/96 with MLP from DVD-A and the full 24/192 that DVD-Audio is (sometimes) capable of. The player is also an extremely well specified DVD video player, thanks to its six 54MHz/12bit video DACs, which support both NTSC and PAL progressive scan. Whereas conventional DVDs create the picture by drawing half the screen lines every frame (one for even-numbered lines and one for odd numbered lines) and interlacing them 20-30 times per second, progressive scan DVD players scan from top-to-bottom in one pass. This gives 50 full screen lines per second, which makes for far better resolution and lower flicker.

The machine is a sleek looking bit of kit, considering its 'poverty pricing'. An obvious move away from the existing D series CD players, whose styling isn't so much functional as austere, its visual feel is fresh, modern and crisp. The 'trademark' raised corporate logo is retained, but looks altogether more integrated with the soft, slim lines of...
the front panel, complete with a swage running about one third of the way up the fascia. At under £200, you’re not going to get Krell construction quality, so the case’s light (2.5kg) weight is no surprise. It doesn’t feel expensive – as you’d expect – but nor does it feel as flimsy as the likes of the aforementioned Toshiba.

Round the back lie RCA phono sockets for 5.1 channel analogue audio outs, plus a stereo pair for downmixed 2 channel stereo. There’s also a choice of coaxial and optical digital outputs, plus composite, S-video, SCART and component video outs.

**SOUND QUALITY**

When reviewing something like this, it’s important to remember the context and not give a misleading impression. Because it is also a DVD player, in hi-fi terms it should really be compared to a CD player selling for under £100 – which should put it on the very edge of the term ‘hi-fi.’

The fact that the DVD57 is so very close to the edge of the term ‘hi-fi’ makes it worthy of respect – I was certainly impressed. Because it is also a DVD player, in hi-fi terms it should really be compared to a CD player selling for under £100 – which should put it on the very edge of the term ‘hi-fi.’

Still, its CD performance is dramatically down on its DS005E CD player, which it barely matches in terms of what it’s capable of. It’s a question of making the most of what it is, which it does with great aplomb. I was certainly pleasantly surprised by its sonics.

Still, its CD performance is dramatically down on its DS005E CD player, which it barely matches in terms of what it’s capable of. It’s a question of making the most of what it is, which it does with great aplomb. I was certainly pleasantly surprised by its sonics.

First, a word about setting up. This machine has a pronounced treble peak above 10kHz, with a lift of nearly +1dB up top. The result is that it sounds forward with DVD-Audio discs, which is itself already a bright sounding format (subjectively, at least), and I lavished an expensive pair of LFD SpiroLink 3 interconnects on it. The result was that things settled down to sound and took down the treble (subjectively, at least)

I started off with a CD pressing of 4hero’s Escape That, whereupon the DVD57 proved itself to be able enough at the price. The sound was very bubbly and bouncy, with oodles of speed and drive. Attack transients were excellent, and the machine sped through the song with heady abandon. Despite its bright tone, female voices were actually quite smooth, which suggests low distortion, and there was a decent degree of depth too. Bass was light, tight and very fast on its feet. Midband was brightly lit, explicit and reasonably well detailed, treble a tad rough and ready.

Compared to the DS005E CD player, the DVD57 sounds lightweight and perfunctory in sixteen bit mode. Its treble is splashy and lacking in atmosphere, its midband two-dimensional and bass light. In a sense, this is an unfair comparison, because the DS005E is a bespoke ‘budget audiophile’ separate, whereas the DVD57 does not pretend to be so. The irony of the rich, creamy tonality of the DS005E was missed most, however – proof that while well engineered DVD-based budget players can do the CD business, they don’t sit well with any real degree of elan.

In video mode, the DVD57 was very impressive – its pictures are as good as many £350 machines, and it does Dolby Digital soundtracks as good as any entry level Sony or Pioneer, but for noticeably less money. Its vision is stable and flicker-free, with reasonably good colour definition and no niggles on image edges. It’s light years ahead of any of those cheapo £200 machines you could buy in supermarkets a couple of years back. As such, the Cambridge makes a great case for itself as a ‘first serious DVD player’.

As a DVD-A player, how then does it sound? Well, by the standards of its price rivals, superb. Compared to Toshiba’s SD520E (admittedly a few quid more expensive), it’s a charismatic performer with an intrinsically musical nature. Donald Fagen’s New Frontier was great fun; superb attack transients and a surprisingly firm, taut and athletic bass made it well up to capturing the song’s full glory. I got a real sense of the players’ superb musicianship, fine syncopation and instinctive feel for one another, not to mention the brilliant production by Walker Becker. That walking baseline, powerful rock drumming, plaintive, minor-key keyboard work and those wonderfully jazzy guitar licks were there in sharp relief. I kept getting the feeling that thanks to DVD-A, a new level of fidelity is now available to buyers on a budget. It wasn’t all ‘shock and awe’ however. Hi-hat
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 Kec182 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 8 Watts. 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 Kec182 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 Kec182 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-by-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 Kec182 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**

<table>
<thead>
<tr>
<th>Frequency response</th>
<th>+/-3dB 15Hz - 75kHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power output</td>
<td>8 watts into an 8 ohm load</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>850mV (suitable for CD)</td>
</tr>
<tr>
<td>Hum</td>
<td>0.5mV</td>
</tr>
</tbody>
</table>

The Kec182 amplifier kit is available from World Audio Design
Tel/fax: 00 44 (0) 1908 218836 or order on-line at www.worldaudiodesign.co.uk

Kec182 amplifier kit (UK price) £195.00 (inc. vat & carriage)
Kec182 amplifier kit (EU price) £195.00 (inc. vat, exc. carriage)
Kec182 amplifier kit (Overseas price) £170.00 (exc. carriage)
cymbals were disappointingly splashy, although it at least they weren't fuzzy like CD.

Neil Young's Heart of Gold (at 24bit, 192kHz) actually coaxed some grumbling bass out of the Cambridge, showing that given a smooth seventies analogue recording, it can sound far bigger, better bodied and weightier than any similarly priced sixteen bit machine. That famously nasal voice was surprisingly smooth, and the harmonica was bright and metallic but not as grating as I'd previously feared. Interestingly, the DVD57 even proved well able to summon up a deep and capacious stereo soundstage at this high resolution. Young's voice hung surprisingly far back in the mix, yet was crystal clear and precisely located in space — another trick sixteen bit can't do. Acoustic piano had a beautifully full-bodied tone, rich and resonant in a way that CD simply can't manage either. At maximum resolution, drums and cymbals became far smoother, the DVD57 displaying a fine degree of finesse for something that sounded so splashy at lower resolution. Old Man was a joy, in no small part due to the vibrant, full bodied sound of Young's acoustic guitar. The plodding bass line sounded as gritty as any self respecting early seventies tube amp should.

So there you have it. As a DVD video player the Cambridge Audio DVD57 is impressive, but as a CD player it is a tad forward and thin — albeit plenty of fun. It is only when you feed it a DVD-Audio disc that things get special. While never losing its forward, eager nature, it's capable of surprisingly fine sound with 24/96 discs, and positively shines with 24/192. Properly fettled and matched to an appropriately smooth budget system, this machine will give you a tremendous bang for your buck. As with many Cambridge Audio classics, it offers blistering value for money.

Cambridge DVD57 £199.95
Audio Partnership
Tel: +44 (0)20 7940 2200
www.cambridgeaudio.co.uk

MEASURED PERFORMANCE

With CD, frequency response reached a high 21.9kHz, largely because this player has a pronounced rise in treble output above 10kHz. A maximum lift of nearly +1dB is enough to be audible with bright sounding CDs, which may become a little fierce. Generally though this sort of effect adds some 'spice' to sibilants.

Distortion was low enough all the same and in practice the Cambridge will sound clean enough as a result. Although there was less channel separation than usual it was still sufficient and noise was very low. With normal output and good measured (EIAJ) dynamic range, the DVD57 works well as a CD player.

With 24/96 DVD distortion levels fell considerably and

<table>
<thead>
<tr>
<th>Frequency response</th>
</tr>
</thead>
<tbody>
<tr>
<td>4Hz - 21.9Hz</td>
</tr>
</tbody>
</table>

Distortion

<table>
<thead>
<tr>
<th>Level (dB)</th>
<th>Distortion left</th>
<th>Distortion right</th>
</tr>
</thead>
<tbody>
<tr>
<td>-6dB</td>
<td>0.003</td>
<td>0.0035</td>
</tr>
<tr>
<td>-3dB</td>
<td>0.006</td>
<td>0.006</td>
</tr>
<tr>
<td>-6dB</td>
<td>0.54</td>
<td>0.5</td>
</tr>
<tr>
<td>-9dB dithered</td>
<td>4.5</td>
<td>4</td>
</tr>
</tbody>
</table>

Separation

<table>
<thead>
<tr>
<th>Frequency (Hz)</th>
<th>Separation left</th>
<th>Separation right</th>
</tr>
</thead>
<tbody>
<tr>
<td>1kHz</td>
<td>87</td>
<td>88</td>
</tr>
<tr>
<td>20kHz</td>
<td>60</td>
<td>61</td>
</tr>
</tbody>
</table>

Noise (IEC A)

<table>
<thead>
<tr>
<th>Frequency (Hz)</th>
<th>Noise (dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20kHz</td>
<td>-117dB</td>
</tr>
</tbody>
</table>

Dynamic range

<table>
<thead>
<tr>
<th>Frequency (Hz)</th>
<th>Dynamic range</th>
</tr>
</thead>
<tbody>
<tr>
<td>20kHz</td>
<td>105dB</td>
</tr>
</tbody>
</table>

Output

<table>
<thead>
<tr>
<th>Frequency (Hz)</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.2V</td>
<td></td>
</tr>
</tbody>
</table>

World Verdict

Quite how Cambridge Audio has squeezed such performance into this diminutive bargain-basement player is anybody's guess. Fast, furious and fun.
There's more to Heart Audio's Beat monoblock valve power amplifiers than their cunning, punning name - thinks Hi-Fi World's resident tube-meister Gary Devon.

These days, there's a wide variety of output valves to choose from when specifying an output stage. Apart from the NOS (new old stock) types around, various manufacturers across the globe have taken it upon themselves to recreate classic designs from the past. Considering single-ended triodes, there are the big boys like the 211 and 845 which are relatively easy to manufacture and give large power outputs, but require high voltage power supplies and large output transformers. This greatly raises the cost of the finished product unless severe, possibly unacceptable compromises are made in the design. And they produce prodigious quantities of heat, great during a northern European winter but awful in the summer or if you happen to live nearer the equator.

At the other end of the scale are valves like the 205, 45 and 2A3. Power supplies and output transformers for these are easier to design, but their three watts or less output power is too little for most loudspeakers.

This leaves the middle power triodes like the 300B, whose 10 odd watts of output power is sufficient for a wide range of speakers, and associated power supplies and transformers are reasonably sized and priced. This largely explains its wide use in today's single-ended triode amps, such as Heart Audio's Beat monoblocks you see before you.

Rather than the common formed steel or aluminium chassis construction, the Beats are constructed from milled billet side bars with thick, what appears to be stainless steel top and bottom plates which are solidly bolted on. The power transformer, smoothing choke and output transformer are mounted to the upper plate and topped off with chromed caps, giving the amps a traditional look but with a modern edge. Inside they are completely hard wired using a thick gauge common earth busbar, and the quality of workmanship inside reflects that on the outside. Speaker and input connectors are WBT by the look of them.

Internal componentry is of good quality using Philips (now BC Components) electrolytic capacitors and a Jensen paper-in-oil coupling cap. The valve lineup comprises a Russian 5U4 equivalent rectifier, a Russian 6SL7 equivalent pre/driver valve and what is at the moment one of the best 300Bs available, the Mesh Plate from Taiwan.

Using a valve rectifier (the 5U4) to convert AC from the power transformer into the DC required for the audio circuitry increases cost considerably. The power transformer needs to supply extra voltage and current to make up for the lower efficiency of valve rectification and there also needs to be an extra filament winding to supply the beastie. However valve rectification is considered the last word in purity when it comes to valve amplifiers. It delivers a far more refined and relaxed sound compared to solid-state rectification and is considered necessary for purists. I presume that the high impedance, high gain 6SL7 is being used in SRPP (Shunt Regulated Push Pull) mode or something similar (maybe a cathode follower) to drive the 300B. This allows one stage to provide all the gain, although with less bandwidth and out-and-out grunt of a driver stage using a valve like the 6SN7 or 5687.

It was apparent that the amps were somewhat insensitive, a result of the single gain stage. Not that this would be a problem with a preamp of sufficient output, and in fact it will probably be a benefit if you are using very high sensitivity speakers such as horns, but I think that passive preamps are out!

I started with some violin, as single-ended triodes tend to excel with this material. Firstly, something really pretty, Bach's concertos I and 2 by Milstein. The amps demonstrated their poise and delicacy with this deceptively complex music; it wafted from the speakers and floated around the room like dandelion seeds on a summer's afternoon. High frequencies were sweet and refined and the mid was exquisitely detailed.

Staying with the prettiness theme, I listened to Tchaikovsky's concerto by Milstein and then by Ferras. The
Russian's portrayal was characteristically refined and shimmering, with an underlying authority, the Frenchman's was more youthful in character possessing a more vibrant tone, the beats adeptly wove the recordings into a dainty lacework of sound.

I also listened to Dvorak's interpretation of the Czech folk tales "The Water Goblin" and "The noon Witch" conducted by Zdedek Chalabala, music that is actually quite light in nature belying the somewhat sinister and frightening nature of the stories - Czech children must experience dreadful nightmares! Here the orchestra was well portrayed in terms of front to rear depth and positioning of the instruments in space, there was however, a lack of mass to the sound due to a light bass. Similarly with Debussy's "La Mer" one could imagine the winds of a storm smashing the sea into white foam on the rocks, and even the cold, driving rain, but the thunder didn't shake the earth. Again, with Scriabin's "Poem of Ecstasy" conducted by Dimeri Mitropoulos, the Beats created a sense of power and drama in a spiritual rather than visceral sense.

With raucous rock tracks like Killing Joke's 'Slipstream or Intravenous' from the Extremities, Dirt and Various Repressed Emotions album, the little amps went louder than I expected, even driving the Quads. In fact, it was enough to bring about a visit from my neighbour at one point (2a.m. - oops, sorry!) However the sound was a tad too polite. It wasn't so much a case of loudness as I have stated, but a rounding of the sound due to roll-offs at extreme high and low frequencies, and a compression of macro dynamics. Although the stereo image and presentation of a rock band is usually a complete contrivance, it's still nice to feel the vocalist breathe in your face. The Beats didn't really want to play at this, and seemed to retreat into their shell.

With simpler acoustic music such as The Mediaeval Baebes, for example, the Beats came out of hiding and worked their magic again, demonstrating some synergy between them and the Heart CD6000. The attack, sustain, decay envelope of the dulcimer's struck strings was superbly defined. The girls' voices had a three dimensional quality with excellent delineation between singers. Frequency extremes weren't as well portrayed as the midrange, but that didn't detract too much from the performance - I think if you are listening to frequencies, you are missing the music.

I really liked the Heart Beats (geddit?), for they are very pretty to look at as well as to listen to. Silky, sweet and beguiling with a light and happy tone, when playing classical music or other well recorded acoustic music they excel with exquisite poise and balance. But just as you wouldn't ask a ballerina to lay bricks, don't expect them to kick out dance music or heavy metal.

Heart Audio Beat Monoblock £1,999
Real Hi-Fi
Tel: +44 (0)870 9096777
www.realhi-fi.com

MEASURED PERFORMANCE

The 300B triode valve in single-ended connection produces around 8watts and this is exactly what the Heart achieved. As expected, overload was smooth and the harmonic structure of distortion stayed nicely steady as this occurred, as it should with a good valve amp. The high frequency performance was little different to that in the midband, as is the case with a good, low feedback amplifier. The only unusual feature of the Heart is that at all levels and frequencies third harmonic distortion dominated, not second harmonic, as our analysis shows. This may give a slightly more incisive sound or a little sheen in comparison to rivals, but since Single-Ended Triodes (SETs) sound super easy and smooth in any case this will usually pass unnoticed.

Bandwidth was good, stretching from 20Hz up to 25kHz (-1dB) at low power. Full output was managed at 10kHz, but at 40Hz maximum power dropped to just 4watts. This will limit oomph.

Sensitivity was low so a pre-amp is needed.

The Hearts measure neatly and in line with what is expected from a 300B SET.

Power 8watts
CD/tuner/aux.
Frequency response 20Hz-25kHz
Noise -94dB
Distortion 0.04%
Sensitivity 1.5V
Sporting the company's bespoke Metal Matrix Polymer mid/bass drivers and Gold Dome C-CAM tweeters, Monitor Audio's B4 sure packs a lot punch for a budget loudspeaker, says David Price.

The late (and great) MA352 was less sophisticated a beast than the loudspeaker you see here. The B4 proves that to succeed with 'speakers, you can't stand still. The B4s get a pair of MA's MMP Mk2 6.5" mid/bass drivers, developed from the company's original Metal Matrix Polymer cone material using a high-pressure injection moulding process to achieve different thickness at critical points of the cone geometry. Unlike the doped paper or plastic cones used in many rival loudspeakers, it is stiff - but being metallised polypropylene rather than metal alone, is less prone to sounding 'shouty' (Acoustic Energy AE1 Mk1s, take a bow!) It's 'two and a half way' design - the lower unit handles bass only, down to a claimed 36Hz (see our measurements), while upper unit handles upper bass and midband right up to the 2.6kHz crossover point, whereupon the latest evolution of MA's C-CAM gold dome tweeter takes over.

The crossover sports high grade polypropylene film crossover capacitors and low distortion laminated core and air-core inductors. The 850x185x255mm cabinet boasts 'rigid construction' with multiple bracing positioned at critical resonance nodes. Interestingly, two bass ports are used, a small front baffle mounted affair and a larger rear port. This twin port system is claimed to enable maximum airflow at low frequencies, as well as reducing air pressure that can lead to bass compression effects. The rear port can be blocked with a foam bung to tailor the bass response, and both are coated with a rubbery substance which presumably is supposed to improve airflow? The instruction manual mentions that the cabs can be mass loaded, and also used with a plinth for a firmer support.

While the B4 looks very nice, and feels pretty substantial for the price, there were a couple of things on the review B4s that didn't impress. First, the floor mounted spikes didn't secure into the bases of the cabinets particularly easily, I'm not overly worried about this as if I were buying a pair then I'd specify the optional plinths, with would presumably circumvent this anyway, as well as providing a nice broad 'footprint' to support the speakers.

Second, the drive units themselves weren't bolted very tightly to the front baffle. I gave them all an extra turn or two and was rewarded with excellent results. I kicked off the listening with Zero 7's Simple Things, a brilliant slice of ambient/trip hop from a few summers ago. There's strong bass on this, but the MA3s proved well able to handle it even at very high levels — after I'd got them properly sited. The rear ports can sound a little boomy unless you pull the speakers well out into the room, or better still, stick foam bungs in them! For £350 loudspeakers, they sound very 'couth' indeed. There's no sense of having your senses assaulted, no feeling of needing to tread carefully with them because of their humble origins. They plugged straight into my reference system and after the prerequisite period of running in, stepped manfully into the space left by Perigee's sublime (£5,000) FK-I Ls.

Bass is warm and full. So much so that it's quite reminiscent of 1970s loudspeakers. It really doesn't sound like so many anaemic modern boxes – you can tell large amounts of air are being moved by the B4's sumptuous sound. The downside is that it can be overpowering and woolly, which is where the aforementioned fettling comes in — after I'd got them clamped to my floor
properly, things tightened up no end and there was a new sense of tunefulness to the sound.

Moving up the spectrum, the midband was surprisingly detailed, yet tonally warm and smooth. In a way, they reminded me of Mission's seminal 752 in this respect — there's grip and incision here, but also smoothness and a big, expansive nature. Don't expect a forward, shrill and analytical sound from these metal mothers!

Treble was the biggest surprise for me. Despite being a metal dome — which aren't generally famous for their smoothness — this one proved exceptionally well behaved.

In a phrase, the B4s are big smoothies — but not loose and overblown with it. There's a good deal of insight, as Pat Metheny's Bright Size Life proved, on ECM Records. The close miked guitars proved beguilingly musical, yet rich and sweet in tone. Against this was the cymbal work, panning right across the soundstage, showcasing the B4s' exceptional smoothness. There's definitely the 'alive' feeling you get from metal domes (thanks to the excellent attack transients), but there was very little — if any — tizz. I could sense that they've been rolled off a touch up top, so they do lack extension and sparkle, but the overall quality of the tweeters themselves is absolutely superb at the price. They integrate brilliantly with the mid/bass unit too — with everything from snare drums to female vocals having a surprisingly smooth, seamless nature. Allied to a deep and full bass, the overall effect was most impressive for £350!

Interestingly, the Monitor Audios image pretty well out of the box, too. They're not from the pin-point precision school of loudspeaker design, but create a large, widescreen, panoramic soundfield that fills rooms effortlessly, projecting forwards and behind the plane of the speakers. They're much like proper three-way in this respect — you don't get the sense of the music being 'squeezed out' of a couple of small apertures, as you do with most two-way designs. Speaking personally, I'm a big fan of three-ways, and don't subscribe to the 'less is more' school of thought in this respect. The B4s drove my listening room with a gusto that totally belied their budget status.

Rod Stewart's You Wear it Well showed that the MAs could boogie with the best of them. To their credit, the B4s avoided the temptation to add some boom-boom-boom to the track's lightweight bass — rather, the song got its swing from these speakers' fine grip and innate musicality. I was most surprised by the fine tonal quality of the fiddles, too — no grating or rough stuff from an instrument that can knock some far more expensive speakers off the scent. The MA’s warm, big-hearted nature really suited folksy, acoustic rock, but could they handle the real deal? AC/DC's Highway to Hell was duly placed on the turntable and the loud pedal pushed...! The opening riff and drum work caused a chill wind in my listening room — confirming that the reflex ports aren't simply handy hiding places for things you'd like to keep out of sight — and then the song kicked in a proper. These speakers' smoothness remained, but they're pretty tight and grippy too — with the result that a seriously good time was had.

I have to say that I'm impressed. In absolute terms, they're a tad dynamically compressed — but less so than practically any other £350 'speaker I've heard. And while they lack lightning-fast transients, they could never be called pedestrian. Only the slightly wayward bass is where they flounder against the best of the rest, but this can be mostly ameliorated by careful placement and bunging the rear bass ports. The fact remains that, from Bach's Brandenburg Concerto No.5 to ZZ Top's Gimme All Your Lovin', the B4s sound consistently musically engaging and fun. Give them a decent front end and they really get into the groove. They can drive largish rooms to highish levels and rattle floorboards — yet they're surprisingly smooth and couth too. Superb.

Monitor Audio B4 £350
Monitor Audio
Tel: +44 (0) 1268 740580
www.monitoraudio.co.uk

MEASURED PERFORMANCE

The MA B4 had a surprisingly flat frequency response, in contrast to the peaky nature of prior MAs. The noise test signal sounded unusually smooth and cohesive and the measured result reflects this perfectly, showing a loudspeaker flat from 40Hz up to 12kHz, with a slow roll off above this frequency to -6dB down at 20kHz. The large dome tweeter doesn't go high, but the trade off here is that it does go low, integrating well with the metal bass/midrange unit, on and off axis. Nicely damped bass from an effective porting system should give the B4 depth coupled with a good sense of control. Port output reaches down low to 20Hz or so.

Sensitivity was healthy at 87dB, from a system that measured out at 6ohms impedance. The bass unit is a 4ohm device, like most nowadays. The tweeter looks to be 4ohms too, the usual rise in voice coil reactance lifting overall impedance up from this low value. All the same, the B4 is a reasonable load.

The B4 is neatly engineered to give well balanced results and an accurate presentation. It should sound good. NK
Origin Live Tonearms Recreating the Original Sound

"There may be better value propositions around to upgrade your system but if there is I haven't heard them...I fully anticipate this product remaining at the heart of my system for many years to come. A fantastic product then from Origin Live and this particular audiophile dream review tool."

NTT Audio 2002 on Silver Tonearm

"The highest of recommendations for the Encounter tonearm: a new benchmark for musical communication, natural detail and timbral truth."

Paul Szabady, Stereo Times 2003 on Encounter Tonearm

"Brilliantly detailed yet utterly musical, this arm is set to join the all time greats. Wholeheartedly recommended."

Hi-Fi World 2003 on Illustrious Tonearm

Very occasionally new products appear that are so advanced as to render all previous benchmarks obsolete. People believe our new range of tonearms are just such products and we invite you to experience an unprecedented leap in your system performance - regardless of your tonearm. Arrange for an audition now.

All products carry a full no risk money back guarantee and are available via your nearest Origin Live dealer or by direct mail order.

Origin Live, Unit 5, 362b Spring Road, Sholing, Southampton, SO19 2PB
tel/fax: +44 (0) 2380 578877
www.originlive.com

Silver Tonearm £599
Encounter Tonearm £970
Illustrious Tonearm £1570
Illustrious Signature Tone £2500

Walrus Systems

11 New Quebec St, London W1

amazon
amphion
apollo furniture
argento
audible illusions
audio note
audio physic
avantgarde
breuer dynamic
brinkmann
carfrae
cartridge man
cawsey
chord electronics
clearaudio
croft
deca london
dnm
duevel
dynavector
ear yoshino
es lab
final lab
ganet
graham slee
hadcocks
incognito
kiimo
laverdin

loricraft
lyra
michell engineering
morch
musical fidelity
nordost
nottingham analogue
origin live
ortofon
papworth
phy cables
pink triangle
pluto
rega turntables
ringmat
shun mook
sme
spendor
stax
sugden
sumiko
tannoy
tci cables
tivoli audio
tom evans
townshend audio
transfiguration
trichord
van den hul
verdier

For info on these, and much more, including our numerous second-hand items, please visit our popular website: www.walrus.co.uk

* interest free credit available on most items, subject to status *

tel: 020 7724 7224
fax: 020 7724 4347
email: mail@walrus.co.uk
web: www.walrus.co.uk
After Linn's original Classik two channel CD receiver came the Classik Movie System 5.1 DVD version. Now, the new Di version has technology from new Unidisk 1.1 digital disc spinner. Could this be the best sounding 'one box' hi-fi system ever made, asks David Price?

Three years ago, Linn launched the first Classik, a one-box CD/tuner/amplifier retailing for £995. It sounded better than the budget separates it was competing directly with and went down a storm.

The Classik Movie System followed a year later, with 5.1 channel surround sound and a built-in DVD spinner for an additional £1,000. Although pricey, it maintained the 'value for money' theme of Linn's new Classik marque.

The series has now expanded to a range of Classiks, including the new Classik Movie System Di reviewed here. At £3,000 it is a 'not unconsiderable' £1,000 more expensive than the original CMS, and £2,000 more than the original CD system.

Linn argues that the mods are so significant that it warrants the considerable extra. It says that some of the technology from its forthcoming flagship Unidisk 1.1 disc player is used in the DVD/CD section, along with a new AM/FM tuner, uprated multi-channel power amplification and the facility for multi-room distributed audio.

Greater overall flexibility, plus surround sound decoding from external digital and analogue sources is also claimed. All well and good, but I still think it's a lot of dosh, and rather the edge of the 'keen value for money' theme that the original Classik Music System established...

There's no denying this machine's fine packaging. It is certainly in the mould of Japanese lifestyle systems, but nor does it feel like a £3,000 bit of kit, unless you're a believer in that old adage 'less is more'. The fascia eschews buttons, displays and flashing lights for a Spartan list of all the buttons you'll need. It's a pretty light machine, but this is down to the tiny surface-mount componentry and switch mode power supply, rather than flimsy construction quality. The left mounted controls take care of disc transport, source and volume selection, and the right handle DVD menu, setup and track selection options. The blue fluorescent alphanumeric display is a classy affair, and is a good complement to the on-screen display which handles the crisp, easy-to-use set-up menus. This feels like the small, chic and sleek machine it is - but then so it should at this price! For those who seek a colourful life, there's a range of hues to choose from, including silver, black, Koral Blue and Baltik Green.

SOUND QUALITY

The Classik CMS Di will of course spend much of its time playing DVD movies in Dolby Digital 5.1 surround sound. However, as far as I'm concerned, it lives or dies by how it plays good old fashioned Compact Disc. To be brutally frank, a £500 Denon 'lifestyle' system will play movies decently enough, but its 'legacy audio' capability will be only adequate. The Classik, to warrant its stratospheric price tag, has to do this dramatically better. Fortunately for both Linn and its customers, it does.

I kicked off the listening with 808 State's Pacific 707, an 'old skool' slice of techno music from way back in 1989. It's a multi-layered and muddy affair, and frankly comes over very poorly with most CD spinners under £1,000. The tracks myriad instruments - mostly electronic - seem to get buried in one big grey gloop. Only when you get into serious CD spinner territory (or analogue of Rega Planar 2 ability or higher), do things unfold to reveal an intriguing mix of sounds from here, there and everywhere.

The CMS Di cut through it like a hot knife through butter. Rather than the fuzzy mess than every other one-box system I've ever heard has made of this song, here we had a mass of sounds playing together independently, cohesively and beguilingly. That big, fat Moog bass sounded just so, modulating up and down the scale with carefree insouciance, showing off the Linn's brilliantly musical nature.

Moving to the midband, and
Opera SuperPavarotti MkII £1150/pair

Opera's loudspeakers constantly delight both the ear and the eye. This latest floorstander uses high quality drive units to deliver a high class sound from a beautifully crafted, elegant hardwood cabinet.

Unison Research Unico CD Player £1095

This new player employs a valve amplification stage in combination with a CD-Rom mechanism and advanced microprocessor control for supreme performance.

Audio Analogue Maestro CD Player £1600

Featuring 24bit/96kHz upsampling, high quality audiophile components and impeccable build quality, the Maestro is a truly musical performer.

Triangle Magellan £20000/pair

The Magellan is the new statement loudspeaker from Triangle. Five years of development have produced a true high-end reference design whose performance simply astounds.

For more information on UKD products contact us or visit our website

23 Richings Way, Iver, Bucks, SL0 9DA, England
Tel: 01753 652 669  info@ukd.co.uk

www.ukd.co.uk
there was a multi-layered mix from which masses of fine detailing came out. Electric bird warbles, synthesised rim-shots, wonderfully warm and expansive Roland JP4 synth pads could be heard. Up top, that classic TR707 drum machine hi-hats looped along, sounding even smoother and sweeter than they should. Impressive stuff – for a DVD player!

Moving to more conventionally recorded music in the shape of Herbie Mann’s rendition of that old jazz standard, ‘Summer Time’, and the Linn showed itself to be a seriously couth and cultivated performer. Spacious, with a great sense of depth perspective and fine image articulation, it displayed a fine command of the recording’s ‘technical’ aspects, but once again impressed with its emotional impact. Linn, however, let all of its dramatic, epic soundstaging shine through; tight, taut bass, soaring guitar histrionics, wonderfully louche and laid back hi-hat and snare drum work all counterpointing the visuals brilliantly. Its surround soundstaging was superb, with crisp, cutting dialogue to match Richard E. Grant’s on-screen barbs.

Action movies are where it flounders, simply because put against your average £3,000 AV system, it lacks sheer brute force and firepower. Sound effects – sadly - rely more on muscle than finesse for impact, and here it simply can’t compete with Japanese multichannel powerhouses with literally kilowatts at their disposal. As a result, explosions, earthquakes, gunshots and the like aren’t carried as well. Its pictures are excellent nonetheless, but this new Di version is a whopping fifty percent more expensive than the original, and at three grand it is only good in absolute terms. You get crisp, stable and well defined video, but it doesn’t offer the breath-taking definition and colour depth that a good £1,500 DVD video machine is capable of. Put against equivalently priced separates and once again the Classik struggles to match their performance.

Another quibble is the tuner, which sounds clean enough but can be a tad tonally forward.

The new Classik Di is a beautifully designed and built product, one that’s superb with music and a seriously good movie machine to boot. It improves noticeably – but not staggeringly – on the original. But the trouble is that I just don’t think it offers the value for money of either of its two previous incarnations. It’s probably the best performing one-box multichannel machine on the market, but at £3,000 so it jolly well should be!

Linn Classik Movie System Di £2,995
Linn Products Ltd.
Tel: +44 (0)500 888909
www.classik.com

MEASURED PERFORMANCE

The Classik delivers 40watts per channel into 8ohms and 72watts into 4ohms, its five channels can deliver 350watts total, enough to produce healthy sound levels in a room.

This sample, like an earlier one, lacked subsonic extension to the main channel response, output falling away below 22Hz – unusual for a modern amplifier. However, providing a subwoofer is used this will go unnoticed. The upper response limit was a sensible 50kHz (-1dB).

Although distortion levels look a bit higher than normal at 0.1% or so (10kHz), the Classik produces only second harmonic – indetectable at these levels. It will sound clean and smooth – and certainly not bright or hard.

Playing CD, the DVD player has noticeable plateau lift in output below 1kHz – enough to give its sound subtle added warmth and body. The VHF/FM tuner has a treble lift of +3dB at 10kHz, again as in the earlier sample, and will sound bright as a result, quite unlike the CD player.

The Classik is a small A/V unit that measures well enough.

NK

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>40watts</td>
</tr>
<tr>
<td>Frequency response</td>
<td>22Hz-50kHz</td>
</tr>
<tr>
<td>Separation</td>
<td>78dB</td>
</tr>
<tr>
<td>Noise</td>
<td>92dB</td>
</tr>
<tr>
<td>Distortion</td>
<td>0.04%</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>mV</td>
</tr>
<tr>
<td>dc offset</td>
<td>1mV</td>
</tr>
</tbody>
</table>

World Verdict

Superb ergonomics and performance from this one-box beauty, but now offers questionable value for money.

www.hi-fiworld.co.uk  JULY 2003 HI-FI WORLD & COMPUTER AUDIO
KECL82 VALVE AMPLIFIER KIT

The KECL82 is our latest introduction for the true beginner and designed by Andy Grove. A simple and elegant design based on the classic ECL82 valve, a triode and power pentode sharing the same glass envelope. The amplifier consists of two ECL82s per channel, the triode sections work as the input/phase splitter and the pentode sections work in push-pull for the output stage. The amplifier offers 8 watts into an 8 ohm load, the hum level is extremely low, comparison to solid state standards. The chassis is constructed of 1.6mm mild steel with a black powder coat finish, there is only one signal input pair controlled at the front by a volume control for that simple touch. The speaker connects are the standard 4mm banana type, positioned at the rear, as are the mains input which is received through an IEC lead, mains switch and earth post. We have made the construction as simple as is humanly possible with comprehensive instructions. The circuitry is based on a single printed circuit board. Ultimately this kit is for the guy who has always fancied a go at building a kit, but never dared. Simon Pope says, "It's a great introduction to the valve sound. For it's humble price it delivers a full and rich sound with great detail and good depth." KECL82 weighs 9kg. External dimensions are 30cm(w) x 23.5cm(d) x 11cm(h).

NEW KIT

KECL82

£195


KIT6550 VALVE INTEGRATED AMPLIFIER KIT & KAT6550 VALVE POWER AMPLIFIER KIT

These are our new 6550 series amplifiers. A pure class A design providing 40 watts into an 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. Weights 19kg. External dimensions are 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".

£615

£580

£298

£570

2A3 PSE INTEGRATED AMPLIFIER KIT

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 8.5 watts 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 soundstage, 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)."
**DIY KITS IN THE WORLD**

**ALL NEW SERIES II MODULAR PRE-AMP KIT**

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.

<table>
<thead>
<tr>
<th>Component</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Supply Unit (PSU-II)</td>
<td>£205.00</td>
</tr>
<tr>
<td>Pre-amplifier (PRE-II)</td>
<td>£215.00</td>
</tr>
<tr>
<td>Phono Stage (PHONO-II)</td>
<td>£110.00</td>
</tr>
<tr>
<td>Moving coil step-up transformer</td>
<td>£77.00</td>
</tr>
<tr>
<td>Passive pre-amplifier (PAS-II)</td>
<td>£235.00</td>
</tr>
</tbody>
</table>

**KAT34 VALVE POWER AMPLIFIER KIT & KIT34 VALVE INTEGRATED AMPLIFIER KIT**

KAT34 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 bring together the best sonic virtues of our KIT45, KIT34 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)

**300B PSU MONOBLOC 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 are 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 - 38cm(w) x 38cm(d) x 22cm(h) per monobloc.

**HD83 VALVE HEADPHONE AMPLIFIER KIT**

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(h) x 8cm (d) weight 4kg.
4 x 0.22μF, 400V Jensen paper
4 x 100μF, 50V Black Gate
4 x 100μF, 100V Black Gate
4 x 0.22μF, 630V Jensen paper
4 x 100μF, 100V Black Gate
2 x 2200μF, 16V Black Gate
2 x 1000μF, 16V Black Gate
in oil

1 x 0.47μF, 630V Jensen paper in oil
2 x 0.22μF, 630V Jensen paper in oil
2 x 470μF, 16V Black Gate
in oil

4 x 100μF, 100V Black Gate
2 x 0.22μF, 630V Jensen paper in oil
2 x 100μF, 100V Black Gate
2 x 0.47μF, 630V Jensen paper in oil
3 x 35A Bridge Rectifier KBC3502
4 x 470μF, 16V

2 x 100K Alps blue Potentiometer

2 inch stack, 130mm(h)x120mm(w)x135mm(l) drop through fitting with zinc cap. Secondaries: 0V-240V 300mA. 3.15V-0V-3.15V, 5.5A, 0V-3.15V, 9A. Suitable for 120V & 240Vac operation with zinc cap.

3.15V, 1A. suitable for 120/240V operation.

380V-0V-380V, 180mA/150-0V-150V, 25mA/0V-5V. suitable for 120/240V operation.

Primary- secondary 4.5K, 16% UL taps, Secondary 4 Or 8 ohm, pls specify on order max output 45 watts, max clip-40watts, max current 160mA, valves. KT88, 6550 etc pre-amp stage

Ultra Linear push-pull output transformer 0.5 inch stack, 40mm(d)x 35mm(h)x 70mm(w) clamp fitting, 10H, 20mA

Printed circuit boards

Hi-Fi World in Malaysia is now distributed through good bookshops and newsstands in Malaysia. For back issues, general enquiries and advertising, contact Simon Chang at Millennium Hi-Fi & Av.

Also available are products by World Audio Design, Michell, Trichord, Lowther and ReThm loudspeakers.

Millennium Hi-Fi & Av
500-1-3 First Floor, Wisma Indah (Shen Court), Jalan Tun Razak 50400 K.L.

tel: 03 9283 8171 fax: 03 9281 3762

137 Jalan Pendekar 2, Taman Skudai Baru, 81300 Skudai, Johor DT
tel: 07 554 5171 fax: 07 554 7645

e-mail: info@millennium-audio.com
amplifier kits description

<table>
<thead>
<tr>
<th>order No.</th>
<th>qty</th>
<th>uk (exc. vat &amp; carriage)</th>
<th>overseas (exc. vat &amp; carriage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kc682 valve amplifier kit (with valves)(available 01/12/02)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2A3 PSE valve integrated amplifier kit (with valves)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2A3 PSE valve amplifier kit (without valves)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KAT6550 valve power amplifier kit (with valves)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KAT6550 valve power amplifier kit (without valves)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KAT6550 upgrade kit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KIT6550 valve integrated amplifier kit (with valves)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KIT6550 valve integrated amplifier kit (without valves)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KIT6550 upgrade kit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KAT34 valve power amplifier kit (with valves)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KAT34 valve power amplifier kit (without valves)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KAT34 upgrade kit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KIT34 valve integrated amplifier kit (with valves)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KIT34 valve integrated amplifier kit (without valves)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KIT34 upgrade kit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KIT34 upgrade kit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kit34 valve integrated amplifier kit (with valves)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kit34 valve integrated amplifier kit (without valves)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kit34 upgrade kit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kit34 upgrade kit</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

parts description

2A3 PSE mains transformer
K/TA6550 mains transformer
KT34 mains transformer
Kel8l E/1 Emitter transformer
HDR3 mains toroidal transformer
PSU-II mains toroidal transformer
300B E/1 Emitter transformer
KT34 E/1 choke/KIT6550 E/1 UL
Kel68 I/1 choke
KT6550 choke
300B PSE I/1 choke
PSU-I I/1 Emitter transformer
KT6550 E/1 push pull output transformer (4 ohm) or 8 ohm
KT34 E/1 UL push pull output transformer (4 ohm) or 8 ohm
Kel84 E/1 push pull output transformer (4 ohm) or 8 ohm
2A3 Parallel single ended output transformer
HDR3 E/1 single ended output transformer
Pre-I E/1 driver transformer
300B I/1 E/1 output transformer(4 ohm) or 8 ohm
Kel84 Printed Circuit board
KT6550 Circuit board
Kel80 Printed Circuit board
HDR3 Printed Circuit board
PSU-I Printed Circuit board
PRE-I Printed Circuit board
PHONO-I Printed Circuit board
Tag board 2 x 16 connections (hard wiring)
Alps blue audio grade 50K dual log potentiometer
Alps blue audio grade 100K dual log potentiometer
Stepped attenuator with resistor pack 10K of 50K (pls specify)
LCR 22.5uF 440Vdc polypropylene capacitors
Jensen 0.47uF 630Vdc paper in oil capacitor
Jensen 0.22uF 630Vdc paper in oil capacitor
Jensen 0.22uF 400Vdc paper in oil capacitor
Black Gate 470uF 16Vdc electrolytic
Black Gate 100uF 100Vdc electrolytic
Black Gate 470uF 16Vdc electrolytic
Black Gate 100uF 16Vdc electrolytic
Black Gate 100uF 50V electrolytic
Black Gate 250uF 63V electrolytic
650V safety gloves (a pair)
2 metre of adhesive copper foil (EMI Shield) 25.4mm width

order information

NAME: 
ADDRESS: 
POST CODE: 
COUNTRY: 
TEL: (DAY) 

order form

order from our Far East Distributor: Millennium Hi-Fi & AV
137 Jalan Pendekar 2, Taman Skudai Baru, 81300 Skudai, Johor DT, Malaysia
Tel: 07 554 5171 - Fax: 07 554 7645 - email:mha8@pd.jaring.my

order form

order from our Far East Distributor: Millennium Hi-Fi & AV
137 Jalan Pendekar 2, Taman Skudai Baru, 81300 Skudai, Johor DT, Malaysia
Tel: 07 554 5171 - Fax: 07 554 7645 - email:mha8@pd.jaring.my

order form

order from our Far East Distributor: Millennium Hi-Fi & AV
137 Jalan Pendekar 2, Taman Skudai Baru, 81300 Skudai, Johor DT, Malaysia
Tel: 07 554 5171 - Fax: 07 554 7645 - email:mha8@pd.jaring.my

order form

order from our Far East Distributor: Millennium Hi-Fi & AV
137 Jalan Pendekar 2, Taman Skudai Baru, 81300 Skudai, Johor DT, Malaysia
Tel: 07 554 5171 - Fax: 07 554 7645 - email:mha8@pd.jaring.my

order form

order from our Far East Distributor: Millennium Hi-Fi & AV
137 Jalan Pendekar 2, Taman Skudai Baru, 81300 Skudai, Johor DT, Malaysia
Tel: 07 554 5171 - Fax: 07 554 7645 - email:mha8@pd.jaring.my

order form

order from our Far East Distributor: Millennium Hi-Fi & AV
137 Jalan Pendekar 2, Taman Skudai Baru, 81300 Skudai, Johor DT, Malaysia
Tel: 07 554 5171 - Fax: 07 554 7645 - email:mha8@pd.jaring.my

order form

order from our Far East Distributor: Millennium Hi-Fi & AV
137 Jalan Pendekar 2, Taman Skudai Baru, 81300 Skudai, Johor DT, Malaysia
Tel: 07 554 5171 - Fax: 07 554 7645 - email:mha8@pd.jaring.my

order form

order from our Far East Distributor: Millennium Hi-Fi & AV
137 Jalan Pendekar 2, Taman Skudai Baru, 81300 Skudai, Johor DT, Malaysia
Tel: 07 554 5171 - Fax: 07 554 7645 - email:mha8@pd.jaring.my

order form

order from our Far East Distributor: Millennium Hi-Fi & AV
137 Jalan Pendekar 2, Taman Skudai Baru, 81300 Skudai, Johor DT, Malaysia
Tel: 07 554 5171 - Fax: 07 554 7645 - email:mha8@pd.jaring.my

order form

order from our Far East Distributor: Millennium Hi-Fi & AV
137 Jalan Pendekar 2, Taman Skudai Baru, 81300 Skudai, Johor DT, Malaysia
Tel: 07 554 5171 - Fax: 07 554 7645 - email:mha8@pd.jaring.my

order form

order from our Far East Distributor: Millennium Hi-Fi & AV
137 Jalan Pendekar 2, Taman Skudai Baru, 81300 Skudai, Johor DT, Malaysia
Tel: 07 554 5171 - Fax: 07 554 7645 - email:mha8@pd.jaring.my

order form

order from our Far East Distributor: Millennium Hi-Fi & AV
137 Jalan Pendekar 2, Taman Skudai Baru, 81300 Skudai, Johor DT, Malaysia
Tel: 07 554 5171 - Fax: 07 554 7645 - email:mha8@pd.jaring.my

order form

order from our Far East Distributor: Millennium Hi-Fi & AV
137 Jalan Pendekar 2, Taman Skudai Baru, 81300 Skudai, Johor DT, Malaysia
Tel: 07 554 5171 - Fax: 07 554 7645 - email:mha8@pd.jaring.my

order form

order from our Far East Distributor: Millennium Hi-Fi & AV
137 Jalan Pendekar 2, Taman Skudai Baru, 81300 Skudai, Johor DT, Malaysia
Tel: 07 554 5171 - Fax: 07 554 7645 - email:mha8@pd.jaring.my

order form

order from our Far East Distributor: Millennium Hi-Fi & AV
137 Jalan Pendekar 2, Taman Skudai Baru, 81300 Skudai, Johor DT, Malaysia
Tel: 07 554 5171 - Fax: 07 554 7645 - email:mha8@pd.jaring.my

order form

order from our Far East Distributor: Millennium Hi-Fi & AV
137 Jalan Pendekar 2, Taman Skudai Baru, 81300 Skudai, Johor DT, Malaysia
Tel: 07 554 5171 - Fax: 07 554 7645 - email:mha8@pd.jaring.my

order form

order from our Far East Distributor: Millennium Hi-Fi & AV
137 Jalan Pendekar 2, Taman Skudai Baru, 81300 Skudai, Johor DT, Malaysia
Tel: 07 554 5171 - Fax: 07 554 7645 - email:mha8@pd.jaring.my

order form

order from our Far East Distributor: Millennium Hi-Fi & AV
137 Jalan Pendekar 2, Taman Skudai Baru, 81300 Skudai, Johor DT, Malaysia
Tel: 07 554 5171 - Fax: 07 554 7645 - email:mha8@pd.jaring.my

order form

order from our Far East Distributor: Millennium Hi-Fi & AV
137 Jalan Pendekar 2, Taman Skudai Baru, 81300 Skudai, Johor DT, Malaysia
Tel: 07 554 5171 - Fax: 07 554 7645 - email:mha8@pd.jaring.my

order form

order from our Far East Distributor: Millennium Hi-Fi & AV
137 Jalan Pendekar 2, Taman Skudai Baru, 81300 Skudai, Johor DT, Malaysia
Tel: 07 554 5171 - Fax: 07 554 7645 - email:mha8@pd.jaring.my

order form
WE HAVE OVER 30 TITLES ON OFFER!!!

**Audio Electronic Theory Books**

- **Electronics made Simple**
  - by Ian Sinclair
  - This book covers the basic theory and principles of electronics. A good read for the beginner.
  - Code No. 1430
  - £13.99 + £2.50 P&P (UK)

- **High-end Audio Equipment**
  - by Bruce Rotenblit
  - Build your own high-end audio equipment includes construction projects for solid state preamplifiers and power amplifiers, active cross-over filters, and active subwoofers. Also includes a mic preamp and a headamp. Audio Measurements Vols. 1-3.
  - Code No. 1390
  - £14.95 + £2.50 P&P (UK)

- **The LP is back**
  - by Audio Amateurs
  - Your complete guide to LP care and maintenance designed to offer you everything useful for those who love and enjoy this older music medium. This covers the theory of LPs and the electronics and mechanics of LP players.
  - 144pp Paperback, Code No. 1620
  - £10.00 + £2.50 P&P (UK)

- **Audio/Video Handbook**
  - By National Semiconductor
  - This book is an essential aid to engineers and experienced hobbyists in the application of ICs to audio and video. It includes ICs for audio and radio and covers the application of ICs but discusses theory of amplifiers and preamps and covers electronic principles.
  - Paperback 250pp, Code No. 1810
  - £13.95 + £2.50 P&P (UK)

- **Inside the Vacuum Tube**
  - by John P. E. Mullard
  - One of the most thorough (and funny) books ever written on the vacuum tube function. Rider's mastery of analogs common to most of us makes the book especially useful to those who want to learn about vacuum tubes.
  - Code No. 1460
  - £18.00 + £2.50 P&P (UK)

- **GEC Audio Tube Data**
  - Full of data and circuits concerning the three most popular known UK valve power pentodes, the KT66, KT777 and KT776, the KT77 was GEC answer to Mullard's EL34 and some data on the T42 and P42S triodes. The first section concerns preamplifiers of various types, with information regarding equalization, tone controls, filters and suchlike. An excellent book for all valve heads.
  - Paperback Code No. 1760
  - £14.95 + £2.00 (UK)

- **An Approach to Audio Valves and Other Valves**
  - By E. Rotenblit
  - Discussing the use of valve data, the function of different amplifier stages and valve types includes detailed descriptions of eight designs. A wealth of practical ideas, measurements and interesting features will be found. A very good read for all valve enthusiasts.
  - Paperback 144pp, Code No. 1510
  - Price £12.95 + £2.00 (UK)

- **Inside the Vacuum Tube**
  - by John P. E. Mullard
  - One of the most thorough (and funny) books ever written on the vacuum tube function. Rider's mastery of analogs common to most of us makes the book especially useful to those who want to learn about vacuum tubes.
  - Code No. 1460
  - £18.00 + £2.50 P&P (UK)

- **GEC Audio Tube Data**
  - Full of data and circuits concerning the three most popular known UK valve power pentodes, the KT66, KT777 and KT776, the KT77 was GEC answer to Mullard's EL34 and some data on the T42 and P42S triodes. The first section concerns preamplifiers of various types, with information regarding equalization, tone controls, filters and suchlike. An excellent book for all valve heads.
  - Paperback Code No. 1760
  - £14.95 + £2.00 (UK)

- **An Approach to Audio Valves and Other Valves**
  - By E. Rotenblit
  - Discussing the use of valve data, the function of different amplifier stages and valve types includes detailed descriptions of eight designs. A wealth of practical ideas, measurements and interesting features will be found. A very good read for all valve enthusiasts.
  - Paperback 144pp, Code No. 1510
  - Price £12.95 + £2.00 (UK)

**Valve Books**

- **The Best of Audioneditorial Projects**
  - by Bruce Rotenblit
  - One of the most thorough (and funny) books ever written on the vacuum tube function. Rider's mastery of analogs common to most of us makes the book especially useful to those who want to learn about vacuum tubes.
  - Code No. 1460
  - £18.00 + £2.50 P&P (UK)

- **Inside the Vacuum Tube**
  - by John P. E. Mullard
  - One of the most thorough (and funny) books ever written on the vacuum tube function. Rider's mastery of analogs common to most of us makes the book especially useful to those who want to learn about vacuum tubes.
  - Code No. 1460
  - £18.00 + £2.50 P&P (UK)

- **GEC Audio Tube Data**
  - Full of data and circuits concerning the three most popular known UK valve power pentodes, the KT66, KT777 and KT776, the KT77 was GEC answer to Mullard's EL34 and some data on the T42 and P42S triodes. The first section concerns preamplifiers of various types, with information regarding equalization, tone controls, filters and suchlike. An excellent book for all valve heads.
  - Paperback Code No. 1760
  - £14.95 + £2.00 (UK)

- **An Approach to Audio Valves and Other Valves**
  - By E. Rotenblit
  - Discussing the use of valve data, the function of different amplifier stages and valve types includes detailed descriptions of eight designs. A wealth of practical ideas, measurements and interesting features will be found. A very good read for all valve enthusiasts.
  - Paperback 144pp, Code No. 1510
  - Price £12.95 + £2.00 (UK)

- **Inside the Vacuum Tube**
  - by John P. E. Mullard
  - One of the most thorough (and funny) books ever written on the vacuum tube function. Rider's mastery of analogs common to most of us makes the book especially useful to those who want to learn about vacuum tubes.
  - Code No. 1460
  - £18.00 + £2.50 P&P (UK)

- **GEC Audio Tube Data**
  - Full of data and circuits concerning the three most popular known UK valve power pentodes, the KT66, KT777 and KT776, the KT77 was GEC answer to Mullard's EL34 and some data on the T42 and P42S triodes. The first section concerns preamplifiers of various types, with information regarding equalization, tone controls, filters and suchlike. An excellent book for all valve heads.
  - Paperback Code No. 1760
  - £14.95 + £2.00 (UK)

- **An Approach to Audio Valves and Other Valves**
  - By E. Rotenblit
  - Discussing the use of valve data, the function of different amplifier stages and valve types includes detailed descriptions of eight designs. A wealth of practical ideas, measurements and interesting features will be found. A very good read for all valve enthusiasts.
  - Paperback 144pp, Code No. 1510
  - Price £12.95 + £2.00 (UK)

- **Inside the Vacuum Tube**
  - by John P. E. Mullard
  - One of the most thorough (and funny) books ever written on the vacuum tube function. Rider's mastery of analogs common to most of us makes the book especially useful to those who want to learn about vacuum tubes.
  - Code No. 1460
  - £18.00 + £2.50 P&P (UK)

- **GEC Audio Tube Data**
  - Full of data and circuits concerning the three most popular known UK valve power pentodes, the KT66, KT777 and KT776, the KT77 was GEC answer to Mullard's EL34 and some data on the T42 and P42S triodes. The first section concerns preamplifiers of various types, with information regarding equalization, tone controls, filters and suchlike. An excellent book for all valve heads.
  - Paperback Code No. 1760
  - £14.95 + £2.00 (UK)

- **An Approach to Audio Valves and Other Valves**
  - By E. Rotenblit
  - Discussing the use of valve data, the function of different amplifier stages and valve types includes detailed descriptions of eight designs. A wealth of practical ideas, measurements and interesting features will be found. A very good read for all valve enthusiasts.
  - Paperback 144pp, Code No. 1510
  - Price £12.95 + £2.00 (UK)
ORDER FORM

Please send Code No. _______________ and enclose cheque/postal order for £ , made payable to World Audio Publishing Ltd. I wish to pay by Mastercard / Visa / Switch/ Solo. I enclose a credit card slip for £ __________________________ .

Please debit my account no: ___________________________ at bank of ___________________________.

Expiry Date: ____________ / ____________ / ____________ Signature: ___________________________

[(Switch/Solo only) Valid Date: ______ Issue No. ______ (Visa/Mastercard only) Security number - last three digits of number on signature strip.]

Delivery Address: _____________________________________________________________

Tel: (Day) ___________________________ Please return to: W.A.P. Ltd. 12A Spring Gardens, Newport Pagnell, Milton Keynes, MK16 0EE.

ENGLAND TEL/FAX: 01908 2118836

ORDER ON LINE Website: www.worldaudiodesign.co.uk E-Mail: nick@worldaudiodesign.co.uk

Please contact us for overseas P&P charges. Allow 28 days for delivery.

All orders subject to availability. If further space is required please attach separate sheet.

□ TICK BOX IF YOU HAVE ORDERED BEFORE

ORDER 4 BOOKS & OVER & PAY ONLY £7.00 FOR P&P (UK ONLY)

Manuel Hi-Fi & a valentine Scheinin 2

This book is dedicated to self makers and to HI-FI tube engineers. With a wealth of circuit diagrams from some of the best valve amplifiers, pre-amplifiers and phone equipment producers in the world, including Audio Research, Altec, Conrad Johnson, Audio, Luminex, Carver, Dynaco, Electrovoice, Leak, Mcintosh, Marantz, Quad, Revox, Quadifier, Silvertone, numerous designs, Verdet, YLF, and Western Electric. Well worth the money. 205pp. Paperback Code No. 1720 £4.44 + £0.60 P&P (UK)

Getting the most out of Vacuum Tubes

By Robert & Tungs

From the cover: "Types and causes of tube failures, what to expect from tubes, testing methods and all about tube maintenance programs." This book is intended to offer explanations of why tubes fail and what to do about it. Discussions of catastrophic and degenerative failures; selecting tube and tube open and testing and predicting tube performance.

160pp Paperback, Code No. 1710 £13.95 + £2.00 P&P (UK)

First in High Fidelity

The Products and History of M.J. Leak & Co. Ltd. by Steven Spier

The book is a unique and comprehensive story about one of the world's most high fidelity audio companies. Contained are 300 pictures, 30 erial diagrams for classic designs of the day. There are also numerous anecdotes and contributions from employees. A wonderful technical read.

270pp Paperback, Code No. 1740 £12.95 + £2.35 p&p UK

Basic Theory and Application of Electron Tubes

A US Army & Navy Publication

This book is an excellent introduction into valves. It does just about everything its title suggests. Written in 1957 it was used by the US military as a text book in their electronic department. Supposedly written it contains all you need to know.

315pp Paperback Code No.1780 £17.95 + £3.50 P&P (UK)

Sylvania Technical Manual

By Sylvania Electric Products Inc.

This 13th edition contains data on more than 2000 electron tubes and semiconductor devices. Reprinted here without the TV picture tube section, this manual contains detailed information on Sylvania's devices including charts and diagrams. A master index is found in the front of the book for reference. 960pp Paperback Code No.1760 £16.75 + £3.00 UK

LOUDSPEAKER BOOKS

Valid Date: ______ Issue No. ______ (Visa/Mastercard only) Security number - last three digits of number on signature strip.

Modern High-End Valve Amplifiers

Based on Toroidal Output Transformers

By Maurice van der Ven

Explains the whys and wherefores of toroidal output transformers at various technical levels. Discussed extensively within this book are designs for amplifiers from 15 to 100 watts. Finally the author gives some ideas on making special valve amplifiers and to the theory and practice of negative feedback.

250pp Hard back Code No.1670 £24.95 + £3.30 P&P (UK)

Electrostatic Loudspeaker Design and Construction

By Ronald Wagner

This book is dedicated to self makers and readers interested in electrostatics. First in High Fidelity. Well worth the money.

44pp £4.00 P&P (UK)

Horn Loudspeaker Design

By Mr J. Dinsdale

A collection of papers by Mr J. Dinsdale, that discusses the design and theory of horn loudspeakers. It contains detailed diagrams of numerous designs, including some lowerv costs. Also included with the book is a 35cmx50cm floppy disc with software to assist in the design process. A serious reference for those with an interest in horn speakers.

112pp Paperback £11.25 + £3.75 P&P (UK)

Acoustics & Psychoacoustics 2nd Edition

By Dennis E. Shurtleff & James Angus

An introduction to acoustics, covering human perception of sound waves and harmon ma- dinal dynamics, tines of musical instruments, acoustical model for musical instruments, hearing, sound transfer, different environments, the ear and processing sound electronically.

254pp 24x199mm paperback Code No. 1670 £29.99 + £3.50 P&P (UK)

Valve Amplifiers

(Second edition) by Morgan Jones, Audio Engineer

This book begins with a limited knowledge of the field to understand both the theory and the practice of valve audio amplifier design, such that they can analyze and modify circuits, and rebuild an amplifier. Constructional techniques are also provided so readers can build from scratch designs that actually work.

480pp. Paperback, Code No. 1335 £56.99 + £3.76P/P (UK)

Loudspeaker Cookbook, 6th edition (new)

by Vance Dickason

This best seller offers up-to-size design information for the home constructor. It uses modern Thiele-Small theory and parameters.

280pp 8 1/2 x 11 1/2" Paperback Code No.1690 £28.50 + £4.00 P&P (UK)

BULLOCk ON BOXES

Audio Amateur Loudspeaker Projects

A compilation of the 25 best speaker articles published in the Audio Amateur throughout the 1970s. This popular book is proof that great designs are never out of date. This is a useful book to have on the shelf.

320pp 8 1/2 x 11" Paperback Code No. 1550 £12.95 + £2.50 P&P (UK)

A collection of papers by Mr J. Dinsdale. The book begins with a limited knowledge of the field to understand both the theory and the practice of valve audio amplifier design, such that they can analyze and modify circuits, and rebuild an amplifier. Constructional techniques are also provided so readers can build from scratch designs that actually work.

480pp. Paperback, Code No. 1335 £56.99 + £3.76P/P (UK)

Loudspeakers: The Why and How of Good Reproduction

By G.A. Briggs

An easy to understand book on building loudspeakers, using empirical techniques that pre-date computer analysis. Strongly recommended for beginners. 80pp 5 1/4" x 8 1/2" Paperback Code No.1700 £10.95 + £2.00 P&P (UK)

Acoustics & Psychoacoustics 2nd Edition

By Dennis E. Shurtleff & James Angus

An introduction to acoustics, covering human perception of sound waves and harmon ma- dinal dynamics, tines of musical instruments, acoustical model for musical instruments, hearing, sound transfer, different environments, the ear and processing sound electronically.

254pp 24x199mm paperback Code No. 1670 £29.99 + £3.50 P&P (UK)

ORDER ON LINE

www.worldaudiodesign.co.uk
A3.2 Series

Integrated amp, preamp, power amp, tuner, CD player and DAC.

Machined, MIL-spec aluminium front panel.
Powerful, robust, built.

For details of your nearest stockist ring 020 8900 2866. www.musical-fidelity.co.uk
like most critical listeners, I find someone blowing a trumpet behind my left ear disconcerting. When disciples of surround-sound say we simply have to get used to this – and then we will appreciate it – I cringe. The real benefits of surround-sound to an audio enthusiast aren’t trivialities like this. From a pure hi-fi point of view surround-sound holds more, much more, than such distractions.

Surround-sound may seem like a new toy for a new millennium, but simply listening to a powerful system reminds me of the qualities I first heard from bi-amped and tri-amped Naim amps with Linn Isobariks, which harks back to the 1980s. Once a signal is split bi-amped and tri-amped Naim amps separation between instruments in a recording is superb. With two rear channels and three front channels plus a deep bass channel, it is hardly surprising that such a multi-channel system should possess a clear, stable frontal sound stage. The rear channels can handle ambient information, real or contrived, to give the sound stage depth. All of this usefully improves our ability to spatially resolve the position of an image, bringing improved clarity to complex performances.

Another similarity is the heightened sense of ease you get from the loudspeakers when many drivers are being used to generate sound. If a surround-sound system has 60W, that’s no less than 300W total being delivered into five loudspeakers, and lets say another 100W goes through the subwoofer.

An arrangement like this delivers enormous acoustic levels without strain, and I notice that with movies in particular, where all channels are fully utilised, the sudden changes in sound pressure level that sometimes occur border on frightening. Surround-sound gives astonishing dynamic contrasts if asked to do so.

But I also notice other effects just as important to real high fidelity. Our ears and brain are tuned and adapted to distinguish sounds from all round, with great acuity. The “cocktail party” effect, described by researcher Colin Cherry back in 1953, where we are able to home in on someone’s conversation whilst excluding all others, is a good illustration of this. Hearing research experiments have shown that when fed a mono signal we can’t spatially separate sounds to the degree possible with stereo and often hear only confusion. Mono contains no directional information and robs us of our ability to use “attentional selectivity” with various signal processing schemes to pick out and concentrate on sounds.

Stereo was a great leap forward because suddenly it allowed us to localise sounds, but it still remains imperfect. For a start, conventional two-speaker stereo puts an identical signal through both loudspeakers to produce a central image. This is a phantom image we actually construct in our heads; in effect the brain sums the signal from the ears and says “it’s dead ahead, marya”. The untalked about limitations of this system become obvious when you move your head, or sit off-centre. Suddenly, the image slips left or right into one speaker or the other.

Another problem is that depth information doesn’t exist, so any room reverb picked up by microphones is folded into the frontal signal. We may well be able to get a sense of depth from this, but it is both weak and confused compared with the real thing properly reproduced in a surround-sound system.

You can see from all this why a surround-sound system has a centre front loudspeaker. It gives us stable images across a wide seating position and it also inserts a real source where, commonly, there would be a real source - like a vocalist. Stereo might create a good illusion, but three frontal channels better fulfil our need for a clear, stable frontal sound stage. The rear channels can carry ambient information, real or contrived, to give the sound stage depth. All of this usefully improves our ability to spatially resolve the position of an image, bringing improved clarity to complex performances.

You might see from what I am saying that I view surround-sound as greatly improved stereo; it is stereo without frontal image ambiguity in effect. The frontal sound stage is clearer, lacking muddle, better defined and more stable. Most surround-sound music is mixed this way, with backing vocals and ambience from the rear. Having someone blow a trumpet at you from behind is one of the few drawbacks of surround-sound! That’s more down to the producer, though.

Bizarre effects apart, sound from all round has much to offer any real audiophile. Much as I love what two-channel achieves, good surround-sound is more dynamic, covers a wider frequency range, suffers less distortion and is more dramatic. It really is higher fidelity.
specialist hi-fi dealers

LONDON

We aim to provide a well chosen selection of quality hi-fi and accessories including:

• FMJ, Arcam, B&W, NAITLUS, DYNAVIATOR, Linn, Loewe, Meridian, Naim, NAD, Pioneer, Pro-CEED, Neat, Rega, Rotel, SmaHiniAN, Yamaha + more

www.infinity.co.uk

9 High Street, Hampton Wick,
Kington upon Thames, Surrey KT1 4DA
Tel: 020 8943 3330

27 BOND STREET, EALING
LONDON W5 5AS
TEL: 081 - 567 8703

Audio Analogue, Art Glass, Ash Designs, Ark, &CO., E&W, Cabrasys, Chord Company, Creek, Donon, Epox, Harman Kardon, Infinity, Kef, Lalit, Marantz, Musical Fidelity, NAD, Naim Audio, Nixt, Onix, Ortofon, Primare, Quad, Roksan, Rotel, Ruairi, Sonetto/er, Spicote, SoundStyle, States Unique, Stretchedwire, Supra, Tag Master, Tector, Tesseract, van den Hul

10 - 6 pm Mon., Tues., Fri., Sat., Sun.
Late night Thurs., closed Wed.
Two demonstration rooms.
Free local delivery and installation.
Repair and Services

NORTH

SOUTH WEST

SOUTH WEST ANALOGUE


01643 851 351

graham@southwestanalogue.fsnet.co.uk

www.southwestanalogue.fsnet.co.uk

Mail Order

Silence mains noise

The Silencer eradicates mains noise and harmonics at the source. Typically you’ll hear more detail, less distortion and a greater dynamic range. Best of all, the intelligent design means none of the drawbacks associated with some other mains filters.

Just plug in next to any noisy appliance, and listen to the difference. What could be simpler? Exclusive to Russ Andrews

The Silencer £39.95

www.silencer.com

www.directdisc.demon.co.uk

front End Problem?

The Cartridge Man

It doesn’t have to cost an arm and a leg to get the best - listen to my advice. Also agents for Croft, Hadlock, E.A.R., Michell & More.

plus cartridge re-tipping service

020 8688 6565

www.thecartridgeman.com

atv

ATV SERVICES

LEATHERHEAD

01372 456921

VINYL

THE DIRECT DISC

VINYL VINYL VINYL

Thousands of records always in stock.

a full range of sought after compact discs.

Extensive service search for wanted albums.

Comprehensive 96 page full catalogue
available at £1.50

Tel: 01992 447764

Or visit our web site on

www.directdisc.demon.co.uk

atv • Service & Repairs
• Valve & transistor amplifiers
• Vintage valve radios
• Hi-Fi VOR's
• Valves Tested

quality Cables & Accessories

for Hi-Fi & Home Cinema

Mail Order Direct

www.infidelity.co.uk

www.hi-fiworld.co.uk
It wasn’t so long ago when I was writing of MiniDisc’s continual dominance of the portable recordable market. Even though there had been some impressive MP3 solid state recorders on the market for some time, they hadn’t really caught the attention of the hi-fi buying public. At least, not outside of the computer shop. I remember the hi-fi store I work for selling the Samsung Yepp, a couple of years ago, with hardly a flutter of interest.

Well, after the quietest season for MiniDisc since its early days, I think that the tables may finally be beginning to turn. Don’t get me wrong - MD is still a popular format, at least in portable form, yet it really isn’t "flying out the door" as it used to. It seems that even Sony isn’t putting quite the effort into the format that they once were. I’ve noticed less advertising of late, and there hasn’t been another new feature, that was so crucial in keeping the buzz, since NetMD of a year ago. It is true that the latest bunch of players and recorders now feature a digital output more regularly. Yet a digital output is of dubious use for an MD player (with SCMS copyright protection), and hardly the latest thing in any case.

So, with sales of portable MiniDisc faltering, there must be a rival format benefiting? Yes and no. I don’t think that MD portable buyers are now switching wholesale to solid state type recorders. That said, there are certainly some impressive machines on the market at the moment. Apple’s iPod must have taken sales away from Sony's top MD portables, and Limit’s new LMP3, at the lower end of the market, shows what can be done these days for less than a hundred quid. 128 Mb, self-charging, plug 'n' record, and a unit size smaller

than a box of matches really isn’t that bad for £99.95. No doubt, you’ll get double that memory for half the price next year, as well!

Having listened to the little Limit I wasn’t especially impressed by its sound quality, yet MD was never that great either. Get yourself some decent little headphones from Sennheiser or Koss and, unless you’re being really critical, you should be quite happy with the sound of MP3 on the move. Here’s the crucial point though. Although I’ve not seen any research on this area I wonder how many people are actually listening to the music as they wander about the country, and how many just have the sound as a distraction?

It’s rather like music systems in cars. I’d hazard a guess that the majority of ICE is tuned into the radio rather than CD, tape, MiniDisc or MP3. If this is the case with the car travelling public, then why not the train and bus traveller and jogger? Well, historically, I don’t think many people have tended to listen to radio on the move, outside of the car, for a variety of reasons. Patchy reception, lack of stations and poor choice of portable tuners have all played their role. These days however, each of these issues is being tackled. DAB portables are already on sale, and promise a better reception, just as soon as all the transmitters are operational at least. A wider range of stations may be rather pricey at present, but this is bound to change. The ability to store millions of bits on the ‘phones could also render the portable solid-state units redundant before they’ve even really got a foothold on the market. Let’s face it, even as an audiophile on the move I, like most, realise that I’m never going to get close to hi-fi nirvana so will content myself with pretty much any form of entertainment, plugged up to some decent headphones.

As many a hi-fi pundit has said for years, the only manufacturers who can really feel safe are those making such headphones, & speakers and amplifiers, i.e. the products that remain necessary whatever the format. To the rest of the manufacturers, I really don’t envy their task in keeping pace. Now, where did I put my classic Sony Walkman Professional?

Well, after the quietest season for MiniDisc since its early days, I think that the tables may finally be beginning to turn.

The range of portable tuners on sale is rather more intriguing in that the traditional portable is facing opposition from the most unlikely quarter.

Whilst I don’t think that, with the exception of DAB, there are any more portable tuners on sale than before, there’s a surprising amount of mobile phones on sale with built in FM tuners. Before you collapse to the ground in a heap of giggles, just bear in mind what I’ve said earlier about most people just wanting some form of background music. If they can get tolerable radio reception from their mobile phones, and remember they’re used to the signal cutting out through tunnels anyway, then why should they bother with a portable MD or MP3 player whilst on the move?

This is just the beginning let’s not forget. With the new range of 3G phones even more entertainment on the move will be at hand. The cost of a net radio station streaming through the phone may be rather pricey at present, but this is bound to change. The ability to store millions of bits on the ‘phones could also render the portable solid-state units redundant before they’ve even really got a foothold on the market. Let’s face it, even as an audiophile on the move I, like most, realise that I’m never going to get close to hi-fi nirvana so will content myself with pretty much any form of entertainment, plugged up to some decent headphones.

As many a hi-fi pundit has said for years, the only manufacturers who can really feel safe are those making such headphones, & speakers and amplifiers, i.e. the products that remain necessary whatever the format. To the rest of the manufacturers, I really don’t envy their task in keeping pace. Now, where did I put my classic Sony Walkman Professional?
UK SUBSCRIPTION £27
VISIT OUR WEBSITE: www.hi-fiworld.co.uk

YES! I want to subscribe to Hi-Fi World for:-

☑ £27.00 for 12 months

Your Details

Title ______ Initial _______ Surname _________
Address ________________________________
Post Code ______________________________
Daytime Tel: ____________________________
Start Issue ______________________________

Delivery Address (if different)

_______________________________________
_______________________________________
_______________________________________

I would like to pay by cheque made payable to Audio Publishing Ltd. ☐

Please debit my VISA ☐ MASTER ☐ SWITCH ☐ AMEX ☐

Switch card issue No ☐ ☐ Expiry Date: ______/______

Cardholder Signature: __________________________

Please choose service:-

Airmail Middle East & South-East Asia £60 ☐

Airmail Europe £50 ☐

Airmail USA, Canada, Australia, Japan, Korea & China £70 ☐

Surface Mail £40 ☐

Send this form to:
Hi-Fi World, Freepost LON3478, London, NW6 6YR

Get your issue of hi-fi world straight to your door!

Get to our amazing classified ads first and grab a bargain!!

Run by dedicated hi-fi engineers and enthusiasts.

Hi-Fi World has become famous for its informative reviews and radical kit designs.

Credit Card Hotline +44 01923 270 833

Monday - Friday 9.30am - 12.00 noon: Fax +44 01923 260 588

MISSED AN ISSUE?

Back issues also available at a cost of £3.50 only (includes P&P), payment by cheque only - Overseas please contact subscriptions department for details.
Send cheque to: Hi-Fi World, Freepost LON3478, London, NW6 6YR.
This month's quadraphonic extravaganza was one of the most fun - yet frustrating - projects I've worked on for many a month. It was a leap into the unknown for me, as I was a mere five years old when the four channel format was launched, and thus even more unsuspecting than most people it was presented to!

I'm intrigued to think how hi-fi buyers reacted to quad when it was launched - presumably it was sold along the lines of the 'white heat of the technological revolution', or 'this year's big thing' that every serious audiophile simply had to have! If so, then the public singularly failed to bite, because the great quad explosion turned out to be less of a bang than a whimper. (if that is not to dignify it too much!)

Having myself got into the weird and wonderful world of hi-fi in the early eighties - some ten years after the fact - the impression I'd always got of quad was of it being a stupid audio joke. Now, after a good few months' research and countless hours spent fiddling around with it, I've come to believe it to be a glorious failure.

I am still deeply impressed by how good the system sounded (and that's SQ, QS and CD-4) when we finally managed to get it going. Our initial attempts involved Noel and I (mostly Noel!) fiddling with various CD-4 demodulator boxes (thanks 'Big Bad Bob!'), in a desperate bid to feed the multichannel analogue inputs of a Marantz SR6300 with a four channel analogue output. We faced dodgy phono socketry, dry solder joints, iffy internal wiring, noisy potentiometers and baffling front panel control knobs, and lost. We could get signals from some, but not others. Some worked at the front and not the back, others couldn't get a CD-4 carrier from Noel's Garrard, in which we had installed a brand new Audio Technica AT20 CD-4 cartridge. The

Classic hi-fi is all well and good, but just like old cars the damn things rarely work as intended and you invariably spend more hours 'under the bonnet' than 'behind the wheel'.

Perhaps it was the fact that the only time I'd previously heard multichannel was via digital, but I simply was not prepared for the big, wide, powerful and spacious sound I got from Pink Floyd's Dark Side of the Moon on SQ LP. I suspect that this kind of fidelity was never possible back in the seventies, simply because they did not have the benefit of Michell GyroDec turntables, SME V tonearms and Van den Hul interconnects, not to mention clean transistor power amps and high tech loudspeakers, that we were using. Suffice to say, it wasn't quite as tight as the digital surround 5.1 SACD, and had far less explicit multichannel soundstaging, but the experience of four channel analogue was deeply impressive and - I'd say - significantly more musical than the digital disc. I can still remember feeling impressed by the mixing on SACD, but moved by the music from LP.

It all makes me wonder how good quad would sound if modern phono stage design practices were used to produce a new demodulator/decoder today? Your average 1971 phono preamp wasn't up to very much, but a modern version with short signal paths and audiophile passive componentry feeding a rewired CD-4/SQ/QS box would be dynamite! I'd heard that some 'eccentric' individuals were using restored decoders to matrix their stereo LPs, but had dismissed them as being one Mars Bar short of a picnic. The frightening thing is - I'm not so sure! Is this a new way forward for analogue, I ask myself, especially as now we're all gearing up for digital multichannel anyway? You may scoff, but hearing properly done analogue surround sound might make you smile for another reason...
New, Ex-dem and Previously Cherished Hi-Fi

Our prices are 10 - 20% below market value for rapid turnover
All used equipment guaranteed for six months; new and ex-dem adds manufacturer guarantee. New (factory) sealed boxes indicated (New), Ex-dem (Ex-D) or Used (s/h)
Goods mostly shipped next day delivery by TNT. UPS premium service costs £9 per box UK next day.

Digital

BOW ZZ 8 CD Player 12S Bus (ex-d, mint) £4,995 £2,495
Gryphon Adagio (3 months old, s/h, mint) £4,300 £2,250
Neukomm Reference CD Player (ex-d, mint) £2,250 £950

Amplifiers

Art Audio Diavolo monoblocks 300B chrome/gold (ex-d,mint) £5,995 £3,995
Ayre Acoustics K1 (phono) Preamplifier (ex-d,mint) £7,995 £3,250
BOW ZZ 1 Integrated (ex-d, mint) £2,795 £1,995
Gryphon Callisto 2200 Int Amplifier (s/h, mint, with phono) £5,790 £4,150

Analogue

Nakamichi Dragon Tape Deck (mint) £1195
SME Model 10 + IV Arm + Audio Note ANVx + VDH Frog Mark 2 (s/h, mint) £5,658 £4,000

List no 84. For an updated and comprehensive list of equipment and audio cables, please visit www.audiosalon.co.uk

audio source cables

Unlike other cables, Stratos wire and materials are unique; plugs and soldering techniques are all hand-crafted. The original specifications were designed and refined by one of the world’s leading audiophile designers. By consensus of experienced customers the sonic performance equals and exceeds respected interconnects up to the £800 point; the figure is not our wild claim. Now in its third series and sixth year, AudioSource cables are a cult with worldwide sales. High performance with low price is achieved by direct sales and advertising restricted to under 5% of sales volume.

One meter pair using our own phosphor bronze RCA plugs or Neutrik’s balanced XLR plugs costs £125, or £99 for one half metre. For longer lengths add £35 per stereo metre per pair.

Literature and product information are readily available. Home trial offers a full refund if not impressed.

The full range of audio mains cables from £55 up to our £150 Integra is available. AudioSource offer a two (£129), six (£349) or eight outlet (£589) mains conditioner, hand made from non-plastic, non-ferrous materials for amazing mains purity. Visit www.audiosource.co.uk for further information.

WE GROW OUR OWN

JPS developed Aluminium wire to deliver sound like no other. Our proven cable designs bring a live performance to your ears with pure timbre and an impeccable balance. Try any one of our unique cables to hear why JPS truly has the world’s finest cables!

power cords, speaker, interconnect, digital and video cables

made in the USA

www.jpslabs.com

tel 0141 357 5700  fax 0141 339 9762
info@audiosalon.co.uk  www.audiosalon.co.uk
Gale's 401 loudspeaker will look delicious in anyone's house, but does it sound as good as it looks? Haden Boardman reports...

There are very few big 1970s speakers that I really rate, but the Gale 401 is one of them. There is just some kind of purity to the black and chrome finish. Only the speaker's girth hints at the era it was born in. It is not that the thing is huge at 330x270x610mm, but that it lies on its "side", unlike more modern loudspeakers. Gale also offered matching tubular chrome stands, aesthetically very pleasing, acoustically a bit of a disaster!

Basically a four drive unit, three way speaker system, the 401 used a Celestion HF2000 tweeter crossed over at 5,000Hz to a Peerless midrange unit, and further crossover at 475Hz to the twin bass units. The HF2000 is no longer available, but they are pretty hardy, and Peerless do offer equivalent bass and midrange drive units... so keeping these guys going is a lot easier than you may think.

On the serviceability side, the chrome end caps have to be persuaded off, to access the drive units. This is easier said than done, as you do not wish to damage the stunning chrome plating, and would like your fingernails to survive intact! Once one of the chrome end caps has been persuaded free, the grille rolls away nice and easily, although some later models do feature a grille cloth manufactured from plastic rather than cloth, which means both end caps have to come off. Doh!

By modern standards, the 401 really does stack up well. It is remarkably clean, fast and open sounding. It needs a reasonable amplifier to get it going, and behaves as a four ohm load. As cure as the original stands are, the speaker benefits from being more securely located on a good, solid stand. It's pretty darn heavy, so a solid, substantial stand should be the order of the day. In common with most 1970s upmarket speakers, level controls are fitted for the midrange and treble units, which would be better by-passed. Also fitted are safety fuses, which may explain why most of 401's you see are in perfect working order!

Placed in a more modern system, comprising a Quad 909 power amp, Marantz CD12, Chord cable and Russ Andrews power blocks, this speaker sounds very much ahead of its time. It is frankly much cleaner and more open than any similar vintage KEF Reference speaker, much better than the Celestion Dittons. And boy, are the Gales capable of playing loud!

Vocals are open and articulate, while bass is incredibly tight and extended; clearly these beasts draw some current from the power amp. Switching power amps to an old Musical Fidelity A370 proved just how much power they like to have! The 370 is a real monstrosity of a thing, a kind of British Krell, without the pretence, but the Gales lapped it up. The weight offered by what is still a modest sized box was amazing. Best sound was had with the speakers on their sides, with the tweeters inwards (i.e the left hand speaker was rotated clockwise 90 degree, and the right hand speaker anti-clockwise) on solid 45 cm stands. One word about the rare wooden version; rumour has it that they do not actually sound as good, the different cabinet construction affecting the sound for the worse. They are no oil painting to look at either!

The Gale was a popular speaker, and sold as much on style than sound; so keep your eyes open on local classified papers for the odd real bargain. When new, they cost £175 each plus VAT, or roughly the same as a pair of Quad Electrostatics (£400)! Second-hand, it is difficult to value. A nice set will sell for around £250 to £450, more if really nice, and matching chrome stands sell for about £50, not a lot for a speaker still capable of rivaling some serious new models past the £1000 mark!

Do remember the Gale's need a big amp, anything from 50-200 watts will be fine depending on size of room.
**meet your maker**

A reference guide to Britain's manufacturers and distributors

**AUDIO SYNTHESIS** Manufacturers of the outstanding DAX digital to analogue converter. New: DAX-2, a new Hi-End reference converter able to dig deeper into the digital source than ever before! A new addition to the superb PASHION series of all V-hay controllers has just been introduced in the form of PASHION 8, a fully remote controlled uniquely transparent passive preamplifier, the perfect match for DESIRE. By word of mouth our DESIRE power amplifier is rapidly convincing listeners, whether passive or active! New for 1997 is TRANSCEND a state of art CD transport with CD changer and AT&T glass Tesla output. Audio Synthesis, PO BOX 50, Nottingham, NG9 1DZ Tel: (+44) (0)115 922 4138. Fax: (+44) (0)115 922 9700.

**BORDER PATROL** 63 Berriedale Avenue Hove BN2 4JD Tel/Fax 01273 276716. Manufacturers of Pops. Supply Units for valve amplifiers, Single-ended Power Amplifiers and high quality Transformers. The Border Patrol PSU valve rectified choke input filter power supply unit which dramatically improves the sound of valve amplifiers: models available to suit Audiofine, Audio Innovations, Art Audio, Cary, Unison Research, World Audio Designs. The Border Patrol 300B SE single-ended valve amplifier featuring interstage driver transformers and rectified choke input filter power supplies. Border Patrol transformers: high quality output (PP and SE), interstage and pre-amp output transformers and high value inductors.

**CREEK AUDIO LTD** 12 Avebury Court, Mark Road, Hemel Hampstead, Herts, HP2 7TA. Tel: 01442 260146. E-mail: info@creekaudio.co.uk. Website: www.creekaudio.co.uk - Creek Audio build stylish Hi-Fi products in the UK, combining state of the art electronic design, with full bodied, accurate and musically rewarding sound. Our standard size products come in two award-winning ranges, the entry level 43 series and higher priced 53 series. These include: CD43 Mk2 - CD player with 24 bit resolution DAC, T43 AM/FM Tuner, Integrated Amps - 3330, 3330SE and 4330 Mk2 (described by Stereophile Magazine as the best amp under $1000), the A43 Mk2 and A53 Power Amps range from 50 to 250 Watts and both P43 and P53 Pre-Amps offer passive and active operation with remote control. In addition we have an award winning OBH range of small products: OBH-8SE MM and OBH-9 MM Phono Pre-Amplifiers, OBH-11 and 11 SE Headphone Amplifiers, OBH-10 and 12 Remote Control Passive Pre-Amps and OBH-14 - 24 bit Dac. See our home page for further details or call us for leaflets.

**NORTON TECHNOLOGIES LTD** Manufacturers of the acclaimed Artist Power LIPO 12 Power Supply. 14 Rothesay Avenue, Chelmsford CM2 8HU. (01245) 283125

**PLATFORM 7** High density marble ISOLATION PLATFORMS for all makers of equipment RACKSTANDS An elegant way to UPGRADE. improves clarity: better bass control. 3 Abbotts Drive, North Wembley, Middlesex MA3 3BL. Tel: 020 8904 2646. Also NEALIANG DISTRIBUTION Tel/Fax 01296 24756.

**PMC/BRYSTON** Emmy award winning manufacturer of the highest quality loudspeakers and amplification. Industry standard in Mastering, Film Scoring, Broadcast and Post Productions. (5.1 & Stereo) PMC Products: Compacts, Floorstanders, and Large passive & active monitors. Prices range from £200 to £32,000. Finished in a large selection of exquisite real wood veneers, all PMC loudspeakers are available in horizontal mirrored pairs, centre channel and complementary subs for 5.1 surround systems. Bryston's balanced range of products include HTP Preamps, Integrated, Amp modules for all the PMC range, Monitor, Stereo. Sold at 800w per ch, 3 ch, 4 ch and 5 channel THX amplifiers, Surround processors, all with distortion figures and build quality to die for. Every product is available in silver or black with an optional integral stand. Two analogue tuners have joined the range matching our A21 and Bijou series, offering a digital user interface with excellent facilities. Each amplifier series has a matching CD player with a class A output stage and heavily modified transport. Our A21 HeadMaster offers a pre-amp with three inputs and fixed or variable output with remote control. The HeadMaster can be used as a control unit or in a high quality audio system with excellent headphoned. Please contact us for product information, dealer list and brochures.

**TAG LaCROUTE Audio** The Summit, 1 Latham Road, Huntingdon, Cambus, PE18 4ZU. Tel (+44) (0)140 413600 Fax (+44) (0)140 52159. Combining science and technology with distinct style, TAG LaCroute Audio's complete range of audio and audio-visual products are designed to bring maximum pleasure to the discerning listener. To find out more visit our website at www.taglacrouteaudio.com, email us on HelpDesk@taglacrouteaudio.com or contact our helpful on freephone 0800 783 8007.

**tech+link** distributes some of the best performing hi-fi and av accessories currently available in the UK. These include: preassembled for its range of high performance interconnects and connectors, and cable adapters for a wide variety of hi-fi and av applications in its range; tech-link's own brand of high quality interconnects and connectors - digital compatible, 24k gold plated metal connectors; hi-fi furniture - a selection of high quality speaker stands. To advertise in Meet Your Maker please call Amanda Sweeney on 0208 864 4760.
SOUNDBYTES - OLD SOUNDS, NEW STYLES

In a concerted bid to breathe new life into its ailing MiniDisc format, Sony has come up with a range of cracking, internet-compatible MD portables. The MZ-NS10 Net MiniDisc Walkman features 32x faster music transfer from MP3 to MD's ATRAC 3, 56 hour battery life from its rechargeable battery and a new stick-type remote control. Looks good to us — watch this space for a review! Meanwhile, click on www.sony.co.uk for more information.

FIRED UP

Dolby Laboratories and Texas Instruments Incorporated have announced a prototype device that allows consumers to easily connect FireWire (IEEE 1394) equipped PCs to home cinema systems. The converter allows Dolby Digital and PCM audio to be transferred from a network of IEEE 1394 devices to the S/PDIF connection commonly found on today's home audio equipment. This allows music and gaming enthusiasts to play back popular stereo and multichannel 5.1 computer music files, such as MP3, AAC, and WMA, through their home cinema systems from their PCs.

Consisting of an IEEE 1394 connector at one end and a coaxial S/PDIF connector at the other, it requires no additional wires if power is available from the 1394 cable, though a DC connector is available on the device for an external power supply, if needed. IEEE 1394, also known as Firewire and iLink, was designed to be a universal connection between electronic devices, including camcorders, personal computers, digital televisions, AV receivers, DVD players, printers, and so on. Different types of digital signals can be carried on 1394 cables, including video, audio, MIDI, device control commands, and computer data. Bob Moses, president of Island Digital Media Group said, "We look forward to working with OEMs to bring it to the marketplace."

SIMPLY YEARS AHEAD?

We hear through the grapevine of a new recordable hard disk-based MP3 portable from Philips. The new HDD100 sports a built-in mic which lets you record direct to its 15GB HDD, but unlike its Creative Nomad Jukebox rival doesn't require an external powered microphone or a line input from other audio devices. It's also said to be much smaller and lighter at just 167 grams. The machine supports USB 2.0, which allows users to transfer audio files between the player and a personal computer, and a software-based navigational interface. Although not yet released, expect it soon...

IN STORAGE

Verbatim is currently the only firm in the world that designs, develops and manufactures high performance CD-R, CD-RW, DVD-R and DVD-RW media. No surprise, then, to hear that it has cut recording time with a new 4x DVD-R disc. Having broken the DVD+R speed barrier earlier this year, Verbatim has done it again with the new 4x DVD-R. Lest we forget, DVD-R is the format supported by the DVD Forum, with over two hundred member companies. Bringing performance CD-R, CD-RW, DVD-R and DVD-RW media. No surprise, then, to hear that it has cut recording time with a new 4x DVD-R disc. Having broken the DVD+R speed barrier earlier this year, Verbatim has done it again with the new 4x DVD-R. Lest we forget, DVD-R is the format supported by the DVD Forum, with over two hundred member companies. Bringing...
HOME IMPROVEMENT

Are the acoustics of your room ruining the sound of your system? Here's one way to find out - and even design a new room if you are really serious. Noel Keywood gets the measure of Cara, a room acoustics programme that promises much.

"...analyse and optimise your room acoustics at home" it says, a tantalising promise indeed. It's one that brings a wry smile to my face because like all such computer programmes, room acoustics analysis isn't easy to understand and nor is it amenable to computer analysis. The devil is in the detail, they say, and there's some devilish detail in this programme all right. But at the end of the day CARA, short for Computer Aided Room Acoustics, fulfils its promise in many ways, if not all, and - astonishingly - costs just £30.

Cara hails from Germany and can be found on the Net at www.cara.de. It is a two part programme. CaraCad is a three-dimensional drawing package where you lay out the room to be analysed. This room includes three-dimensional objects, meaning furniture, and even people, because they absorb sound too. After the room has been designed in terms of shape, construction and finish, as well as furnishings and content, then another programme, CaraCalc is brought into use to analyse its acoustic properties. This is where Cara starts to flex its muscle, but it is also where the amount of information processed and displayed becomes overwhelming and even confusing.

A strength of the programme is that it attempts to overcome this difficulty by offering two further features: loudspeaker positioning and auralisation. Both are a great aid to making sense of what is happening, as well as getting a useful end result from hours of diligent toil. Yes, this isn't a programme for anyone other than the interested and dedicated, but as such packages go it wasn't difficult to master - and it is both entertaining and educational.

Cara can be used to analyse the performance of a room, it can be used to design a room, it will optimise the position of your loudspeakers in a room, it will predict whether changes to furniture are an improvement or not, it will tell you what is wrong about your room, and it will even let you listen to your room's affect upon music! You can store all the results, print them, e-mail them and what have you. Loudspeaker generalised models are provided, as well as specific commercial loudspeakers, mostly German.

You need a PC to run the programme, plus Windows 95/98/ME/NT or 2000. I installed into Windows XP and encountered no problems either in installation or use. The programme never hung, nor present any other difficulty. It was stable and effective.

Knowing the complexities of room acoustics, as well as 3D CAD/CAM, I didn't go near the main programme until I had ploughed through most of this. The English commentary is clear and concise, but you are told only how to manipulate 3D graphics card to render and rotate the model of a room, as well as the 3D images of a sound field.

Since processing can take from minutes to many hours, according to the complexities of a room, the number of reflections computed and the number of loudspeakers, it's best to have a decent processor, preferably a Pentium IV with maths co-processor.

However, vast amounts of information and vast amounts of processing yield highly complex results that are difficult to interpret, rather than anything meaningful. For much of the time I found myself using the basics of Cara and processing times were tolerably short, a minute or two at most.

Our review CARA, Version 2.1, came with a Fast Track training CD. It has no fewer than 14 lessons onboard, most of 12MB or so, but one is a massive 40MB so not surprisingly Cara recommend 128MB of memory and advise users to be patient whilst the lessons load.

Knowing the complexities of room acoustics, as well as 3D CAD/CAM, I didn't go near the main programme until I had ploughed through most of this. The English commentary is clear and concise, but you are told only how to manipulate 3D graphics card to render and rotate the model of a room, as well as the 3D images of a sound field.

Since processing can take from minutes to many hours, according to the complexities of a room, the number of reflections computed and the number of loudspeakers, it's best to have a decent processor, preferably a Pentium IV with maths co-processor.

However, vast amounts of information and vast amounts of processing yield highly complex results that are difficult to interpret, rather than anything meaningful. For much of the time I found myself using the basics of Cara and processing times were tolerably short, a minute or two at most.

Our review CARA, Version 2.1, came with a Fast Track training CD. It has no fewer than 14 lessons onboard, most of 12MB or so, but one is a massive 40MB so not surprisingly Cara recommend 128MB of memory and advise users to be patient whilst the lessons load.

Knowing the complexities of room acoustics, as well as 3D CAD/CAM, I didn't go near the main programme until I had ploughed through most of this. The English commentary is clear and concise, but you are told only how to manipulate 3D graphics card to render and rotate the model of a room, as well as the 3D images of a sound field.

Since processing can take from minutes to many hours, according to the complexities of a room, the number of reflections computed and the number of loudspeakers, it's best to have a decent processor, preferably a Pentium IV with maths co-processor.

However, vast amounts of information and vast amounts of processing yield highly complex results that are difficult to interpret, rather than anything meaningful. For much of the time I found myself using the basics of Cara and processing times were tolerably short, a minute or two at most.

Our review CARA, Version 2.1, came with a Fast Track training CD. It has no fewer than 14 lessons onboard, most of 12MB or so, but one is a massive 40MB so not surprisingly Cara recommend 128MB of memory and advise users to be patient whilst the lessons load.

Knowing the complexities of room acoustics, as well as 3D CAD/CAM, I didn't go near the main programme until I had ploughed through most of this. The English commentary is clear and concise, but you are told only how to manipulate 3D graphics card to render and rotate the model of a room, as well as the 3D images of a sound field.

Since processing can take from minutes to many hours, according to the complexities of a room, the number of reflections computed and the number of loudspeakers, it's best to have a decent processor, preferably a Pentium IV with maths co-processor.

However, vast amounts of information and vast amounts of processing yield highly complex results that are difficult to interpret, rather than anything meaningful. For much of the time I found myself using the basics of Cara and processing times were tolerably short, a minute or two at most.
The programme, not how to interpret its results.

The three-dimensional drawing programme, CaraCad, was surprisingly easy to use, compared to graphics software like Macromedia Freehand and Adobe Illustrator. It constructs a room and furnishes it. All surfaces have to be specified to establish the amount of absorption and reflectivity they exhibit. With plaster on brick, a brick wall is first specified and plaster added as a surface finish. I checked this and found that adding, for example, carpet to brick walls alters the room's frequency dependent and time constants, and these can be directly accessed as the room is being specified, a useful feature and an informative one. However, I have internal stud walls and this form of construction isn't mentioned, even though such a wall will absorb and damp bass to some appreciable degree.

The programme can cope with some complexity though, including bay windows with a shelf. It just so happens this is what I have in my lounge, plus a full height, full length heavy curtain to minimise its effects, and CaraCad coped with this situation effectively, showing quite clearly that the curtain alone had the effect of optimising the room's reverberation times across the frequency range. This correlated well with my experience; I generally close this curtain when listening, finding it makes for a clean sound that is easy to assimilate, mainly for lack of confusing reflections from the window.

I also have sound diffusion panels and this, again, Cara cannot cope with, so I used bookcases instead. However, diffusion panels are rare and not easy to model I imagine. The programme has a Materials Editor so new materials can be added, but this is for experts.

CaraCalc analyses room time constants, showing absorption coefficient against frequency and reverb times against frequency, calculated alternatively using Eyring, Sabine and Kuttruff equations. It places ideal limits on the graphs, explains what error exists if there is one, gives a likely cause and suggests improvements! All this is accessible even before a room design has been completed and I found it sensible in every area, making some interesting and quite obscure observations about building construction.

For example, long low frequency reverb times were likely due to massive walls that absorb no energy. These calculations were immediate and in themselves very useful I found. Without going into any further complexity — and there is plenty of it — this Acoustic Ambiance (their spelling, not mine!) function was worth the asking price. It does not require loudspeakers to be placed into the room, whereas all subsequent calculations do.

Once the room has been designed and furnished, using either your own design furniture or pre-designed from a standard selection, loudspeakers and listener can be placed. The point here is that the position of both affects the sound that arrives at the human ear. And position means in three dimensions, so height is important. To this end listener or loudspeaker height can be adjusted independently at any time.

Up to twenty loudspeaker arrangements are catered for, from stereo up to 8.1 surround-sound and PA. Mono isn't on offer, but single speaker excitation can be selected. When experimenting with sound in a room it's useful to use a single speaker to see its basic modal properties more clearly. Also, both speaker and listener need to be placed either at nodes or anti-nodes to see what is happening in any particular plane, bearing in mind this programme plots three at once. There are lots of points to bear in mind here. For example, a side loudspeaker will not, plotted alone, reveal rear-wall interference (comb filtering) whilst a front one will. A room response using all five loudspeakers of a surround system will yield very complex behaviour and whilst their summation at the listening position will give a result that should be true for all five working simultaneously, if you want to know how accurately the centre front (say) reproduces vocals then you should analyse this speaker alone.

Although I have talked about five loudspeakers, in fact the programme handles the subwoofer as well. My only gripe is that if you want to look solely at low frequency modal behaviour (room boom) it isn't easy to do so. The band limiting adjustment function on our sample was greyed out and I could find no way to activate it.

Having selected the loudspeaker arrangement the loudspeakers themselves must be specified. You can
choose either generic types, specific models (mainly German) or specify your own. This last option was unnecessarily detailed, even asking for impedance. In truth, the sort of information really needed — a polar radiation pattern — is not available, nor predictable from the info requested. Here, I had some doubts about Cara; some of its complexity seems gratuitous. I used generic models, noting their response, which was quite accurately portrayed. It just isn’t worth going to the nth degree of detail in any area when specifying something like a loudspeaker, when just moving your head can radically change what you hear in a room. Cara illustrates this in its analyses of various listener positions.

Having placed loudspeakers and listener on the floor plan of a room everything can be checked by switching to a 3D view that can be rotated! Here you get to see your own room, real or imaginary: It can be saved to disc of course with, say, curtains open and curtains closed, for future reference. Both loudspeakers are placed within a box defining the limits of possible positioning. Results can be plotted for either loudspeaker and for more than one listener.

With everything in place CaraCalc is started to provide analyses in addition to those already discussed. Under a ‘Calculations’ drop down menu there are four sections: Positional Optimisation, Sound field, Special Calculations and Auralisation.

The first will carry out successive calculations to find the best loudspeaker position and move each loudspeaker accordingly. In practice hundreds of calculation need to be run in a complex situation, but this takes 10-15 minutes or so. Graphs can be plotted of the before and after response and they show Cara manages to achieve useful improvements in response flatness. If this isn’t impressive enough the programme can be asked to calculate the total sound field in a room and show it in colour 3D. The plots at each frequency can be run as a loop and it all looks very impressive, but here I wondered about the real value of what was happening. This gives the impression of a sequence of events, when in fact once the sound field has stabilised, they are simultaneous. Moreover, at high frequencies the field is so complex it is largely meaningless to casual inspection, unless large problems exist. Even at low frequencies, to see the basic modal behaviour of a room it is necessary to place the loudspeaker and listener on one node alone, otherwise the 3D representation is inordinately complex and difficult to interpret. I constructed theoretical rooms (16ft cubed for example) to view this information more clearly.

Computing the data needed for such a 3D image is time consuming, especially if the maximum Reflection Order of 5 is set. However, again I am not sure either this information, or the propagation of a Dirac Pulse will be of much value to most users. The Dirac pulse should propagate spherically, whereas it appears to be modelled as a plane wave, but this is a minor detail. A time domain analysis such as this can show the shadowing affect a large object may have and placing a bookcase in the centre of a room showed the package can resolve and display this sort of effect clearly. It may well identify a flutter echo, but it would take a fairly skilled user to be able to identify such a thing. The user information provides no guidance on such matters; you either understand what is on display, or they are just pretty moving pictures.

The Special Calculations menu is more accessible and useful, as well as being fast in calculation. It provides 2D graphs of frequency response at the listening position and these can be saved, compared on screen or in printed form. By changing the listening position and/or the loudspeakers Cara clearly shows just how much the room affects what you hear; both in the frequency domain as a response plot and in the time domain as an energy decay plot that can show effects like echoes.

Always of concern and interest is a room’s basic low frequency modal behaviour determined by length, width and height resonant modes and Cara plots these quite well I found, the only problem being they are not identified as such, so you must do a few calculations yourself to see which peaks relate to these dimensions.

Finally comes the Auralization function of Cara and it really is the icing on the cake. It will calculate and save the transfer function of a room then, using a special player, music excerpts can be played back with or without the sound of the room imposed. This way you can actually

Reflections from a rear wall interfere with direct sound from a loudspeaker, resulting in reinforcement and cancellation producing a comb filter response. Cara clearly shows this effect and how well any rear surface treatment will likely reduce it.
Cara's floor view of a lounge with bay window, accompanied by its 'Acoustic Ambiance' analysis and comments.

hear what effect a room is having. Since the music comes from a .wav file you can transfer music from CD in order to use familiar excerpts. Of course, you can object that any music played like this will have the sound of two rooms imposed upon it; plus the sound of the computer's replay system, in which case headphones should be used. Again though, it's an interesting function and does make obvious what certain gross effects might be having upon the sound.

The million dollar question I have purposely left until last is: does it work? And the depressing answer for those who wrote this impressive piece of software is: sort of. That's not so much a criticism of Cara as an observation about the likely accuracy of any programme that attempts the near-impossible. As I noted earlier I felt it made the right decision about decay times. On listening position response accuracy Cara also managed to identify the basic modes of my own lounge, which is not rocket science, but much past this what it predicted did not relate well to measurement.

This is partly due to the accuracy with which anyone can possibly input correct absorption and reflection data. For example, I have two large, heavy settees that absorb and damp down bass strongly, more so than the two settees from Cara's own library I suspect. Since the acoustic performance of settees isn't a widely researched subject we'll never be any the wiser about this, but it likely accounts for my lounge having around +5dB overall room gain at low frequencies, where Cara predicts +10dB. Overall response variation shown by Cara is a large 10dB or so around a flat balance, whilst my room is actually far smoother, with 3dB or so variation, but has gently falling treble at the listening position, with one loudspeaker working. This is as expected, since it has a lot of floor and wall absorption, plus diffusion panels behind the listening position and at critical reflection points to control listening conditions. Cara's modelling of this just wasn't accurate enough and any such programme will always struggle to model reality accurately.

Once more than two loudspeakers are used in a room it is almost forced to perform well, at least in an averaged sense. With five surround sound loudspeakers diversity of their positioning relative to the listener will ensure pretty even overall results from Cara, as it does from pink noise measurement in reality. But if any one loudspeaker is badly positioned - let's say the centre speaker - then vocals from that speaker may be badly coloured. This underlines the need to use simple single-speaker analysis, which Cara has. A system result with multiple loudspeakers will most likely be misleadingly good. Matters like this are not explained adequately; a PDF manual discussing such basic issues is needed to get the best from this programme.

This is a fascinating and powerful programme. It is also informative and good fun too. At the end of the day what it predicts may or may not truly represent a real-life situation, according to the accuracy of data entry - and this is almost impossible to get right. All the same, by careful use and experiment you can still achieve a lot with a programme like this and I can't quite believe it is on offer at £29.95. I would have guessed a price way above this. Cara is a programme well worth having in my view. However, I would recommend it is used in conjunction with a book like Acoustics and Psychoacoustics by David Howard and James Angus, which can explain the many issues involved, in order to get the best from it. Then Cara does provide useful guidance on the best way to optimise the sound quality of your room.

OTHER VIEWS

Acoustics modelling took to the computer some time ago. but with limited success. Professor Y. Lamm of the School of Acoustics Engineering at Salford University listed some professional programmes: ODEON http://www.dat.dtu.dk/-odeon; CATT at http://netg.se/-catt and EASE at http://www.ada-acousticsdesign.de.

CATT in particular explains its workings and you can download a demo programme for free.
Put The Needle

On The Record

And The Drum Beat

Goes Like This

Pro-ject,

stunning record playing systems from £115

Distributors: Henley Designs Ltd, 01235 511166
www.henleydesigns.co.uk, e-mail info@henleydesigns.co.uk
Here's a list of products that are a good buy. We've tried to cater for a range of tastes, identifying strong products in every area. We're agnostic so you’ll find a wide range of products, from valve pre-amps through to MiniDisc players. Products marked * are recently out of production but make a good second-hand buy.

**Prices shown are those at the time of the review**

**COMPACT DISC TRANSPORTS**

<table>
<thead>
<tr>
<th>Product</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>SONIC FRONTIERS TRANSPORT</td>
<td>£6999</td>
</tr>
</tbody>
</table>

Cutting-edge design and technology combine to make this one very desirable product. The only problem is the fantasy high price. (Sep 98)

<table>
<thead>
<tr>
<th>Product</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAMBRIDGE CD4SE</td>
<td>£200</td>
</tr>
</tbody>
</table>

A touch soft in the treble but outstanding in every other respect. (Feb 98)

<table>
<thead>
<tr>
<th>Product</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>KENWOOD DP-3080III*</td>
<td>£180</td>
</tr>
</tbody>
</table>

Has great clarity and presence for the price. Not as naturally expressive as the CD4SE though. (Feb 98)

**DACs**

<table>
<thead>
<tr>
<th>Product</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAMBRIDGE AUDIO DACMAGIC 3*</td>
<td>£99</td>
</tr>
</tbody>
</table>

Superb value for money with extensive facilities and solid, detailed sonics. Upgrades any sub-£800 player. (Sep 97)

<table>
<thead>
<tr>
<th>Product</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSICAL FIREFLY DEBUT 10</td>
<td>£110</td>
</tr>
</tbody>
</table>

Frighteningly good with a DC motor and HDCD capability at a midrange price. Plain Jane looks but solid construction. There is some higher than average measured distortion which may take the edge off this otherwise tempting product. (Aug 99)

<table>
<thead>
<tr>
<th>Product</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIDIMAN FLYING COW</td>
<td>£299</td>
</tr>
</tbody>
</table>

A taste of the high end on a budget. Rich, clean, punchy sound transforms budget CD players. (Sep 97)

**TURNTABLES**

<table>
<thead>
<tr>
<th>Product</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>LINN SONDEK LP12 BASIK</td>
<td>£1100</td>
</tr>
</tbody>
</table>

Off the pace these days in many respects but still an extremely sweet and engaging listen with a quintessentially analogue sound. (Sep 98)

<table>
<thead>
<tr>
<th>Product</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>HADCOCK 242 SE</td>
<td>£669</td>
</tr>
</tbody>
</table>

Latest of a long line of unipivot arms. Added mass makes the 242 suitable for both low compliance MCS and straw-in-the-wind high compliance types. Revised geometry and chromium plating completes a first-class job. (Jun 2001)

<table>
<thead>
<tr>
<th>Product</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAIM ARO*</td>
<td>£975</td>
</tr>
</tbody>
</table>

Truly endearing and charismatic performer - wonderfully engaging mid-band makes up for softened frequency extremes. (Jun 2001)

<table>
<thead>
<tr>
<th>Product</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>REGA RB100</td>
<td>£180</td>
</tr>
</tbody>
</table>

Some may prefer the simpler RB30 at £130. Detailed, light, rhythmic sound but tonally rather grey and cold-sounding. Still excellent value, though.
New, Ex-dem and Previously Cherished Hi-Fi

Our prices are 10 - 20% below market value for rapid turnover
All used equipment guaranteed for six months; new and ex-dem adds manufacturer guarantee. New (factory) sealed boxes indicated (New), Ex-dem (Ex-D) or Used (s/h)
Goods mostly shipped next day delivery by TNT. UPS premium service costs £9 per box UK next day.

Digital

<table>
<thead>
<tr>
<th>Product</th>
<th>New Price</th>
<th>Ex-D Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOW ZZ 8 Cd Player 125 Bus (ex-d, mint)</td>
<td>£4,995</td>
<td>£3,495</td>
</tr>
<tr>
<td>Gryphon Adagio (3 months old, s/h, mint)</td>
<td>£4,300</td>
<td>£3,250</td>
</tr>
<tr>
<td>Neukomm Reference CD Player (ex-d, mint)</td>
<td>£2,250</td>
<td>£950</td>
</tr>
</tbody>
</table>

Amplifiers

<table>
<thead>
<tr>
<th>Model</th>
<th>New Price</th>
<th>Ex-D Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art Audio Diavolo monoblocks 300B</td>
<td>£5,995</td>
<td>£3,995</td>
</tr>
<tr>
<td>Ayre Acoustics K1 (phono) Preamp (ex-d, mint)</td>
<td>£7,995</td>
<td>£3,250</td>
</tr>
<tr>
<td>BOW ZZ 1 Integrated (ex-d, mint)</td>
<td>£2,795</td>
<td>£1,995</td>
</tr>
<tr>
<td>Gryphon Callisto 2200 Int Amplifier (s/h, mint, with phono)</td>
<td>£5,790</td>
<td>£4,150</td>
</tr>
<tr>
<td>Mark Levinson No. 335, 250 wpc (s/h, mint)</td>
<td>£6,995</td>
<td>£4,995</td>
</tr>
<tr>
<td>Mark Levinson No. 335 (New, sealed box)</td>
<td>£8,995</td>
<td>£5,495</td>
</tr>
<tr>
<td>Musical Fid elity A1000 (s/h, mint)</td>
<td>£1,399</td>
<td>£595</td>
</tr>
<tr>
<td>Neukomm Ref Amplifier 150 wpc (ex-d, mint)</td>
<td>£2,500</td>
<td>£950</td>
</tr>
<tr>
<td>Pass Labs X-2 Pre-amp (New)</td>
<td>£2,550</td>
<td>£1,250</td>
</tr>
<tr>
<td>Pass Labs Aleph-5 (s/h, mint)</td>
<td>£3,250</td>
<td>£1,750</td>
</tr>
<tr>
<td>Proceed Pre-amp (Fully Balanced, s/h, mint)</td>
<td>£1,995</td>
<td>£795</td>
</tr>
<tr>
<td>Unison Research 845 Absolute (s/h, mint, very rare, beautiful and sonically without an equal)</td>
<td>£19,995</td>
<td>£6,500</td>
</tr>
</tbody>
</table>

Loudspeakers

<table>
<thead>
<tr>
<th>Model</th>
<th>New Price</th>
<th>Ex-D Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audiostatic Wing Electrostatics (ex-d, slight mark)</td>
<td>£5,000</td>
<td>£2,495</td>
</tr>
<tr>
<td>Avalon Arcus (cherry finish, mint, s/h)</td>
<td>£7,800</td>
<td>£4,650</td>
</tr>
<tr>
<td>Proac Future 2 (ex-d, mint, birds eye maple)</td>
<td>£11,450</td>
<td>£5,995</td>
</tr>
<tr>
<td>Wilson Audio Audio 6.1 (ex-d, mint)</td>
<td>£20,000</td>
<td>£9,995</td>
</tr>
<tr>
<td>Zingali Overture Reference 1S (Ex-D, mint, old style grills)</td>
<td>£1,990</td>
<td>£1,550</td>
</tr>
<tr>
<td>Zingali Overture Reference 4S (Ex-D, slight damage on one corner of one speaker)</td>
<td>£4,750</td>
<td>£2,950</td>
</tr>
</tbody>
</table>

Analogue

<table>
<thead>
<tr>
<th>Model</th>
<th>New Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nakamichi Dragon Tape Deck (mint)</td>
<td>£1195</td>
</tr>
<tr>
<td>SME Model 10 + IV Arm + Audio Note ANVx + VDH Frog Mark 2 (s/h, mint)</td>
<td>£5,658</td>
</tr>
</tbody>
</table>

List no 84. For an updated and comprehensive list of equipment and audio cables, please visit www.audiosalon.co.uk

Audio source cables

Unlike other cables, Stratos wire and materials are unique; plugs and soldering techniques are all hand-crafted. The original specifications were designed and refined by one of the world’s leading audiophile designers. By consensus of experienced customers the sonic performance equals and exceeds respected interconnects up to the £800 point; the figure is not our wild claim. Now in its third series and sixth year, AudioSource cables are a cult with worldwide sales. High performance with low price is achieved by direct sales and advertising restricted to under 5% of sales volume.

One meter pair using our own phosphor bronze RCA plugs or Neutrik’s balanced XLR plugs costs £125, or £99 for one half metre. For longer lengths add £35 per stereo metre per pair.

Literature and product information are readily available. Home trial offers a full refund if not impressed.

The full range of audio mains cables from £55 up to our £150 Integra is available. AudioSource offer a two (£129), six (£349) or eight outlet (£389) mains conditioner, hand made from non-plastic, non-ferrous materials for amazing mains purity.

Visit www.audiosource.co.uk for further information.

tel 0141 357 5700 fax 0141 339 9762
info@audiosalon.co.uk www.audiosalon.co.uk

JPS developed Alumiloy wire to deliver sound like no other. Our proven cable designs bring a live performance to your ears with paper timber and an unbroable balance. Try any one of our unique cables to hear why JPS truly has...

the world's finest cables!

JPS made in the USA

www.jpslabs.com
In a fast-moving industry, it makes sense to base choices around established companies that employ new technology to enhance, not compromise their performance. Our enthusiastic, knowledgeable staff will be pleased to assist you explore these new advances, book your audition now.
SOUND SYSTEMS

Billy Vee

SAVE UP TO 50% ON EX-DISPLAY BARGAINS
SOME AS NEW WITH 2YR WARRANTY. 24HR DEL ONLY. E&OE. CALL FOR DETAILS.

Arcam A85 Amplifier (1Yr G/tee) .................................................. (799.00) .......................... £599.00
Arcam DT26 DAB Tuner (2Yr G/tee) ........................................... (999.00) .......................... £659.00
Arcam FMU CD23 CD Player (1Yr G/tee) ..................................... (1199.00) .......................... £785.00
Arcam FMU DV27 DVD Player (2Yr G/tee) ................................. (1599.00) .......................... £1150.00
Celestion Compact A Spkrs Rh/hlt (1Yr G/tee) ............................ (600.00) .......................... £419.00
K.E.F. Q5 Spkars-Cherry (2Yr G/tee) ............................................ (599.00) .......................... £419.00
K.E.F. PSW 3000 Subwoofer (2Yr G/tee) ................................. (999.00) .......................... £749.00
Linn Classik K CD System (2Yr G/tee) ........................................ (999.00) .......................... £1595.00
Linn Classik Movie System (2Yr G/tee) ..................................... (1995.00) .......................... £2950.00
Linn LK85 Power Amp (2Yr G/tee) ............................................. (495.00) .......................... £295.00
Linn Klout Power Amp-As New (5Yr G/tee) ............................... (2400.00) .......................... £1600.00
Linn KAN Speakers (2Yr G/tee) .................................................. (325.00) .......................... £185.00
Lexicon MC1 Processor (2Yr G/tee) ........................................... (5500.00) .......................... £2795.00
MUSICAL FIDELITY X-A206i1000pair 200W of high-end monobloc power in a grooved tube. .......................... (Aug 98)
NAIM NAP180 ................................................................. £1060.00
Partnered with a NAC102, this has classic Naim control, and a superbly rhythmic presentation.
TUNERS
CAMBRIDGE T500 ............................................................... £180.00
An extremely engaging tuner with a performance as odds with its low price. Not exactly a Troughline, but you may not notice... (Feb 99)
CREEK T43 ................................................................. £399.00
Excellent detail, separation and dynamics. A great little tuner and unbeatable at this price. (May 98)
MARANTZ ST17 ............................................................... £600.00
A positive dreadnought of a tuner. Sweet and refined but with a heavy punch when needed. A tuner of this quality demands a decent aerial. (Jul 99)
NAIM NAT03 ................................................................. £595.00
The NAT03's warm, atmospheric sound is further proof of Naim's proficiency with tuners. (Sep 99)
SONY STS-A3ES* ........................................................... £250.00
Regulating RDS tuner for the sonically discerning. Good ergonomics and sensitive too. (Apr 97)
CASSETTE DECKS
AIWA AD-S750* ........................................................... £200.00
Sonically a very decent machine at the price. Comes fitted with Dolby B, C and the dead handy Dolby S. (Apr 96)
AIWA AD-S950* ........................................................... £300.00
A stable transport, superb head and Dolby S make the AD-S950 an excellent all-rounder. (Feb 95)
KENWOOD KX-3800* ......................................................... £160.00
A simple deck, but excellent-quality head and transport give top quality sound. (Oct 96)
LOUDSPEAKERS
KeF Cresta I loudspeakers ............................................. £100.00
A very musical sound
CASTLE EDEN ................................................................. £469.00
Impressively wise-free speakers that offer great transparency and involvement. One of a select band that simply makes music regardless. (Mar 97)
EPOS ES12* ................................................................. £495.00
Strong, punchy bass is allied to finely detailed, articulate midrange and sparkling treble. (Oct 96)
KEF CRESTA I ................................................................. £100.00
Delightfully sophisticated presentation for the price. Won't blow the roof off, but will deliver a very musical sound. (April 2000)
KLIPSCH HERESY II ........................................................... £1100.00
An outstanding high sensitivity loudspeaker with midrange and treble horns coupled with infinite baffle 12" bass driver. Effortless, fast and accurate. (May 98)
MISSION 752* ................................................................. £495.00
Cracking mid-price mini towers combined HDQ drive units and metal dome tweeters with surprisingly warm results. Benign load characteristics makes them great for valves.
MISSION 77I ................................................................. £170.00
Characteristically fast, punchy Phission sound from the Aerogel midbass and silk-dome tweeter. (Jul 98)

SONETTEER SEDLEY .................................................. £399.00
Combines transparency and fine dynamics with excellent rhythmic ability. (May 98)
PRE-AMPLIFIERS
AMC 1100 ................................................................. £150.00
Suffers from un-defeatable tone controls but an extremely good value piece of kit. Partner's the similarly budget level AMC 2200 power amplifier, also at £150. Comfortable beginners' choice. (Mar 99)
AUDIO ANALOGUE
BELLINI ................................................................. £475.00
Showcases AA's characteristic mix of clarity and musicality and blasts the competition. (Apr 99)
CHORD CPA1800 .......................................................... £1800.00
Clarity, insight and control are second to none - an addictive mixture. (Nov 99)
CROFT VITALE ............................................................ £350.00
A modestly priced valve pre-amp with exceptionally transparent performance. MM phono stage plus three line stages are standard Volume controls are separate for each channel, thus giving balance adjustment. A remarkable item in all respects. (Feb 2000)
XTC PRE-I* ................................................................. £1000.00
Almost valve-like in its smoothness, the line-level Pre-I is warm and seductively clear. (Nov 99)
POWER AMPLIFIERS
ARCAM 9* ................................................................. £400.00
With 70W on tap, the 9P will drive most loudspeakers with a spacious and detailed sound. Good bass welly too. (Dec 96)
CHORD SPM400 ............................................................. £1400.00
There's a sense of effortless power to the Chord that gives music real scale and presence. (Mar 99)
MARANTZ MODEL 9* ....................................................... £8000.00
Authentic reproduction monoblocs still more than cut the sonic mustard. Highly expensive and highly sought after. (Mar 97)
MICHHELL ALECTO ...................................................... £1899.00
Crisp, clean and beautifully controlled with gorgeous styling. Partnered with the £1650 Onca this is a superb winning combo. (Oct 99)

MARANTZ DV7000 DVD Player (1Yr G/tee) .................................... £599.00
MUSICAL FIDELITY X-A206i1000pair 200W of high-end monobloc power in a grooved tube. (Aug 98)
NAIM NAP180 ............................................................... £1060.00
Partnered with a NAC102, this has classic Naim control, and a superbly rhythmic presentation.
TUNERS
CAMBRIDGE T500 ............................................................... £180.00
An extremely engaging tuner with a performance as odds with its low price. Not exactly a Troughline, but you may not notice... (Feb 99)
CREEK T43 ................................................................. £399.00
Excellent detail, separation and dynamics. A great little tuner and unbeatable at this price. (May 98)
MARANTZ ST17 ............................................................... £600.00
A positive dreadnought of a tuner. Sweet and refined but with a heavy punch when needed. A tuner of this quality demands a decent aerial. (Jul 99)
NAIM NAT03 ................................................................. £595.00
The NAT03's warm, atmospheric sound is further proof of Naim's proficiency with tuners. (Sep 99)
SONY STS-A3ES* ........................................................... £250.00
Regulating RDS tuner for the sonically discerning. Good ergonomics and sensitive too. (Apr 97)
CASSETTE DECKS
AIWA AD-S750* ........................................................... £200.00
Sonically a very decent machine at the price. Comes fitted with Dolby B, C and the dead handy Dolby S. (Apr 96)
AIWA AD-S950* ........................................................... £300.00
A stable transport, superb head and Dolby S make the AD-S950 an excellent all-rounder. (Feb 95)
KENWOOD KX-3800* ......................................................... £160.00
A simple deck, but excellent-quality head and transport give top quality sound. (Oct 96)
LOUDSPEAKERS
KeF Cresta I loudspeakers ............................................. £100.00
A very musical sound
CASTLE EDEN ................................................................. £469.00
Impressively wise-free speakers that offer great transparency and involvement. One of a select band that simply makes music regardless. (Mar 97)
EPOS ES12* ................................................................. £495.00
Strong, punchy bass is allied to finely detailed, articulate midrange and sparkling treble. (Oct 96)
KEF CRESTA I ................................................................. £100.00
Delightfully sophisticated presentation for the price. Won't blow the roof off, but will deliver a very musical sound. (April 2000)
KLIPSCH HERESY II ........................................................... £1100.00
An outstanding high sensitivity loudspeaker with midrange and treble horns coupled with infinite baffle 12" bass driver. Effortless, fast and accurate. (May 98)
MISSION 752* ................................................................. £495.00
Cracking mid-price mini towers combined HDQ drive units and metal dome tweeters with surprisingly warm results. Benign load characteristics makes them great for valves.
MISSION 77I ................................................................. £170.00
Characteristically fast, punchy Phission sound from the Aerogel midbass and silk-dome tweeter. (Jul 98)
Arcam Alpha 7 Tuner (6Mth G/tee) (2079.00) £149.00
Arcam Alpha 8 Tuner (6Mth G/tee) (399.00) £169.00
Arcam A22/P75 Dave AV Amp (1Yr G/tee) (2849.00) £1495.00
Linn KAN/2 Spkrs/Stands Blk (6Mth G/tee) (450.00) £275.00
Linn Karik 3 CD Player (6Mth G/tee) (1850.00) £650.00
Epos ES11 Spks in Stands (6Mth G/tee) (400.00) £245.00
Linn Numerik D A Converter (6Mth G/tee) (1100.00) £529.00
Linn Kolektor Preamp (1Yr G/tee) (495.00) £369.00
Linn Wakonda Preamp (1Yr G/tee) (845.00) £489.00
Linn Kaim Pro Preamp (1Yr G/tee) (1400.00) £599.00
Linn Kaim PhonO Preamp (1Yr G/tee) (1700.00) £799.00
Linn LK100 Power Amp (1Yr G/tee) (695.00) £349.00
Linn KAN/2 Spkrs/Stands Blk (6Mth G/tee) (450.00) £199.00

Quad ESL 63* £3450
Tannoy AMS8* £2700
Tannoy Mercury m2* £140

Kenwood DMF-9020 £500
Marantz DR-17 £1100
Philips CDR-765 £340
Pioneer PDR-555R £480

MINIDISC PLAYERS

KENWOOD DM-9090 £500
SONY MDS-JB930Q £250
SONY MDS-JAS05ES £1300
SONY MDS-JES510 £300

DVD PLAYERS

Denon DVD-5000 £1600
SONY TCD-B DATMAN* £599
SONY DV-17 £700
Pioneer DVD-717 £700
SONY DVP-5725 £490

DIGITAL RECORDERS

Alesis Masterdsk £1400

HEADPHONES

Jeklin Float Model Two £99

LOUDSPEAKER CABLE

Chord Company Blue Heaven £9.95m
Chord Company Rumour £9.95m
Nordost Blue Heaven £150m

INTERCONNECTS

Chord Company Chameleon 2 £90/m

EXCELLENT VALUE PRE-OWNED BARGAINS

SECONDAIR UNITS - WITH WARRANTY 24HR DEl ONLY £5. CHECK AVAILABILITY BEFORE ORDERING

Call Sales: (020) 8318 5755 or 8852 1321 - 248 Lee High Road, London, SE13 SPE

Arcam Diva CD72 Player (6Mth G/tee) . . . . . (399.00) £259.00
Arcam A22/P75 Dave AV Amp (1Yr G/tee) (2849.00) £1495.00
Arcam Alpha 8 Tuner (6Mth G/tee) (399.00) £169.00
Arcam Alpha 7 Tuner (6Mth G/tee) (279.00) £169.00
Epos ES11 Spks in Stands (6Mth G/tee) (469.00) £195.00
Linn Karik 3 C D Player (6Mth G/tee) (1850.00) £650.00
Linn Numerik D A Converter (6Mth G/tee) (1100.00) £529.00
Linn Kolektor Preamp (1Yr G/tee) (495.00) £369.00
Linn Wakonda Preamp (1Yr G/tee) (845.00) £489.00
Linn Kaim Pro Preamp (1Yr G/tee) (1400.00) £599.00
Linn Kaim PhonO Preamp (1Yr G/tee) (1700.00) £799.00
Linn LK100 Power Amp (1Yr G/tee) (695.00) £349.00
Linn KAN/2 Spkrs/Stands Blk (6Mth G/tee) (450.00) £199.00
Marantz DV890 DVD Player (1Yr G/tee) . . . . (399.00) £149.00
Naim NAC 32.5+ SNAPS Pre/Supply (6Mth G/tee) N/A £145.00
Naim 42/90 Pro-Power amp (6Mth G/tee) . . . (700.00) £350.00
Naim NAC72 Preamp (6Mth G/tee) (745.00) £245.00
Naim NAP 90 Power Amp (6Mth G/tee) (495.00) £275.00
Naim Hi-Cap Power Supply (1Yr G/tee) (799.00) £395.00
Naim PSX Power Supply-CDX (1Yr G/tee) (2100.00) £1695.00
Naim NAP 135 Power Amps (1Yr G/tee) (3200.00) £1600.00
Naim SBL Speakers-Black (1Yr G/tee) (2362.00) £1095.00
Pioneer PDR609 CD Recorder (6Mth G/tee) (249.00) £169.00
Pioneer DV909 DVD/Laser Sil (6Mth G/tee) (899.00) £269.00
Rega Luna Amplifier (6Mth G/tee) (498.00) £249.00
Spendor S3 Speakers (1Yr G/tee) (600.00) £449.00

www.hi-fiworld.co.uk
JULY 2003 HI-FI WORLD & COMPUTER AUDIO 91
welcome to
world classics

CASSette

NAKAMICHI DR-2
A great machine with Nakamichi's legendary heads. The lowest cost 'true' Nakamichi at the time, retailing for £600.

NAKAMICHI CR-7
The last of the great ones, and definitely the best Nakamichi ever (yes, better than a Dragon).

YAMAHA TC-800G
Early classic in serious cassette. Its ski-slope looks got it a cult following once it had ceased to be simply ugly.

APPLIcATIONS

LEAK POINT ONE, TL12 & TL10
Ancestors of hi-fi, consequently expensive nowadays. As with all vintage valve stuff, overhaul is de rigueur before use, using original parts if possible.

LEAK PRE-AMPS
Line of 'good for their time' pre-amps. Use of EP86 pentode valve for high gain rules out ultra performance. Not the highest-fi.

LEAK STEREO 20
Excellent workaday classic valve amp. In good order the 20 will not disgrace itself. Various upgrades are available from specialist repairers.

LEAK TL12+:

NAD 3020
You can't argue with success! NAD's budget transistor gave thousands their first taste of hi-fi and remains great value.

QUAD 22/11 PRE/POWER
One of the all-time classic valve amplifiers. Unusual circuit but it works beautifully. 22 pre-amp not up to today's standards.

SUGDEN A21
Seventies transistor integrated has an eminently likeable smoothness and musicality. Limited inputs via DIN sockets.

TECHNICS SE-A5 Mk2
Nice transformer and electronics, shame about the casework. With tweaking, this 150watter can sound sweet.

LOUDSPEAKERS

KLIPSCHORN
Not exactly plentiful or cheap but a splendid beast. For efficiency they have seldom been equalled. Space hungry!

Garrard 401
A legendary turntable.

Visit The Tube Shop
www.tube-shop.com

Why choose Tube-Shop.Com

- Over 2,500 different tube types In stock at all times
- We offer you the best prices around, Guaranteed
- UK's first fully online tube ordering system
- Expert matching service by PM Valve Labs
- We sell only the world's BEST brands
- Next day delivery (if ordered before 3pm)
- Free delivery (on all orders over £50)
- MONEY BACK GUARANTEE
- Trade enquiries welcome

a lot easier!
'My tubes are impossible to get hold of'

0870 9220404
LEAK SANDWICH
Rather warm sounding big infinite baffle but cheap with it. With a reasonably powerful amp can sound quite satisfying.

LOWTHER PH6A
High quality full-range driver; still manufactured. High sensitivity, as fitted to many classic horn designs.

MAGNEPLANAR SMDs
Touch dry in the bass but a technological amp can sound quite satisfying.

MISSION 770
Father of the 77 range which continues to this day. Well mannered with a warm sound and a kind load to amplifiers.

QUAD ESL57
Unfamiliar. Properly serviced there is nothing like them. Their natural presentation may make them caviar to the general.

YAMAHA NS 1000M
Unrivalled. Properly serviced there is nothing. Makers still service.

MICHELL FOCUS ONE
20 years and still going strong. Early runner in the 'modern' turntable cycle with a first class arm, up to present-day standards.

ARISTON RDJ
Great deck for the kitchen table enthusiast. A proper hi-fi arm for 78rpm too!

THORENS TDI150
Mid-price deck with a keen following. No real difficulty with servicing - novices may find the suspension system unnerving.

TRIO L-7D
Knockout heavyweight from 1980 with stainless bearing and 1lb platter! Not a give-away and beware - spares scarce.

LEAK TROUGHLINE (ORIGINAL)
Interesting ornament but no longer a real. Limited coverage of 88MHz to 100MHz only.

LEAK TROUGHLINE II & III MONO
Arguably the best-sounding tuners ever. Adaptation for stereo easy via photo multiply socket.

LEAK TROUGHLINE III STEREO
Excellent tuner with indifferent stereo decoding circuit. Best when adapted to use modern outboard decoder.

MARANTZ ST-8
Possibly the ultimate Tardis console, including an oscilloscope for checking the strength of signal. Expensive even now.

THORENS TD124
Best classic deck ever? Judging by the prices they fetch it's possible - Tlbrpm tool!

ACOS LUSTRE
Very honest piece of kit. well made and easily adjusted.Viryl beginners could do very much worse.

ALPHASON HR100S
First class arm, up to present-day standards. Buy carefully, though, as there's no service available now.

GARRARD 301 & 401
Legendary turntables, once fairly plentiful. Not the last word but peanuts second-hand.

GOLDRING Lenco 88 & 99
Great deck for the kitchen table enthusiast. Garrard fans won't look at 'em but cheap and capable. Servicing available.

HADDOCK 228
Recently out-classed by Haddock's updated 228 Special Edition but a proper hi-fi arm for all that. Makers still service.

LEAK TROUGHLINE II Mono
Recently out-classed by Hadcock's updated 228 Special Edition but a proper hi-fi arm for all that. Makers still service.

LEAK TROUGHLINE III Stereo
Excellent tuner with indifferent stereo decoding circuit. Best when adapted to use modern outboard decoder.

ARISTON RD-1
Arguably the best-sounding tuner ever. Adaptation for stereo easy via photo multiply socket.

TANNOY GRF & AUTOGRAPH
Ideal experimenters driver. High sensitivity -14,000 Gauss magnet and extended frequency range. Inexpensive too!

TANNOY YORK, LANCASTER
Uncomplicated, lower-price version of the M75 behind but the wide range of its stablemates.

LOWTHER PM6A
Many similar models of infinite baffle or reflex design. Not the last word. Many classic horn designs.

LEAK SANDWICH
Rather warm sounding big infinite baffle but cheap with it. With a reasonably powerful amp can sound quite satisfying.

LOWTHER PH6A
High quality full-range driver; still manufactured. High sensitivity, as fitted to many classic horn designs.

MAGNEPLANAR SMDs
Touch dry in the bass but a technological amp can sound quite satisfying.

MISSION 770
Father of the 77 range which continues to this day. Well mannered with a warm sound and a kind load to amplifiers.

ASSOCIATED ESL57
Unfamiliar. Properly serviced there is nothing like them. Their natural presentation may make them caviar to the general.

YAMAHA NS 1000M
Unrivalled. Properly serviced there is nothing. Makers still service.

MICHELL FOCUS ONE
20 years and still going strong. Early runner in the 'modern' turntable cycle with a first class arm, up to present-day standards.

ARISTON RDJ
Great deck for the kitchen table enthusiast. A proper hi-fi arm for 78rpm too!

THORENS TDI150
Mid-price deck with a keen following. No real difficulty with servicing - novices may find the suspension system unnerving.

TRIO L-7D
Knockout heavyweight from 1980 with stainless bearing and 1lb platter! Not a give-away and beware - spares scarce.

LEAK TROUGHLINE (ORIGINAL)
Interesting ornament but no longer a real. Limited coverage of 88MHz to 100MHz only.

LEAK TROUGHLINE II & III MONO
Arguably the best-sounding tuners ever. Adaptation for stereo easy via photo multiply socket.

LEAK TROUGHLINE III STEREO
Excellent tuner with indifferent stereo decoding circuit. Best when adapted to use modern outboard decoder.

MARANTZ ST-8
Possibly the ultimate Tardis console, including an oscilloscope for checking the strength of signal. Expensive even now.

THORENS TD124
Best classic deck ever? Judging by the prices they fetch it's possible - Tlbrpm tool!

ACOS LUSTRE
Very honest piece of kit. well made and easily adjusted.Viryl beginners could do very much worse.

ALPHASON HR100S
First class arm, up to present-day standards. Buy carefully, though, as there's no service available now.

GARRARD 301 & 401
Legendary turntables, once fairly plentiful. Not the last word but peanuts second-hand.

GOLDRING Lenco 88 & 99
Great deck for the kitchen table enthusiast. Garrard fans won't look at 'em but cheap and capable. Servicing available.

HADDOCK 228
Recently out-classed by Haddock's updated 228 Special Edition but a proper hi-fi arm for all that. Makers still service.

LEAK TROUGHLINE II Mono
Recently out-classed by Hadcock's updated 228 Special Edition but a proper hi-fi arm for all that. Makers still service.

LEAK TROUGHLINE III Stereo
Excellent tuner with indifferent stereo decoding circuit. Best when adapted to use modern outboard decoder.

ARISTON RD-1
Arguably the best-sounding tuner ever. Adaptation for stereo easy via photo multiply socket.

TANNOY GRF & AUTOGRAPH
Ideal experimenters driver. High sensitivity -14,000 Gauss magnet and extended frequency range. Inexpensive too!

TANNOY YORK, LANCASTER
Uncomplicated, lower-price version of the M75 behind but the wide range of its stablemates.

LOWTHER PM6A
Many similar models of infinite baffle or reflex design. Not the last word. Many classic horn designs.

LEAK SANDWICH
Rather warm sounding big infinite baffle but cheap with it. With a reasonably powerful amp can sound quite satisfying.

LOWTHER PH6A
High quality full-range driver; still manufactured. High sensitivity, as fitted to many classic horn designs.

MAGNEPLANAR SMDs
Touch dry in the bass but a technological amp can sound quite satisfying.
### Quarterly Sale

<table>
<thead>
<tr>
<th>Items</th>
<th>Original Price</th>
<th>Our Price</th>
<th>Real Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kenwood L1000C pre / L1000M Power Amp</td>
<td>£ 2,995.00</td>
<td>£ 999.00</td>
<td>£ 999.00</td>
</tr>
<tr>
<td>JBL L1000C pre / L1000M Power Amp</td>
<td>£ 2,999.00</td>
<td>£ 999.00</td>
<td>£ 999.00</td>
</tr>
<tr>
<td>Tannoy Mercury 200 Pre</td>
<td>£ 2,995.00</td>
<td>£ 999.00</td>
<td>£ 999.00</td>
</tr>
<tr>
<td>Koetsu Rondo 200 Pre</td>
<td>£ 1,995.00</td>
<td>£ 999.00</td>
<td>£ 999.00</td>
</tr>
<tr>
<td>DPA Enementroads</td>
<td>£ 595.00</td>
<td>£ 999.00</td>
<td>£ 999.00</td>
</tr>
</tbody>
</table>

### New this month

#### Power Amplifiers

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acoustic Energy</td>
<td></td>
</tr>
<tr>
<td>Musical Fidelity</td>
<td></td>
</tr>
<tr>
<td>Quadraspire</td>
<td></td>
</tr>
<tr>
<td>Plinius</td>
<td></td>
</tr>
<tr>
<td>Van den Hul</td>
<td></td>
</tr>
<tr>
<td>Wilson Audio</td>
<td></td>
</tr>
<tr>
<td>Wilson Research</td>
<td></td>
</tr>
<tr>
<td>YBA</td>
<td></td>
</tr>
</tbody>
</table>

#### Turntables

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lexicon M1 CB Player</td>
<td></td>
</tr>
<tr>
<td>Musical Fidelity</td>
<td></td>
</tr>
<tr>
<td>Quadraspire</td>
<td></td>
</tr>
<tr>
<td>Plinius</td>
<td></td>
</tr>
<tr>
<td>Van den Hul</td>
<td></td>
</tr>
<tr>
<td>Wilson Audio</td>
<td></td>
</tr>
<tr>
<td>Wilson Research</td>
<td></td>
</tr>
<tr>
<td>YBA</td>
<td></td>
</tr>
</tbody>
</table>

#### CD Players & DACs

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cary SL8200 CD Player</td>
<td></td>
</tr>
<tr>
<td>Musical Fidelity</td>
<td></td>
</tr>
<tr>
<td>Quadraspire</td>
<td></td>
</tr>
<tr>
<td>Plinius</td>
<td></td>
</tr>
<tr>
<td>Van den Hul</td>
<td></td>
</tr>
<tr>
<td>Wilson Audio</td>
<td></td>
</tr>
<tr>
<td>Wilson Research</td>
<td></td>
</tr>
<tr>
<td>YBA</td>
<td></td>
</tr>
</tbody>
</table>

#### AV Components

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lexicon DCD</td>
<td></td>
</tr>
<tr>
<td>Musical Fidelity</td>
<td></td>
</tr>
<tr>
<td>Quadraspire</td>
<td></td>
</tr>
<tr>
<td>Plinius</td>
<td></td>
</tr>
<tr>
<td>Van den Hul</td>
<td></td>
</tr>
<tr>
<td>Wilson Audio</td>
<td></td>
</tr>
<tr>
<td>Wilson Research</td>
<td></td>
</tr>
<tr>
<td>YBA</td>
<td></td>
</tr>
</tbody>
</table>

#### CD Players

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cary SL8200 CD Player</td>
<td></td>
</tr>
<tr>
<td>Musical Fidelity</td>
<td></td>
</tr>
<tr>
<td>Quadraspire</td>
<td></td>
</tr>
<tr>
<td>Plinius</td>
<td></td>
</tr>
<tr>
<td>Van den Hul</td>
<td></td>
</tr>
<tr>
<td>Wilson Audio</td>
<td></td>
</tr>
<tr>
<td>Wilson Research</td>
<td></td>
</tr>
<tr>
<td>YBA</td>
<td></td>
</tr>
</tbody>
</table>

#### DACs

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cary SL8200 CD Player</td>
<td></td>
</tr>
<tr>
<td>Musical Fidelity</td>
<td></td>
</tr>
<tr>
<td>Quadraspire</td>
<td></td>
</tr>
<tr>
<td>Plinius</td>
<td></td>
</tr>
<tr>
<td>Van den Hul</td>
<td></td>
</tr>
<tr>
<td>Wilson Audio</td>
<td></td>
</tr>
<tr>
<td>Wilson Research</td>
<td></td>
</tr>
<tr>
<td>YBA</td>
<td></td>
</tr>
</tbody>
</table>

#### Plasma/LCD/Projectors

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pioneer Plasma/Pioneer/Pioneer/Plasma</td>
<td></td>
</tr>
<tr>
<td>Panasonic TH-14 PDPVista DVD</td>
<td></td>
</tr>
</tbody>
</table>

#### Pre Amplifiers

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio Research/Pathfinder</td>
<td></td>
</tr>
<tr>
<td>Projector/Pathfinder</td>
<td></td>
</tr>
<tr>
<td>Yamaha RX-709</td>
<td></td>
</tr>
<tr>
<td>Yamaha RX-709</td>
<td></td>
</tr>
<tr>
<td>Yamaha RX-709</td>
<td></td>
</tr>
<tr>
<td>Yamaha RX-709</td>
<td></td>
</tr>
</tbody>
</table>

### The best in New, Second hand and Ex Dem equipment

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cary SL8200 CD Player</td>
<td>£ 695.00</td>
</tr>
<tr>
<td>Musical Fidelity</td>
<td>£ 2,995.00</td>
</tr>
<tr>
<td>Quadraspire</td>
<td>£ 2,995.00</td>
</tr>
<tr>
<td>Plinius</td>
<td>£ 2,995.00</td>
</tr>
<tr>
<td>Van den Hul</td>
<td>£ 2,995.00</td>
</tr>
<tr>
<td>Wilson Audio</td>
<td>£ 2,995.00</td>
</tr>
<tr>
<td>Wilson Research</td>
<td>£ 2,995.00</td>
</tr>
<tr>
<td>YBA</td>
<td>£ 2,995.00</td>
</tr>
</tbody>
</table>

### Contact Information

- **Tel:** 020 8392 1959 & 020 8392 1963
- **Fax:** 020 8392 1994
- **Email:** info@choice-hifi.com
- **Location:** 385/387 High St, Kingston Upon Thames, KT1 2NG
- **Opening Hours:** Mon-Sat 1pm-6pm
- **Payment Options:** We accept all major credit cards. Finance available subject to status.
FEEL THE WIDTH
My query is about the SACD / DVD-A formats. If the majority of amps and 'speakers cannot output above, say, 28kHz and many less than this, reading past reviews, how is it that such amazing results are claimed for them? It would appear pointless to spend money on these discs if our equipment cannot reproduce what's on them! i.e. up to 25% of it's bandwidth. I suspect I'm missing something here, can you explain what?

John O'Connell

'Twas always a funny old business, bandwidth. And it is the source of much misunderstanding, disagreement, obfuscation and confusion — and that's just inside the hi-fi business! Let me gleefully explain.

To clarify your specific point, both SACD and DVD-A have bandwidths to 100kHz (analogue bandwidth). The human ear reaches 18kHz or thereabouts at best so, as you say, it would appear that the upper limit of CD, 21kHz, was more than enough for our hearing abilities and that DVD-A and SACD are technological overkill. However, such a stink was raised over the significant aural failings of CD, as well as its measurable failings (distortion) that the industry eventually accepted it had to do better, when the (storage) technology allowed. Also, bear in mind studios run high speed, I'm analogue tape recorders that clearly show what sort of subjective quality is offered by wider bandwidth and low distortion and they have been aware that CD could be bettered.

Now we have these new improved Frisbees amplifier manufacturers and — especially — loudspeaker manufacturers are bringing out compatible products, able to reproduce this extra bandwidth. Amplifiers can easily be made to reach 100kHz. Loudspeakers are another proposition altogether; super-tweeters can get to 45kHz or so at present and they're appearing on Tannoy and KEF loudspeakers.

We don't know why we need a bandwidth much greater than that of the human ear. There are many views and theories. The best discussion I have encountered is at http://www.silcom.com/~aludwig/ (Art Ludwig's Sound Page) on the Internet. Go to Music and Human Hearing.

The hi-fi industry is dominated by engineers (rather than audiologists) and their common view is that by increasing bandwidth filter problems (phase, ripple, etc) are pushed upwards and beyond audibility. My measurements of modern DVDs clearly show that there are music harmonics above 20kHz. To reproduce them properly and fully we do need to get at least to 48kHz as offered by a 96kHz sampling rate. This is, after all, little more than one octave above the 21kHz limit of CD. So there's a reasonably good argument for 96kHz sampling rate; perhaps 192kHz sampling rate PCM is overkill — who knows? It gives us two octaves more than CD, reaching at least 80kHz in the analogue domain. If the harmonics of well recorded musical instruments reach 30kHz or more (and they do) then you could say we need to be able to reproduce music cleanly to 40kHz at least and make sure all filter effects lie in higher frequency ranges. Whatever the arguments, there's nothing quite like listening first and making a judgement afterwards and engineers who have done this assure me 192kHz digital is way better than 96kHz (sample rate). With Cirrus Logic — current leaders in digital audio processing — announcing new 192kHz A/Ds and D/A's designed specifically for high quality audio work, and with many others such as Crystal and Analogue

24/192 - never mind the quality, feel the bandwidth!

Devices all competing desperately there's no shortage of action in this busy segment of electronics, so affordable equipment will be coming through steadily.

The new Frisbees don't, however, offer, just wider bandwidth. They also have 24bit dynamic range and this is a vast improvement upon 16bit. It eliminates distortion, even on low level signals. At present many recordings going onto DVD-A and SACD

![Typical Music Energy Spectrum](image-url)

Musical Instruments produce fundamentals up to 5kHz or so, above which lie harmonics of steadily declining energy, as shown here.

However, modern music DVDs possess MUSIC harmonic energy to 48kHz: our measurements show, and James Boyk (California Institute of Technology) measures trumpet and cymbal crash harmonic energy to over 100kHz. Our ears hear to 18kHz max. but there's evidence to suggest we can sense higher.
are from 24bit/48kHz masters and even these sound much cleaner and more dynamic than the 16bit/44.1kHz code used for CD, so better sound quality comes about because of lower distortion and wider dynamic range, in addition to wider bandwidth.

Finally, as we now gather experience of these new systems it does show they offer improved sound quality. There's quite widespread agreement - and surprise - that wider bandwidth adds more air to the treble, but also seems to increase the sense of low level detailing a system provides - and even tightens up bass!

Personally, I am totally convinced about what's on offer and, literally - buy it! There's a lot of variability on both DVD and SACD but good recordings are very good and well worth having. If you are interested, a Pioneer DV656A plays both formats, providing full bandwidth, and costs just £400. Set the audio output mode in my view, with reasonable discings and wideband loudspeakers you will also hear the other qualities just £4 or thereabouts.

DESERATELY SEEKING DUAL
I have been searching for a turntable to transfer some old recordings from 78rpm discs to CD. I remembered that Dual once offered a model with the 78rpm speed. After searching the internet I found your review of the Dual CS5000 turntable which, surprisingly, was done as recently as 2002. You say in the review that you can buy a mint boxed model for around £125. Can you tell me where I can get one? Any information would be greatly appreciated.

Bob Martin

If there's nothing in Hi-Fi World's classifieds, or in the dealer adverts at the back of the mag (and it's always worth phoning around even if they're not currently advertising anything), then check out Exchange and Mart and the local free ads papers, etc. Car boot sales, junk shops and audio fairs may all have rich pickings, too. eBay is sometimes worthwhile, but there's a lot of overpriced sub-standard stuff on it too, not to mention dodgy buyers and sellers, plus dealers masquerading as private sellers, in my experience. The best alternative is to buy a new Rega P2, specified with a 78rpm spindle - this shouldn't be much more expensive than a second-hand Dual, and won't sound any worse either. And see our Thorens TD190 review on P56. DP

DEAR DAVID...
Congratulations on becoming editor of Hi-Fi World. This should mean little extra work in practice, as you were already writing most of the magazine! I'd like to offer three comments:

First, I am hoping that the inclusion of twelve pages of reviews of equipment from the past in the May 2003 edition is a one-off. It can be interesting to read a bit of hi-fi history, but I buy magazines - and so probably do most people - to find out about current developments. There might be a market for a separate publication dedicated to hi-fi of the past.

Secondly, when features about former items of equipment appear, it would be very interesting to have them reviewed blind in comparison with current equipment. I know that Hi-Fi World is proud of not employing what it calls 'quick-fire group listening tests', but what I'm thinking of is a more considered comparison - and you have enough contributors to be able to do it. This might shed some light on whether sound reproduction is advancing as fast as the reviews of new equipment in the various magazines suggest.

Thirdly, while most reviewers in Hi-Fi World usually include some comment on how a piece of equipment sounds with classical music, you rarely do. I'm sure I'm not the only reader who would be pleased to read about how equipment sounds with the sort of music I like.

Tony Williams
Basingstoke

Hi Tony - Classic Olde Worlde was a response to requests from many readers, and went down a storm. Obviously, we're not going to do this every month as it would limit the amount of new kit, DIY, etc. we can cover, but expect one every now and again. I appreciate your sentiments, and will be endeavouring to 'cross-reference' old and new kit far more closely in coming issues - you may be pleasantly surprised about what we have in store!

I always use classical music for my listening tests, as it's a great way to assess a product's tonality, but lack of space often means I leave it out of the final written review. We are now addressing this by running three page reviews on some key bits of kit, and at last we have a bit of 'leg room' to stretch out in, so to speak, with our observations.

Thank you, and everyone else, who has taken the time and trouble to write in with ideas - this is your mag and I'm delighted to be in the position to be able to give more of it back to you! DP
Articles on hi-fi from the past are surprisingly popular. Many find current technology perplexing, which I can understand, so there seems to be a split in preferences here. We try to cater for all tastes, being equally interested in bringing the latest in developments like Blu-Ray, whilst also looking back.

I find the past puts the present in context and this was brought home to me again when reading about early Quadraphonic. It was then that people started to question how we should be arranging four channels, as a review of Quadraphony by J.G. Woodward, in The Phonograph and Sound Recording after One-Hundred Years, published in 1977 by the Audio Engineering Society, reminded me. This also talks about the idea of Matrixing four channels, yet all this lies alongside articles on Vinyl Compounds!

I fished an old JVC CD-4 demodulator out of my loft to put together a Quadraphonic system so we could make comparisons for this issue and its 1970s electronics sounded horrid to me. I was reminded just how grey, flat and coarse much old kit from this period sounded. I believe we are moving ahead, albeit slowly in some areas such as amplifiers, and even here it may be component quality that is improving as much as anything else. Yet at the same time there have been some classics barely matched even today. You can't say audio isn't a varied and fascinating subject. NK

CHANTING THE MANTRA

It is nice to report on a friendly and forthright company that puts its customers first. I purchased a Goldring 1042 cartridge in November 2002 and was impressed that it took only three days from placing my order for the cartridge to be delivered to my home. However, last week (7th March 2003) I played a new vinyl LP on my deck to discover that, half way through side one the cartridge started tracking terribly and the sound was very muffled. I examined the stylus and found most of the diamond tip was missing. I subsequently telephoned MANTRA who advised me to box up the whole cartridge and post it back to them for examination. Exactly one week later I received, free of charge, a brand new stylus fitted to the cartridge body with a complimentary letter from Martin Nichols of MANTRA. Ten out of Ten to them I say. I will certainly use them again when I upgrade to MC and would wholeheartedly recommend them to all your readers. Their prices are also very competitive.

Colin Topp
Lancashire

Assuming that Colin isn't the MD of the aforementioned cartridge purveyors, then I think we can all raise our glasses for another great British company – hurrah! DP

Michell TecnoArm – an elegant vinyl solution.

BUYING BLIND

My system comprises a Michell Mycro/Rega RB3000/Audio Technica AT OC3 MM cartridge.

Michell TecnoArm — an elegant vinyl solution.

Shure V15 VxMR, a great sounding modern MM cartridge.

LEGEND OF THE CARTRIDGE

At under £300, the Dynavector DV20X-H is the one to have. I've lived with the Ortofon MC25FL, and it's a fine cartridge, but it does have a rather analytical and mechanical nature which isn't a million miles away from your AT-OC3. The Kontrapunkt, B, at twice the price, is different – it's a truly soulful Ortofon that boogies – but you're then into Lyra Lydian territory, where things become altogether more competitive still. With this in mind, the DV20X-H is a great 'line in the sand' to draw; given your budget there's no better.

Indeed, I am currently using one in a Michell TecnoDec/TecnoArm, driving a £5,000 pair of Perigee FK-1L ribbons and it really does not sound out of its depth! More money will buy you more detail and incision, but it still has a brilliantly musical nature and a nice, warm, fruity tonality, whereas all the other rivals you mention do not. At the time of writing, I've heard there's a new one just around the corner – so this should be even better!
The DV cartridge will present no problems going into a Rega arm on your Mycro. As you already have a Michell, you may like to contact them (tel: 0208 953 0771) for information on the TechnoArm counterweight kit, which should be available separately by the time you read this. I have not yet been able to A-B the Michell Rega mods with the OL Rega mods, but suffice to say the Michell counterweight looks altogether more elegant. Still, sending your arm off to OL should be available separately as you already have a Michell kit. The arm tweaks, plus the DV20X-H, will make for a great sounding vinyl source. Ultimately, when you've saved some cash, next step would be a GyroDec SE (complete with new DC motor), which would take things to a higher level still — into the realms of super-fi!

If you want a valve sound, and if you want to hear just how astonishing valves can sound - get a valve phono stage. I gave up on solid-state in this role many years ago and these days run one of our own KLPP I all-valve phono stage. The sense of clarity, the sheer liquidity of the sound and the spaciousness are superb. These days we offer the Phono II modular pre-amp which works from PSU-II modular power unit and there is little to touch them. Also, both can be progressively tweaked using special components to get a resolution of tonal colour and general clarity just not available otherwise.

As David says, the cheaper Ortofons are a bit dry and mechanical. An Ortofon MC30 Supreme is smooth though, if you can stretch your budget. Another cartridge little mentioned but one of the best I have heard is the Shure V15 VxFMR. This is also smooth sounding - and within your budget. It has incredible punch and is wonderfully dynamic, much like a Decca London - but without all the problems! NK

**Sennheiser — as far as in-ear phones are concerned, nobody does it better.**

**TRAIN OF THOUGHT**

I particularly like the “Olde Worlde” section, oh yes the memories... and so to business. HELP! I have made some expensive mistakes with “upgrading” my system and I am hoping that you'll be able to put me back on track to musical happiness. Up until last year I had a system comprising a Rega Planet CD, Rega Mira amplifier (original, pre-2000 models) and Royd Sorcerer speakers on Kudos 530 stands. Interconnects were van den Hul, speaker cables QED Silver Anniversary. I'd got a bit frustrated with the sound - it seemed rather flat, woolly and lacking in detail with a somewhat overblown bass. Don't ask me why I suddenly became dissatisfied - 'upgraditis' and reading too many magazines probably - but after two years with the Rega kit I decided it was time for a change. So I auditioned the same Linn products (Genki/Kolektor/IK85) with my Royds and was blown away. Here was the punch and detail I'd been looking for, dynamic and with nice, taut bass. So I splashed the plastic and walked away a happy man - or so I thought.

Well here I am, twelve months on, and I find myself in a similar situation. What once seemed tight, driving and exciting is now strident, fatiguing and often plain boring. Singers have no soul, instruments are homogenised, music no longer holds the appeal it once did and the TV often goes on in preference to the hi-fi (no, I don't think it's just me getting older - my wife says the same and she's no hi-fi buff). So, time for action. I'm assuming that it's the Linn electronics which are causing the problem, as all the reviews I've read seem to indicate that these are Linn traits. The problem is I don't have much cash available, so I'm basically limited to what I can raise for the Linn's second-hand (about £1100, I reckon). Okay, so in theory this is a backward step but then in theory my last purchase should have been a major upgrade and I've come to the conclusion that spending more does not necessarily guarantee a better sound.

As I see it the best thing would be to ditch the Linn kit and go for something a bit smoother and warmer. Maybe a Rega Planet/Mira (new versions), Arcam A75+/CD72T or Roksan Kandy CD/Lamp would give me the sound I'm looking for? I once used a Marantz CD63SE/Audiolab 8000A with the Royds which worked pretty well until I started chasing high-end mirrors; how would a modern equivalent, say CD6000K/CD and TAGMcLaren 60i, compare to the pairings mentioned above?

I won't be bothering about multichannel or SACD/DVD-A until the technology has matured. Most of the music I listen to is vocal-based pop/rock (Stereophonics, Eagles, Beautiful South, Stereophonics, Eagles, Beautiful South, Broadcast quality decks playing worn out discs — 't'was ever thus the way on the BBC!)
Don’t buy a TAG McLaren 60i! The company makes some awesome high-end surround sound stuff, but this particular amp is not one of its hot spots! You’re doing it again - throwing out random train-of-thought ideas in the hope they’ll all gel.

Wrong! What you’ve identified is the ‘upgrade process’ that we all go for. We start with something good, get bored, hear something that sounds altogether more impressive, splash out loads in haste and then repent at leisure. I’m not criticising – let me give you a personal example: I’ve been into old Triumph sports cars for years, then I went out and bought a new MG after a quick test drive. Yes, it went round corners faster and was superficially quicker, but after a couple of days when the novelty had worn off, I realised it just didn’t have that is far more open, and warmer and sweeter too, than your Linns. I’d say it would make a great heart for your system, and would drive the Royds boldly (which you obviously like). Having sold your Linn kit, you’d have little or no change, but fear not. If you can’t find an old Cyrus dAD3 CD player going for a song (£250?) second-hand, then a used Marantz CD63XK signature (£150 or less?) would do nicely. You wouldn’t be there, but you’ve had a major upgrade process that we all go for.

I would gently suggest you listen to the Creek A50i for a smooth, natural and easy sound. In fact, all Creek products are thoroughly enjoyable in this respect and have gained a good following as a result. These days Arcam’s amps have become very easy going and fluid sounding too, and don’t forget Cyrus with their new Cyrus 6. As David says, avoid the TAG McLaren 60i which is both bright and tiring - and the Audiolab 8000 is just out of date (tonally grey).

BEAT THIS!
I’ve just bought a Creative Labs Muvo MP3 player and wonder what in-ear phones you could recommend? The ones that come with it are a bit naff. I’m after something with some bass. When you consider I bought it to listen to music on my bike, which is rather loud, it’s got to be good. I’ve been recommended Sennheiser’s MX500. What do you think?

Gavin Monroe

I wonder who recommended them to you? Whoever it was, they’re obviously a genius. Couldn’t have put it better myself – they’re the ones to have for £20 if it’s in-ear you’re after. Serious sound, the audiophile’s choice. DP

UP THE JUNCTION
I recently listened to Radio 3’s Late Junction (Thursday, April 10th) on my recently repaired Troughline, only to hear the penultimate track by Keith Jarrett. I was growing to appreciate his piano playing (despite my tranny amp’s shortcomings), when I heard a couple of loud clicks and a rumble, and then, with one deftly timed note, the music lifted a level and sent me with it! The experience was a strange mixture of surface noise and rare musical elation! Duly, I have four questions for people to think about:

[1] Can someone please sort out Radio 3’s record decks? This might help the DJs and listeners alike to appreciate them more. I’m sure John Peel wouldn’t stand for this kind of rumble!

John Appleyard

Hants

Nothing like a Leak Troughline to hear what is happening.

Even in the so-called ‘golden age of vinyl’, back in the seventies, I can still remember hearing horribly worn out singles being played on the Radio One Top Forty… so maybe it’s a case of plus c’est la change, plus c’est la meme chose! Certainly though, you’d expect Radio 3 to get its quality right. Methinks the LP in question
came from the Beeb's central record library, and had been previously played to grim death by someone wearing sideburns, a kipper tie and crushed velvet flares back in the late seventies. Or maybe there was some "Fluff" on the needle, so to speak? Me personally, I just play music — but I do tend to enjoy it far more via vinyl — warts and all. I'm of the opinion that until Blue Ray and a new 32bit, 384kHz oversampling digital system, plus about twenty years of digital converter development, vinyl won't be bettered. Even when it is, I suspect there will be a Digital Signal Processor to bring back that hollowed vinyl sound! You may laugh, but any musos familiar with Vintage Keys (et al) — synthesiser/sampler boxes with digital samples of analogue keyboards — will know it's already happening in other areas! A valve based 24bit, 192kHz DAC — brilliant idea! Manufacturers, get your fingers out of your ears! DP

STATE OF CONFUSION

For some years now I've been wallowing in the music playing abilities of my Marantz CD63 Signature CD player, Sonneteer Campion amplifier and a pair of thirty year old Tannoy Chatsworth Dual-Concentrics (stop laughing at the back please!). Then it happened - I heard a demonstration of a pair of J.M.Labs Cobalt 816s driven by the Naim NAC 112 - NAP 150 pre-power combination with a Naim CDS at the helm. I was blown away. Wallowing does not cover it, total and complete immersion is what happened. What have Naim done to their amplifiers? I used to steer well clear of anything with the word Naim on it but not any more. You still get the music offered to you in no uncertain terms, but instead of "O! COP AN EAR FULL OF THIS!", it's "hello, cop an ear full of this please?", if you get my drift...

The upshot is that I have bought a pair of Cobalt 916s with the intention of buying the Naim combination at a later date. They work surprisingly well with the Campion though, so I'm pretty happy at the moment.

Then I thought - what about valves? I know Naim and valves in the same sentence are chalk and cheese and all that, but please stay with me. I've heard some very nice sounding valve based systems, and have had just as much trouble dragging myself away from them as I did the Cobalt, Naim setup. I can swing both ways, if you get my meaning, at least as far as hi-fi is concerned! The Cobalts start very quickly and stop even quicker, go loud and soft when required instantly, corner as if on rails and the treble, although a little forward, is probably the best I've heard in a long time, bar the ELAC jet tweeter. The speakers just sound all of a piece, nothing like separate drive units at all, so was I wondering about tubes? Maybe something from your range of amplifiers? Thanks for staying the distance, your thoughts would be appreciated... Oh - and a CD player that might go well with valves. Thank you very much. Ray Fordham.

Here's a thermionic equivalent to a Naim amplifier: a parallel twin 211, single-ended amp with a couple of transmitter rectifier valves (at left) in the power supply. Each monoblock produced 40 watts. They had a dramatic sound, with speed and real punch. They were dramatic to switch on as well, a strong thrum from the vast mains transformers which, if they load a valve properly, allow it to swing full output at high frequencies, giving a fundamental tonal balance little different to solid-state. Trouble is, in prac-

Hmmm — interesting. You're quite right to say that Naim has come up with a far more user-friendly range of amplifier of late, but has managed to hang on to its quintessentially seat-of-the-pants style of music making. I have to say that if you like this kind of sound, then frankly you'll not find better elsewhere... so go see your Naim dealer.

Valves, as a rule, cannot be mentioned in the same paragraph — let alone sentence — as Naim kit. But I've been using a World Audio Design K5881 for some years now and of all the WAD stuff, this one you'd probably like best. It's no warm-and-woolly Leak or Quad affair — it drives my Yamaha NS1000M loudspeakers with aplomb (and many transistor amplifiers can't) and is lightning fast and furious, yet still retains the tonal colour of a good tube amp. This aside, a 300B would be the other choice — even more subtlety and choice if distributed capacitance or leakage inductance are not well controlled by good design and careful winding and sectionalisong, you commonly end up with a soft sound. World Audio Designamps don't suffer this, due to the quality of our own output transformers, wound by an expert company in Cambridge (definitely no names!).

Given good transformers, then the valve itself has most affect upon the sound and some are quite solid and fast - notably the KT88. It gives a presentation similar to solid-state, but without the grain, poor resolution of tonal colour and flattness of imaging.

I have heard a valve equivalent to a Naim - it was something we designed many years ago, using graphite anode 211s. The sound was extraordinary, but so were the anode volts. Consequently, I don't think Naim have much to worry about from this quarter. NK
getting a turntable feed to my amp, you'd suggest changing to improve on the style of music I normally listen to is varied, but acoustic sets are my main thing. I was wanting to know if the items I have are any good, and if there's anything you'd suggest changing to improve on what I have, bearing in mind that my budget is tight so I'm ideally looking for second-hand equipment.

David Oxtoby

It’s true! Great fun can be had with early 1980s hi-fi kits! Without doubt, the weakest part of your system would be the amplifier. Try and track down the rare Rogers A100 or A75 amplifier; a great underrated piece of kit that would blow the humble Marantz in to the weeds. And it has that all-important slightly “cookie” British look to it on the cosmetics! After that, find an old Meridian MCD, source some decent cabling and mains leads, and you are on your way! HB

Sugden's little A28 had quite a long production run, introduced in 1980 and discontinued in 1996. Originally designed to fit under the A48 model, there were three main variants, the original A28, the A28/II and the A28B. All models are biased in Class AB operation, but the early models are run with very high Class "A" bias, the first 12 watts! So if your amp runs very hot, you are lucky! Like all Sugden stuff, the A28 is a great little amp, and will still see off some substantially more expensive kit. HB

CONNOISSEUR QUERY

I am seeking any information you might have regarding the Sugden Connoisseur Craftsman record deck. I bought it second hand about twenty years ago and as I recall it came with only one week guarantee. However, it still rumbles along and is in regular daily use, albeit somewhat the worse for wear these days. The motor is suspended inside the body by three rubber bungs, which I have stuck back together with Superglue a number of times when one or more has perished. Sadly they are now beyond repair and I believe it is unlikely that replacements can be found. Consequently the motor is now suspended by three strands of gardening wire. I have no idea how old it is but would guess it was probably manufactured sometime during the 1970s. Inside the body, screwed to the top, is an old tobacco tin, still with a top, is an old tobacco tin, still with a name tag, which had been Garrard decks to hold the "Connoisseur" name tag, which had been Garrard 301/401 rivals. One of the first to demonstrate a stereo record system back in the early 1950s, Sugden (nothing at all to do with J.E. Sugden down the road in Cleckheaton) had also manufactured valve amplifiers based on classic Mullard circuits, and built a few very large loudspeaker systems.

By the end of the 1970s all the various Craftsman models became the latest discount line at the electrical store Comet. Although factory plinth systems existed, the vast majority of the decks were sold in kit form, from under a tenner! All suffer from the “elastic bands” support system under the motor collapsing with age. The main bearing is not too bad, but the whole thing is a bit ham fisted. Saving grace was the optional little SUA2 pick up arm, with its gimbal bearings...

A.R. Sugden Ltd quietly disappeared about 1980 and getting hold of any parts is near impossible, although do check with Technical & General (Tel: 01892 654534) HB

THORENS DELIGHT

Imagine my delight, while plying through a world of information regarding the Thorens TD-150 on the World Wide Web, to find Haden Boardman’s extremely informative October 1998 article regarding two of my most beloved turntables! Unfortunately, my venerable TD-160 BC with a Grace 707 Mk II arm and Grace F9L was stolen from my former abode a few years ago, but I was very pleased to discover my father’s old TD-150 AB was stolen from my former abode a few years ago, but I was very pleased to discover my father’s old TD-150 AB - yes, dreadful arm and all - while rooting through the basement recently. Fortunately for me, the wiring in the arm has given up the ghost, so a replacement of this arm is necessary.

I will be acquiring another Grace 707 Mk II in the very near future, but after dismantling the table and cleaning it up have discovered that the armboard is so warped as to render it unusable. In Mr. Boardman’s article it is mentioned that a company called Technical And General offers ready-cut boards for Thorens turntables and a telephone number is supplied, but I am curious as to whether T&G has moved into the modern age and maintain a website?

I live in the USA and would rather not get involved in what could possibly be a rather lengthy overseas call. If you

Rogers’ A100 amp makes a great heart for any classic system

THE WRITE STUFF

I am a happy owner of an old Sugden A28 integrated amplifier. I bought it already used thirteen years ago and still use it (associated with Philips CD723 modified and HECO ASTRON 500 loudspeakers). It seems to be the very first Series (# 0514). Unfortunately I have not the smallest documentation information about it. Is there anybody who could tell me something?

Antoine Ramondou

France

removable lid, inside which are housed some adjoining wiring. It is a quite remarkable old thing and still sounds pretty good. Do you know anything about this particular model? I have tried a limited web search but to date have not found anything referring to this particular model of turntable. I would be extremely grateful for any information about the history or anything else concerning this fine old hi-fi separate.

Tim Vine

A.R. Sugden & Co. (Engineers) Ltd, were originally based in Brighouse, Yorkshire. The Connoisseur Craftsman range was introduced towards the end of the 1960s, and had been a bit of a change of direction compared to the earlier, heavier, decks to hold the “Connoisseur” name tag, which had been Garrard 301/401 rivals. One of the first to demonstrate a stereo record system back in the early 1950s, Sugden (nothing at all to do with J.E. Sugden down the road in Cleckheaton) had also manufactured valve amplifiers based on classic Mullard circuits, and built a few very large loudspeaker systems.

By the end of the 1970s all the various Craftsman models became the latest discount line at the electrical store Comet. Although factory plinth systems existed, the vast majority of the decks were sold in kit form, from under a tenner! All suffer from the “elastic bands” support system under the motor collapsing with age. The main bearing is not too bad, but the whole thing is a bit ham fisted. Saving grace was the optional little SUA2 pick up arm, with its gimbal bearings...

A.R. Sugden Ltd quietly disappeared about 1980 and getting hold of any parts is near impossible, although do check with Technical & General (Tel: 01892 654534) HB

THORENS DELIGHT

Imagine my delight, while plying through a world of information regarding the Thorens TD-150 on the World Wide Web, to find Haden Boardman’s extremely informative October 1998 article regarding two of my most beloved turntables! Unfortunately, my venerable TD-160 BC with a Grace 707 Mk II arm and Grace F9L was stolen from my former abode a few years ago, but I was very pleased to discover my father’s old TD-150 AB - yes, dreadful arm and all - while rooting through the basement recently. Fortunately for me, the wiring in the arm has given up the ghost, so a replacement of this arm is necessary.

I will be acquiring another Grace 707 Mk II in the very near future, but after dismantling the table and cleaning it up have discovered that the armboard is so warped as to render it unusable. In Mr. Boardman’s article it is mentioned that a company called Technical And General offers ready-cut boards for Thorens turntables and a telephone number is supplied, but I am curious as to whether T&G has moved into the modern age and maintain a website?

I live in the USA and would rather not get involved in what could possibly be a rather lengthy overseas call. If you
could assist me by supplying me with an internet contact for this company, I would be eternally grateful. Also, if you happen to know where I could get two replacement woofers for my Rogers Studio 1as, I would be grateful for beyond eternity!

David J. McConnell
Chicago, IL, USA

Technical and General can be found at PO Box 53, Crowborough, East Sussex, TN6 2BY Tel: 01892 654534, sorry but they only exist in the "real" world! Try Alexander Graham Bell's amazing invention.

For replacement bass units for Studio 1a's, well that is even more difficult... as far as I am aware, there is no longer any kind of spare parts operation for the "old" Rogers speakers. If any reader can offer further help on Rogers parts, please let us know.

Andy Heaton
Shropshire

In stock form, a Leak Stereo 20 does get a little unstable when driving the Quad Electrostatics. LS3/5as are a good match, but the Jim Rogers JR149 are a much better bet with the Leak. Both use classic KEF B10 and T27, but the JR model is a tad more efficient. Some of the old Richard Allen stuff can be great, but frankly a lot are not that good.

You do not give a budget, so it is difficult to be specific here; general advice would be to avoid any speaker which is known as a difficult, current hungry load. A surprisingly large amount of modern loudspeakers work remarkably well with the Leak, (most of the Castle / ProAC range are ideally suited) and there is a massive back catalogue of second hand stuff to go at! By the way, the Counterpoint preamp has very high output, do attenuate the input to the Leak, or else the levels of hiss and noise will be quite high.

I presume you are using vinyl as your source. If not, then frankly you will get better results running your CD player via a passive preamplifier such as the one made by Creek.

TOP TWENTY

I own a Leak Stereo 20 valve amplifier which is run in conjunction with a Counterpoint SA-7 pre-amp. I am wondering what speakers would be a good match for this combination? I have just been given an old pair of Richard Allan 8 ohm/20 watt speakers but have been told that a pair of Rogers LS3/5a or Quad ESL 57s would be an ideal match. Or would a more modern pair of speakers be a better bet? I would be interested in your opinion in this matter. I listen mostly to acoustic music in a modestly sized house. I have no particular preference towards buying either new or refurbished speakers.

Andy Heaton
Shropshire

"STATIC ELECTRICITY"

My hi-fi consists of a 25 year old Pioneer SA-9 100 amp and Technics SL-1100 turntable, and a recent Audiolab 8000A as an alternative to the Pioneer. To replace my defunct Avasond speakers I was considering Quad 22Ls or ProAc Response 125s or even the D 15s for music, plus matching centres and KEF KH7200S or Mission M5ds rears, for home cinema. I have been offered some 10 year old Quad ESL 63s. I want high quality music with good, deep bass. A good friend has been advised he should ask £1,800 for his ESL 63s. I was uncertain they would be suitable for incorporating into a home cinema setup so I rang Quad. I was very pleasantly surprised by the level of help and advice they gave me. Unfortunately, I was given so much information that I found it difficult to take it all in over the phone. Which is where you come in and I am hoping you can reinforce what I remember and clear up a couple of points I'm not still clear on.

Apparently, the new Quad 22Ls will be too bass heavy for my 3.5m square listening room but the ESL63s will fit my requirements, even close to a wall. I'm confident I would be happy with the sound but I am worried they might be wasted with my existing amps driving them. I am thinking of linking my two amps and an AV receiver. The man at Quad thought the amp, plus AV receiver was the best way to go for home cinema use and he also thought adding a subwoofer would be a good idea, to enhance the bass for my music requirements. I mentioned the REL Quake but he suggested at least the Strato. Apparently, I would not need a centre speaker with the Quads so I could spend the saving on the bigger sub. There would also be a saving on speaker cable, the ESLs apparently having minimal requirements in this respect.

Having been convinced that bi-wiring with good quality cables was a prerequisite of good quality hi-fi, this came as a pleasant surprise but what are your thoughts on this?

Now, in respect of AV receivers, the Quad man strongly recommended the Denon AVR3802. He proceeded to explain the advantages of how this particular receiver could be connected up, which is where he completely lost me. He mentioned something about a phantom centre channel but other than that I can't help. Can you throw any further light on this with your expert knowledge, please?

Steve Sellars

What a plot we weave, Steve! Let's start with the ESL-63, a truly terrific loudspeaker, but one requiring high quality amplification to drive it. I am not totally convinced that either your Audiolab or Pioneer amplification is really up to the task... I would agree that the Quad 22s are too bass heavy, where the '63s would not swamp the room, but it would still be far from an ideal situation. As for incorporating these into a high quality surround system, now this gets really complex! In an ideal surround set up, all speakers should be of equal quality, in other words a pair of ESL63s should also be used for surrounds... Using "another" loudspeaker will compromise the surround, with the result that the sound will "drop" between the various loudspeakers rather than attempting to give a half decent surround effect. If surround sound is important to you, it is a pre-
requisite the speakers match, be it ProAC, Mission, KEF or Quad; they do not mix up well.

If your main listening will be in two channel mode, then the purchase of the ESL63s will need to be backed up with suitable amplification / source which is liable to cost another couple of grand each component. The ESL63s demand the highest standards, and you must be prepared to suitably invest.

Removing the electrostatics from the equations, Denon's new AVR3803, replacement for the 3802, Sony's '333ES & '555ES, Harman / Kardon 5500, plus Arcam's AVR-200 are all very good sounding surround amps at just under the thousand pounds mark. All will do "phantom" centre (literally you do not have a centre speaker, the centre channel signal is divided in to the front main left & right channels) and perform various other tricks we neither need, nor want to think about! The ProAC speakers could be a very good choice along with the Arcam amp, or consider the AVR-3803 with KEF Q3 or Q5 floorstanders, with matching Q9C centre channel and small Q8S rear satellites; they all use the same high quality Uni-Q driver.

As for the " .1" channel, well my personal rule with a subwoofer is that it must match the quality of the main loudspeakers; you ideally need a REL "Studio" to run with the ESL63s. A REL Quake or Q150 would be fine with the KEFs. Whatever is spent on main front speakers needs to be spent on a sub.

It really is a question of budget and priority here. If the electrostatics are going to be purchased, then the advice given by Quad is sound. Spend the bulk of your budget on a good amplifier to drive them, and compromise on the home theatre front using phantom centre channel and "another" pair of rear speakers. Another option would be to keep the two separate. Why not run the Arcam AVR-200 into a full pack of KEF 205 surround speakers for A/V and leave the two-channel system separate? Trying to mix very high quality stereo with surround works out very costly and complicated... you may have worked that one out for yourself.

Going for the KEF or ProAC speakers and a decent surround amp, would be a definite improvement over your existing system. Bi-wiring is a question of budget and loudspeakers. Personally, I would rather go for a higher grade of cable than bi-wire; but it really does depend on the components you finally choose; the cables will alter the sound of your system, and can be used to fine tune the final system balance. HB

As Haden says, you are in a tizzy. Also, you are about to suffer. As a long term user of ESL-63s (beaten to death by reviewing and now in the loft I can assure you they are not meant for 11.5ft square rooms - Heaven forbid! I did, in the past, take time to gently question Peter Walker (founder of Quad) as to why he positioned ESLs the way he did, because he always got a great sound from them. He explained that the rear radiation was best 'lost' down a room and, at shows especially, I noticed that this was the way Quads were placed - with plenty of space behind. You will not be able to get this in your room, which is quite frankly too small for ESL-63s. They need space, and preferably a long, narrow room with the panels placed at right angles to the walls, one third the way up. A typical suburban through room (two rooms knocked into one) of about 12ft x 20ft is ideal. NK

Serious speakers like these need more than an Audiolab to drive them

**BETTER SIXTEEN BIT?**

I read Noel Keywood's review of the Philips DVD-9635A in the current issue with great interest. I'm finally in a position now where I can upgrade my Rotel 940BX CD player and having not looked at the hi-fi press for some time I was unaware of the option of buying a universal, or near universal, DVD/SACD player, and was consequently thinking along the lines of a Marantz CD6000K1. Despite Noel's favourable response the question not addressed by his review is how does the Philips' CD replay sound quality compare with CD-only players in a similar price bracket? Given that the Philips is available on the Internet for as little as £308 and the Marantz CD6000K1 costs around £300 at Richer Sounds, how do these machines compare on CD sound alone?

**Tim Keenan**

*Trinity College, Dublin*

Well, you've come to the right place, Tim. Hopefully this month’s group test should shed a little light on this particular subject! My own opinion is that right now, pound-for-pound, the best CD players play CD noticeably better than the best DVD-A / SACD players. This is only to be expected, considering all the extra video circuitry, etc., inside the latter. Sufficient to say that my old 1989 Sony CDP-X77ES CD player (a high-end £1200 one-box Bitstream machine) sounds far more powerful, engaging and authoritative than the new £4,000 Musical Fidelity NuVista SACD player. This latter machine is based on the legendary Marantz SA-1, and is absolutely superb with SACD and very, very good with CD too.

If an old high-end CD player can whip a new high-end SACD - when playing CD - then I think you shouldn't rush into throwing away your old CD machine. I'd advise readers to keep two machines, and have the best of both worlds. DP

A Marantz CD6000K1 sounds exactly as David describes, "more powerful, engaging and authoritative" than the Philips DV9635A. However, whilst the Philips sounds a bit soft at the bottom end and perhaps acceptably bright in balance, I might say, it also digs out a lot of ambience, as Philips claim. The over-sampling scheme does work, giving identifiable benefit. Ideally, it should get KEF treatment, but I doubt very much whether Philips will ever go down the Black Turnip - no, sorry, Tulip - route again. I would not in all honesty rate the Philips above the Marantz playing CD alone, but it pulls way ahead on sound quality with SACD, and there's the small matter that it plays video DVDs well too. As high resolution machines go it plays CDs better than most, if not as well as the best CD only players. NK
DISC DILEMMA
Fourteen years ago I lashed out money I couldn't afford on a decent system, comprising Manticore Mantra turntable, Cambridge P40 amplifier and Celestion DL4 loudspeakers plus a Marantz CD52 silver disc player. They have served me well, until now - the volume control on the amplifier is shot. A few years ago I took the unit to a branch of well known discount hi-fi retailer to investigate and rectify. I found the £35 fee was excessive for merely blowing the dust off the amplifier, and suitably disillusioned by the failed attempt I have lived with the problem to this day.

My dilemma is whether to try to find a hi-fi specialist who can offer a credible repair service? In doing so, I risk throwing good money after bad, especially if the defective components are obsolete. Or do I bite the bullet and buy a new amplifier? I would consider a budget of around £250-300. Would I get something much better than my P40 given that the technology has moved on? I am not averse to buying "last years model" at a significant discount if I can gain significantly in terms of quality for the same money. However I am realistic. A browse through recent hi-fi literature has focussed my attention to the Rotel RA-01. Thoughts? If a new amplifier is your recommendation can you advise what would be the best fit for my existing set up?

I have a considerable amount of vinyl which I still wish to play, and my CD collection is also significant and will continue to grow. Neither medium is predominant. What are the pros and cons of moving coil and magnet? If my budget would constrain the quality of the Manticore and the Marantz, what do you think I should be spending? I am loathed to spend too much at the moment because my DL4s are up on the wall, away from the more reckless members of my household. My Manticore is still fitted with the cartridge it was supplied with - an Audio Technica AT95E. I think, Is it worth upgrading? Can I even get a replacement stylus for it?

Ian Downie, Aberdeenshire.

Save your money and go for one of the new breed of affordable integrateds, such as the £599 Cyrus's 6, which is admittedly above your budget but well worth the premium over anything you can get for £300. You'll find that transistor amplifiers have got a lot better since the mid-eighties, being smoother and more incremental, as well as better built. Until you can afford a decent phono stage such as Trichord's new Dino, you can use the Cambridge P40 as a phono stage - plug your deck into the P40, select phono and run interconnects from its Tape Out sockets into one of the Cyrus's Aux inputs. Personally, I don't rate the Rotel too highly - the Cyrus would bring more power and a warmer sweeter sound, one that's also dynamically punchier and more involving.

Your Manticore deck is capable of very good sound indeed, far better than most CD players at any price if properly feted. To wit, you should give it a decent cartridge when funds permit. I'd suggest Goldring's G1042, which is truly powerful and engaging. It's expensive at £120, but the next (admittedly superior) option is the £200 Dynavector DX10X4. You can get replacement stylis for the AT95E, but if you can't afford the Goldring and still need a new needle, I'd buy an Audio Technica AT110E instead - it's only £10 more expensive than a replacement AT95E stylus and is an altogether smoother and more musical performer. Pull off the stylus guard (it resonates) and superglue the stylus section to the cartridge body and you'll have a fine performer that will last you a year or two, until you can afford the Goldring.

Assuming you have a Rega RB300 tonearm, get the counter-weight modified by Origin Live. With the Goldring or DV, this will give you a truly superb source.

Finally, your faccic sounding Celestion DL4s will have to go - they were the best budget box in 1985, but frankly that's not saying much. Think along Mission 782SE lines, again when funds permit. Good luck! DP

Cambridge P40 eh? This is something of a classic; I once had a P50 and regret losing it (well, it blew up, as they did!). Personally I would get the P40 fixed, then either sell it or store it. Those amps had around 0.3% treble distortion and it was audible I found. Try a Creek or a Cyrus, or an Arcam. They are all a very pleasant listen.

BATTLESHIP BRUISER
My Dad and I have clubbed together our best 'bits' to make (at our level at least) a mega system which sits on a concrete support in our music room. The bits briefly consist of a heavily modified spiked Heybrook TT2 turntable, Origin Live DC Motor upgrade, stub modified OL250 arm, Grado Prestige Gold cartridge and Creek phono stage. Pioneer PD-91 CD player, Rotel RA-1060 integrated and RB-1070 power amp (bi-amped), Rogers LS7i speakers sitting on custom steel stands with Kimber mains and signal cable all round.

The system to our ears on vinyl sounds better than we could have ever hoped for, the problem being the old battleship CD player which sounds boring. The vinyl front-end absolutely leaves it for dead. Can we at least improve it without breaking the bank? I've read in World Classics that it's a "built to last player with easy upgrade routes for modifiers". We don't mind tinkering so can you point us in the right direction? Is it worth adding an outboard DAC? If so, could you recommend one for around £300? Has our heavyweight battleship fought its last battle or can it go on fighting? Your views are most welcome.

Robert Stevenson, Chesterfield

Your vinyl system sounds superb, Robert, so it's a tall order finding something digital to compete. Personally, I'd get a Trichord Clock 4 modification done (to which your PD-91 should respond superbly), and start scouring the classifieds for a Pink Triangle Da Capo DAC - in my opinion this was the most analogue
sounding offboard DAC ever made, and is a future classic. They’re pricey at £400-ish, but they’ll give you tonal colour and depth perspective like you wouldn’t believe – so much so that your vinyl section will have to fight hard to keep up.

Philips new DVD963SA is a great sounding SACD and DVD video player that also does a good job with CD.

TAKING THE TUBES
I am at the moment perplexed, as I wish to move into the wonderful world of valve amplification and am considering purchasing a World Audio Design KEL84. My dilemma is that I don’t know if it will drive my speakers, which are Mission 773Es. Would 15 watts be suitable to drive them? I don’t particularly wish for them to produce ear splitting volume levels but enough to drown out polite conversation would be nice (in a 30 by 15 foot room).

The power output isn’t the only issue I am confused about, as the 773’s are quoted at being 6 ohm impedance and yet you can get the amps rigged for 4 or 8 ohm only. Which one would I choose and are there any benefits or downfalls – feeding 6 ohm speakers with an amp rigged for a 4 ohm impedance would surely reduce the output further? Also, is there any need for special placement of the amp within a rack due to the high temperature valve amps run at, and is there a minimum distance from the top of the amp to the shelf above to avoid incinerating my tuner and CD player?

Please advise me to the best of your knowledge and also possibly suggest any alternatives for a maximum of £350. Many thanks and keep up the good work!

J.S. Angus

Whilst 15 watts would drive them, you’ll be competing with conversation rather than drowning it out. I would suggest more like 40 watts from 6550s might be a better idea, especially in such a large room.

On the matter of impedance, these days it is best to use a 4 ohm tap to drive 6 ohm speakers, since

Using a lower than specified load increases distortion as well as reducing maximum power, so if in doubt always use a tap value lower than the load. Leave at least a few inches above the amp for hot air to escape.

Hi Alan – that edginess is your stylus re-cutting your record grooves, so a new pickup is in order pronto. Just as I recommended to Ian (above), the Dynavector DV10X4 is the one to have in the sub £200 price bracket. The MC15 Super II is bland and over-analytical in my opinion. It was great eight years back, but times have changed – John Major is no longer Prime Minister and Take That have now split up! The MS Pageants are awesome blasts from the past, but I really think they’re due for the chop soon. Mission 782SEs are efficient enough to get decent levels out of your ageing Ion, and should work beautifully with the Gyro and Michell. Wondrous tonal colouring.

HOKED ON CLASSICAL
Hooked on classical soundfields, and dramatic dynamic contrasts are but a credit card away – so start saving!

Wood you countenance it?
I know a fellow who is selling a pair of Yamaha NS-250E speakers for £40.00. I have heard these hooked up to his system, which is all modern Sony stuff and to my amazement they sound quite nice. They look quite strange with that giant woofer and tinny horn tweeter in the corner. The cabinets are a little scratched but that would be

The 6550 beam tetrode gives plenty of tube power.

Hi Alan — that edginess is your stylus re-cutting your record grooves, so a new pickup is in order pronto. Just as I recommended to Ian (above), the Dynavector DV10X4 is the one to have in the sub £200 price bracket. The MC15 Super II is bland and over-analytical in my opinion. It was great eight years back, but times have changed – John Major is no longer Prime Minister and Take That have now split up! The MS Pageants are awesome blasts from the past, but I really think they’re due for the chop soon. Mission 782SEs are efficient enough to get decent levels out of your ageing Ion, and should work beautifully with the Gyro and Michell. Wondrous tonal colouring, true depth perspective, “walk around” soundstaging and dramatic dynamic contrasts are but a credit card away – so start saving!

Wood you countenance it?
I know a fellow who is selling an old pair of Yamaha NS-250E loudspeakers for £40.00. I have heard these hooked up to his system, which is all modern Sony stuff and to my amazement they sound quite nice. They look quite strange with that giant woofer and tinny horn tweeter in the corner. The cabinets are a little scratched but that would be

The 6550 beam tetrode gives plenty of tube power.
expected for I assume these are quite old. Is there any information you can possibly give me about these antiques. I know £40 won’t break the bank but it could go towards something else. I’m just looking for a nice sounding, smallish loudspeaker with wooden cabinets. Any help would be greatly appreciated.

M Holt

Well, if it’s ‘nice sounding’ and wooden cabs you’re after, then look no further than the classic designs of the 1970s. Usually three-way designs with Bextrene or doped paper bass and mid drivers, plus soft dome tweeters - and acres of depleted rainforest used each side - they tend to sound smooth and warm and ‘big’. Don’t expect forensic detail retrieval, holographic imaging or stunning speed or attack though – nobody seemed to care about that back then! The Yamahas sound just the job at £40, but up to £100 or so more will buy you any number of British classics, from Celestion Ditton 15XRs or even 66s, to KEF 104ABs, Spendor BC Is or Mission 770s. When buying old ‘speakers, always make sure you get a listen, and look out for buzzing drive units and perished cone surrounds. **DP**

**ON THE RECORD – EASILY!**

Can you help? I need a simple Program for getting my old LPs onto CD. I find that Clean Plus and Wavelab Lite and Wave Repair are too complicated and require a depth of understanding that I do not want to acquire. I just want record to hard disk, clean everything, then record to CD. No options. Preferably auto sound levels because it is never clear how to set up. (The sample sounds on the Clean CD are OK but what do I do with them?) Is there anything out there? I do not want to become a techie. I just want to listen to some music.

**Brian Ellis**

Hi Brian – methinks Roxio’s Easy CD Creator is the package for you – you can save the intricate joys of Cool Edit Pro and Nero for another day! **DP**

**DAZED AND CONFUSED**

I’m a bit stuck and I am in dire need of some good ‘sound’ advice. I bought about 5 years ago the best stereo I could for my money, investing in Technics A600 mk3 amplifier and SL-PG490 CD player with a pair of Mission 701s. This system has suited me well enough, but the amplifier recently stopped working and I am confused as to whether to replace just the amp, or go the whole hog and do the CD player too. The other option is to invest in the Denon DM31-5 but I don’t know if it will power my speakers all that well.

I have to say in comparison to other (better) systems, my setup sounds rather unexciting and I feel I am wasting the speakers a little on pretty naff equipment. I have a bit more money to spend than I did originally, so I could probably go to around £800 at a push. Please help a rather dazed and confused chap, and point me in the right direction.

**Russell Kirkham, Buckinghamshire.**

The CD player in particular is sleep inducing, but the Technics amp is no great shakes. I know what you mean about the sound; it summarises the smooth, inoffensive but bland sound of so many Technics products. They don’t offend, but they don’t excite either. I would suggest to try a Marantz CD6000 KIS, which has a kick-ass sound – tight, clean, detailed and punchy. However, this and the Missions I would tend to choose a smoothie amp (but not bland!) like a Creek A50 or a Cyrus 6. Both have the sort of neutral clarity needed to fully reveal without modification or enhancement, the abilities of the player.

**LEAK REVIVAL**

Can you please put me in touch with someone who can guide me in getting a Leak amplifier to fire up safely? I have just been given an FM Trough Line 3, Varislope 2 Stereo preamp and a Stereo 20 power amp, and I don’t know where to start with it all! It was given to me by a friend who kept it in the garden shed for 15 years, and I suspect that just cleaning and switching it on is not a good idea! I’d like to visibly show off the valve technology, and drive CD-based jazz and classical music through my Celestion Ditton 25s. The transformers don’t seem to have leaked, there’s about 2% rust on the exterior grey paintwork, the ECC83 valves and GZ32 (not GZ34!) are by Mullard and the EL84s are a mixed bunch, two unmarked and two by Brimar. My possible plan of action is:

1) Open up cases, look for obvious damage, fix.
2) Connect with test speakers, switch on & test.
3) Take advice on performing basic renovation through replacement of aged components (caps and valves?) and perhaps resetting bias/gains. This may be a stupid plan – I’m just guessing!

**George Robinson**

If you want to renovate the equipment yourself you will need a service manual and these are available on the Internet. I would dust it down, do visual checks, check for short circuits (i.e. biggies like an HT line shorted down!) then bring it up slowly on a Variac. If the voltages do come up then I would give capacitors time to re-form before applying full volts. After this it is a case of watching out for cherry red anodes and smoking resistors, although quite frankly it really is best to check cathode resistors and input grids first to ensure excessive current isn’t being drawn through the output valves since this may burn out the output trannies.

If the amps do run then all the working voltages need to be checked to ensure they are correct. If components need replacing you must decide whether you want the amps restored, in which case original old (NOS) parts should be used, or simply renovated, in which case new parts can be used. All-original amps are worth more, but we are not talking big bucks. If all this sounds too much or you don’t have the knowledge, time or test equipment (and don’t fancy getting an electric shock) then you may be best off getting a quote from an expert like Graham Tricker at GT Audio.

**NK**

---

A Leak Stereo 20 amplifier - worth restoring.
WELCOME TO OUR MARKET PLACE

Here are a wide variety of specialist hi-fi products and services. Keep an eye open for regular advertisers, who know the market and serve their customers in a friendly and reliable manner.

Sound Investment

If you have invested expertise and money in building up a sound system to your own unique specifications, then why compromise with indifferent housing units?

Fi-Rax offers a new dimension in audio visual racking - from a range of standard designs to the flexibility to custom create a unit to suit your particular sound system and lifestyle.

New web address: www.retroreproduction.com
28a Haddington Place Edinburgh EH7 4AF Phone/Fax 0131 558 9989
Open 11.00am - 5.30pm - closed Monday & Sunday

WE ARE PROUD TO ANNOUNCE THE NEW BEAUCHORN H2 HORN LOUDSPEAKERS IDEAL FOR LOW POWERED SINGLE ENDED VALVE AMPS

ALSO DEMONSTRATING THE NEW GRAHAM SLEE PROJECTS RANGE OF AFFORDABLE PHONOSTAGS

Now stocking Sonneteer's new Bronco product range including digital amp from £800 and matching CD player

Full value Trade in on Fair Phono Stages and other selected models.

"NOW DEMONSTRATING"}

The signature builds on the Classic 834P specification by adding a superb moveable tone arm and separate left/right grounding, and has extra attention to the range. the Deluxe 834P comes in stunning chrome and gold cabinet, and has extra attention to detail, £2,600.

www.retroreproduction.com
### Vinyl Replay

<table>
<thead>
<tr>
<th>Product</th>
<th>Original Price</th>
<th>Discounted Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>DUNLOP Systemdek 3 / Rock UX / K5</td>
<td>£750</td>
<td>£379</td>
</tr>
<tr>
<td>Garrard 301</td>
<td>£150</td>
<td></td>
</tr>
<tr>
<td>LINN LPI12 (Black) + Mission 774</td>
<td>£298</td>
<td></td>
</tr>
<tr>
<td>LINN LPI12 (Black) + Ittok (Black)</td>
<td>£895</td>
<td></td>
</tr>
<tr>
<td>LINN LPI12 (Alto) + Grace 707 / Supex</td>
<td>£398</td>
<td></td>
</tr>
<tr>
<td>LINN LPI12 (Alto) + Ittok DVI</td>
<td>£895</td>
<td></td>
</tr>
<tr>
<td>MICHELLE Gyrode + Armtrix Tone Arm</td>
<td>£895</td>
<td></td>
</tr>
<tr>
<td>MICHELLE 150 HR Phonograph Ex-dem</td>
<td>£895 £646</td>
<td></td>
</tr>
<tr>
<td>MICHELLE 150/HERA Phonograph Stage</td>
<td>£895 £448</td>
<td></td>
</tr>
<tr>
<td>SME 10A with 309 Tone Arm Ex-dem</td>
<td>£3410 £2896</td>
<td></td>
</tr>
<tr>
<td>VÖYD Reference in arm</td>
<td>£14,995 £5000</td>
<td></td>
</tr>
<tr>
<td>WILSON BENESCH Full Circle (Mint)</td>
<td>£1995 £1495</td>
<td></td>
</tr>
</tbody>
</table>

### Amplifiers

<table>
<thead>
<tr>
<th>Product</th>
<th>Original Price</th>
<th>Discounted Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>PIONEER PD5-901 CD Player</td>
<td>£399 £149</td>
<td></td>
</tr>
<tr>
<td>PIERRE LURNE Elise DAC</td>
<td>£500 £348</td>
<td></td>
</tr>
<tr>
<td>PIERRE LURNE Audio Mecano Kreatura Trans</td>
<td>£1950 £598</td>
<td></td>
</tr>
<tr>
<td>PROCEED P03/P03 Plus Trans/DAC</td>
<td>£2500</td>
<td></td>
</tr>
<tr>
<td>QED Reference DAC</td>
<td>£299 £99</td>
<td></td>
</tr>
<tr>
<td>REGA Planet</td>
<td>£500 £350</td>
<td></td>
</tr>
<tr>
<td>ROHSAK kandy CD Player</td>
<td>£500 £199</td>
<td></td>
</tr>
<tr>
<td>ROTEL RCOPP CD Player</td>
<td>£799 £399</td>
<td></td>
</tr>
<tr>
<td>SUGDEN SDA-1 DAC</td>
<td>£1750 £279</td>
<td></td>
</tr>
<tr>
<td>SUGDEN SDD-1 Trans</td>
<td>£950 £399</td>
<td></td>
</tr>
<tr>
<td>THAC 90-10 (CD Player)</td>
<td>£850</td>
<td></td>
</tr>
<tr>
<td>THAC 90-1 Trans</td>
<td>£300 £149</td>
<td></td>
</tr>
<tr>
<td>THETA DATA Basic Trans</td>
<td>£2400 £749</td>
<td></td>
</tr>
<tr>
<td>THETA DATA 111 (Uni amp)</td>
<td>£12758</td>
<td></td>
</tr>
<tr>
<td>THORENS TDC2000 Trans + TDA2000 DAC £1999 £1198</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### CD Player

<table>
<thead>
<tr>
<th>Product</th>
<th>Original Price</th>
<th>Discounted Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCAM Alpha Plus CD</td>
<td>£300 £89</td>
<td></td>
</tr>
<tr>
<td>ARCAM Alpha One CD</td>
<td>£300 £149</td>
<td></td>
</tr>
<tr>
<td>ARCAM Alpha 6 CD + Treichard</td>
<td>£850 £398</td>
<td></td>
</tr>
<tr>
<td>ARCAM Alpha 9 CD</td>
<td>£900 £498</td>
<td></td>
</tr>
<tr>
<td>ARCAM Delta Black Box 3</td>
<td>£950 £498</td>
<td></td>
</tr>
<tr>
<td>AUDIO ALCHEMY Y1 + PSU</td>
<td>£489 £129</td>
<td></td>
</tr>
<tr>
<td>AUDIO ALCHEMY Y2 DAC + PSU</td>
<td>£900 £429</td>
<td></td>
</tr>
<tr>
<td>AUDIO MECHA Kreatura Trans</td>
<td>£1500 £439</td>
<td></td>
</tr>
<tr>
<td>ARCAM Alpha Plus CD</td>
<td>£300 £89</td>
<td></td>
</tr>
<tr>
<td>ARCAM Alpha One CD</td>
<td>£300 £149</td>
<td></td>
</tr>
<tr>
<td>ARCAM Alpha 6 CD + Treichard</td>
<td>£850 £398</td>
<td></td>
</tr>
<tr>
<td>ARCAM Alpha 9 CD</td>
<td>£900 £498</td>
<td></td>
</tr>
<tr>
<td>ARCAM Delta Black Box 3</td>
<td>£950 £498</td>
<td></td>
</tr>
<tr>
<td>AUDIO ALCHEMY Y1 + PSU</td>
<td>£489 £129</td>
<td></td>
</tr>
<tr>
<td>AUDIO ALCHEMY Y2 DAC + PSU</td>
<td>£900 £429</td>
<td></td>
</tr>
<tr>
<td>AUDIO MECHA Kreatura Trans</td>
<td>£1500 £439</td>
<td></td>
</tr>
</tbody>
</table>

### AVI - A Rare Opportunity to own a complete AVI system

<table>
<thead>
<tr>
<th>Product</th>
<th>Original Price</th>
<th>Discounted Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVI 2000 Reference CD Player</td>
<td>£1,300 £586</td>
<td></td>
</tr>
<tr>
<td>AVI 2000 Pre in stereo</td>
<td>£999 £438</td>
<td></td>
</tr>
<tr>
<td>AVI 2000 Monoblocks</td>
<td>£1,400 £798</td>
<td></td>
</tr>
</tbody>
</table>

### Amplifiers + Valve

<table>
<thead>
<tr>
<th>Product</th>
<th>Original Price</th>
<th>Discounted Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARION Electro Integrated</td>
<td>£1,200 £598</td>
<td></td>
</tr>
<tr>
<td>AUDIO INNOVATIONS 800 Mk2</td>
<td>£1,500 £748</td>
<td></td>
</tr>
<tr>
<td>AUDIO INNOVATIONS 12</td>
<td>£700 £448</td>
<td></td>
</tr>
<tr>
<td>AUDIO INNOVATIONS Monoblocks</td>
<td>£2,999 £1948</td>
<td></td>
</tr>
<tr>
<td>AUDION Silver Knight 3008 Mono's</td>
<td>£2,250 £1390</td>
<td></td>
</tr>
<tr>
<td>AUDIO NOTE M2 Pre</td>
<td>£1,000 £600</td>
<td></td>
</tr>
<tr>
<td>AUDIO PRISM Debit (Red Rose)</td>
<td>£2,800 £1700</td>
<td></td>
</tr>
<tr>
<td>AUDIO PRISM Marquis (Red Rose)</td>
<td>£3,000 £1800</td>
<td></td>
</tr>
<tr>
<td>AUDIO RESEARCH LS2 Pre</td>
<td>£2,800 £1798</td>
<td></td>
</tr>
<tr>
<td>AUDIO RESEARCH LS2 MK2 pre</td>
<td>£1,500 £699 £496</td>
<td></td>
</tr>
<tr>
<td>AUDIO RESEARCH LS1</td>
<td>£1,500 £699 £496</td>
<td></td>
</tr>
<tr>
<td>AUDIO RESEARCH Classic 120 Monoblocks</td>
<td>Transparent Power link 15amp cables, Hard wire, balanced cables</td>
<td>£2498</td>
</tr>
<tr>
<td>DPA PDM 1 DAC</td>
<td>£1,000 £438</td>
<td></td>
</tr>
<tr>
<td>EXPOSURE CD Player</td>
<td>£999 £629</td>
<td></td>
</tr>
<tr>
<td>KENWOOD D7090 CD Player</td>
<td>£399 £129</td>
<td></td>
</tr>
<tr>
<td>KENWOOD D7090A Trans</td>
<td>£400 £199</td>
<td></td>
</tr>
<tr>
<td>KRELL KPS 25 CD/Pre</td>
<td>£24,998 £14,996</td>
<td></td>
</tr>
<tr>
<td>LINN Kark CD</td>
<td>£1850 £1098</td>
<td></td>
</tr>
<tr>
<td>MARANTZ DR6000 CD Recorder</td>
<td>£600 £179</td>
<td></td>
</tr>
<tr>
<td>MERIDIAN 200 Trans</td>
<td>£499 £249</td>
<td></td>
</tr>
<tr>
<td>MERIDIAN 203 DAC</td>
<td>£499 £228</td>
<td></td>
</tr>
<tr>
<td>MERIDIAN 207 CD Player/Pre-amp</td>
<td>£700 £299</td>
<td></td>
</tr>
<tr>
<td>MERIDIAN 500 MK 11 Trans</td>
<td>£798</td>
<td></td>
</tr>
<tr>
<td>MERIDIAN 518 Trans</td>
<td>£548</td>
<td></td>
</tr>
<tr>
<td>MERIDIAN 518 Processor</td>
<td>£548</td>
<td></td>
</tr>
<tr>
<td>MERIDIAN 541 Digi Pre</td>
<td>£1548</td>
<td></td>
</tr>
<tr>
<td>MICSOMEGA DAC 1</td>
<td>£750 £320</td>
<td></td>
</tr>
<tr>
<td>MICSOMEGA Micro-DAC</td>
<td>£499 £149</td>
<td></td>
</tr>
<tr>
<td>MICSOMEGA T-Drive Trans</td>
<td>£999 £399</td>
<td></td>
</tr>
<tr>
<td>NAIM CD1</td>
<td>£948</td>
<td></td>
</tr>
<tr>
<td>NAIM CD3</td>
<td>£780 £479</td>
<td></td>
</tr>
<tr>
<td>NAKAMICHI 7 disc cd player</td>
<td>£400 £129</td>
<td></td>
</tr>
<tr>
<td>ORELLA DA107 Trans</td>
<td>£900 £349</td>
<td></td>
</tr>
</tbody>
</table>

### Guarantee

Full manufacturers warranty on new and ex-dem products. Thirty days to three months warranty on all used items. Please check at time of purchase.
This is a GENUINE STOCK CLEARANCE with most remaining items open to SENSIBLE OFFERS - just give us a call.

La Creme de la Creme

 McIntosh C200 Pre Amp/Controller
 RRP: £1,790
 Our Price: £5,500

 McIntosh MC2000SE Power Amp
 RRP: £13,000
 Our Price: £9,250

 McIntosh C200 Pre Amp/Controller complete with McIntosh MC2000SE Power Amp
 RRP: £21,190
 Our Price: £14,500

For your convenience a personal demonstration of these items can be arranged either here in Peterborough or in central London. Please call for details.

LOUDSPEAKERS

Acoutstat Model 2 Electrostat £2,500 £674
ADIONE CH/VE (Inc stands) £2,900 £1,748
Audio Pro 8250 Sub £1,000 £169
B&W DM220 (Walnut) £370 £129
B&W P4 (Cherry but marked) £700 £349
Cannon 1100 Corner speakers £230 £99
Castle Chester (Walnut) £478
Castle Warwick (Black) £180 £49
Castle Durham (Marked) £230 £99
Castle Howard 52 £1,400 £848
Cestleon 3000 Hybrid (Black) £1,500 £299
Castle Howard 52 £1,400 £848
Chario Millennium inc Stands £1,698
Epos £350 £1058
Ensemble Primadonna VERY RARE £10,000 £2,999
Gamma Acoustics Epoch 5 £3000 £998
Gershman X1 £2,750 £1298
Hales Signature System 2 £4,000 £1,848
Heybrook Heystock (Rosewood) £500 £297
Impulse 17 Black (Black) £1,000 £299
KEF Ref Mod 1 £798
KEF Q30 Black £350 £129
KEF Q35 Black £350 £1279
KEF Cube (EU Box) £700 £246

TUNERS / HEADPHONE HEADPHONES

LUXMAN ST50 (Rare) £900 £550
Sony ST705S £1400 £240
Revox D36 Reel to Reel £348
Revox D36 (Reel to reel) £298
Revox 8400 £548
Revox B77 3.75/7.5 Reel to Reel £598
Revox B77 Mk2 3.75/7.5 Reel to Reel £648

EX-DEMONSTRATION AND NEW STOCK SALE

Sold in ‘as new’ condition unless otherwise stated, with boxes, instructions and full manufacturer’s warranties. Some excess stock items are new.

Ariel Acoustics Mod B掌声 EX-DEM £549 £399
Audio Analogue Monitor EX-DEM £260 £1749
Audionote Silver Knight 3015 Integrat EX-DEM £1125 £876
Audio Research 11010 77 Pre EX-DEM £1495 £999
Audio Research 11010 77 Pre EX-DEM £1495 £999
B&L MXS System EX-DEM £495 £249
Goldmund Wiriss A Amp EX-DEM £799 £175
Goldmund Wiriss 4 Amp EX-DEM £799 £175
Grand Prix 35 EX-DEM £499 £599
Krell CPX 3 CD Player EX-DEM £899 £674
Krell Kafos EX-DEM £1,995 £1,195
Krell KP80 EX-DEM £999 £999
Krell P500 EX-DEM £999 £999
Krell Pro EX-DEM £999 £999

La Creme de la Creme

McIntosh C200 Pre Amp/Controller
RRP: £1,790
Our Price: £5,500

McIntosh MC2000SE Power Amp
RRP: £13,000
Our Price: £9,250

McIntosh C200 Pre Amp/Controller complete with McIntosh MC2000SE Power Amp
RRP: £21,190
Our Price: £14,500

For your convenience a personal demonstration of these items can be arranged either here in Peterborough or in central London. Please call for details.

LOUDSPEAKERS

Acoutstat Model 2 Electrostat £2,500 £674
ADIONE CH/VE (Inc stands) £2,900 £1,748
Audio Pro 8250 Sub £1,000 £169
B&W DM220 (Walnut) £370 £129
B&W P4 (Cherry but marked) £700 £349
Cannon 1100 Corner speakers £230 £99
Castle Chester (Walnut) £478
Castle Warwick (Black) £180 £49
Castle Durham (Marked) £230 £99
Castle Howard 52 £1,400 £848
Cestleon 3000 Hybrid (Black) £1,500 £299
Castle Howard 52 £1,400 £848
Chario Millennium inc Stands £1,698
Epos £350 £1058
Ensemble Primadonna VERY RARE £10,000 £2,999
Gamma Acoustics Epoch 5 £3000 £998
Gershman X1 £2,750 £1298
Hales Signature System 2 £4,000 £1,848
Heybrook Heystock (Rosewood) £500 £297
Impulse 17 Black (Black) £1,000 £299
KEF Ref Mod 1 £798
KEF Q30 Black £350 £129
KEF Q35 Black £350 £1279
KEF Cube (EU Box) £700 £246

TUNERS / HEADPHONE HEADPHONES

LUXMAN ST50 (Rare) £900 £550
Sony ST705S £1400 £240
Revox D36 Reel to Reel £348
Revox D36 (Reel to reel) £298
Revox 8400 £548
Revox B77 3.75/7.5 Reel to Reel £598
Revox B77 Mk2 3.75/7.5 Reel to Reel £648

EX-DEMONSTRATION AND NEW STOCK SALE

Sold in ‘as new’ condition unless otherwise stated, with boxes, instructions and full manufacturer’s warranties. Some excess stock items are new.

Ariel Acoustics Mod B掌声 EX-DEM £549 £399
Audio Analogue Monitor EX-DEM £260 £1749
Audionote Silver Knight 3015 Integrat EX-DEM £1125 £876
Audio Research 11010 77 Pre EX-DEM £1495 £999
Audio Research 11010 77 Pre EX-DEM £1495 £999
B&L MXS System EX-DEM £495 £249
Goldmund Wiriss A Amp EX-DEM £799 £175
Goldmund Wiriss 4 Amp EX-DEM £799 £175
Grand Prix 35 EX-DEM £499 £599
Krell CPX 3 CD Player EX-DEM £899 £674
Krell Kafos EX-DEM £1,995 £1,195
Krell KP80 EX-DEM £999 £999
Krell P500 EX-DEM £999 £999

The Hi-Fi Company's Trading Station
35 Cowgate
Peterborough PE1 1LZ

PHONE: 0870 608 821
OPEN: Tues - Sat: 10am - 5.30pm
NEXT DAY DELIVERY WITH CREDIT CARD PURCHASES

Much More Always Available
Please Check Our Web Site: hifitradingstation.com
ALL ABOVE ITEMS IN STOCK AT TIME OF GOING TO PRESS
Midland Audio X-change

S/hand and ex-demo clearance items - JUNE 2003

CD players DACs & Transports

- Audio Synthesis Decade HDAC DAC S/H
- dCS Delius 1394 DSD 24/192 Ring DAC S/H
- dCS Delius 1394 DSD 24/192 Ring DAC S/H
- Gryphon Adagio CD player 24/192 x-demo

Turntables Tonearms & Cartridges

- Air Tangent 1C with Wisa Pump X-demo
- Basis 2000/RSB300 Turntable x-Demo
- Benz Micro LP New&Boxed
- Electrocompaniet ECP1 S/H
- Graham Engineering 2.2 Tonearm with IC box X-demo
- Heed Audio Quazar 2 Box Phono Stage New and Boxed
- Lehmann Audio Black Cube SE New&Boxed
- Lyra Lydian Beta New&Boxed
- Lyra Clavis DaCapo New&BxBoxed
- McCormack Phono Stage New and Boxed
- Origin Live 250 Silver Tonearm S/H
- Roksan Artexenex X S/H
- Roksan DS1.5 PSU Bk S/H
- Roksan Xenes Rosewood Linn Cut S/H
- Systemdeck S/H

Preamplifiers

- Advantage S2 Balanced Silver S/H
- CAT SL1Mxtl Reference Phono Pre amplifier S/H
- EAR 802 Valve Preamp S/H
- Einstein "The Tube" Preamplifier x-Demo
- Graaf GM13.5Bl1 Valve Preamplifier x-demo S/H
- Kef KAV-S Process/Preamp/DTIS/A3/Pro Logic S/H
- Roksan L2 preamplifier S/H
- Sugden Masterclass Line preamplifier S/H

Amplifiers

- Audio Analogue Maestro Integrated x-demo
- Audio Research Classic 30 Triode Valve Amplifier S/H
- Graaf GM20 GTL Stereo Valve Amplifier S/H
- Musical Fidelity Nu-Vista 300 Power Amplifier S/H
- Parasound 1205 multichannel amplifier x-demo
- Roksan Rok S1.5 Power Amplifier S/H
- Sugden Masterclass AA Poweramplifier S/H
- Union Research S6 Valve integrated S/H

Loudspeakers

- Avalon Eclipse Maple x-demo
- AVI Pro9 Plus Cherry S/H
- BKS 107 MKII Supreme Ribbon Hybrids x-demo
- Indigo Model Two Centre Channel Cherry S/H
- Jim Lab Mono Utopia Dark Cherry/linch/sanis New and Boxed
- Martin Logan Scenario x-demox
- Martin Logan Aerion x-demo
- Martin Logan Ascent x-demo
- Martin Logan Aerion S/H
- Sonus faber Minima Amator S/H
- Sonus faber Iron Wood stands S/H
- Wilson Benesch Orators Cherry S/H
- Wilson Audio System 7 Obsidian Black 3 months old

Tuners & Tape Decks, Power Supplies

- Sony TCK-461s 2 head cassette decks new&boxed
- Sony TCD10 Pre DAT Portable/Recorder S/H

Cables & Accessories

- Air Pod size 1 x 3 S/H
- BCD 1000 3 tier table S/H
- BCD 1008 Amp Stand S/H
- Cogan Hall EM-D 0.6m S/H
- Mana Reference table S/H
- Opera Lux 3 Tier Table Clear/Stainless x-Demo
- Partington Dreadnought 24" Stands S/H
- Roksan HA01 1M Interconnect S/H
- Roksan HA01D 0.5m Digital Interconnect S/H
- Transparent Music Wave Plus 2x 8ft S/H
- Transparent Music Wave Ultra 2x10ft S/H
- Transparent Music Link Reference Balanced 1.5m S/H
- Transparent Music Link Ultra Balanced 7.26m S/H
- Transparent PL20XL Power cord S/H
- Transparent The Wave 2X7m S/H

Tuners & Tape Decks, Power Supplies

- AKG C1000 Condenser Mic S/H
- Magnum Dyalahal FT-R Remote Switcher for FT101A/Toede (New&Boxed)
- Rega RadioR Silver x-demo
- Sony TCD10 Pre DAT Portable/Recorder S/H

Bargains under a £100

- Sony TCK-461s 2 head cassette decks new&boxed

Midland Audio X-change are looking for Audio Research, Krell, Mark Levinson, Naim Audio, Bcs,Wadia, cash paid call John Roberts on 01562 822236 now!

Midland Audio X-change is looking for good used British & American Hi-Fi

cash paid call John Roberts on 01562 822236

Midland Audio X-change

Suppliers and installers of High Quality Audio Systems:

- 47 Laboratory
- Accuphase
- Audio Note
- Audio Research
- Avid
- Basis
- Cabasse
- Cardas
- Clearaudio
- Conrad Johnston
- Copland
- DCS
- DNM / Reson
- Einstein
- Electrocompaniet
- Final
- Glyph
- Hurley
- Magico
- Mark Levinson
- Martin Logan
- Michell
- Nagra
- Primare
- ProAc
- Rega
- Resolution Audio
- Rega
- Sonus Faber
- Spectral
- SPH
- Sugden
- UKD
- Finite Elemente

www.midlandaudiox-change.co.uk

call John Roberts Tel 01562 822236

or fax on: 01562 750246

181 Franche Rd • Kidderminster • Worcs • DY11 5AD

e-mail sales@midlandaudiox-change.co.uk

Mobile 07721 605966
Audio Analogue Master C.D. Player.

Audio Analogue Masterful C.D. Player.

Audio Analogue Masterful CD 3m...

Audio Analogue Masterful CD 3m...

Audio Analogue Masterful 3m...

Audio Analogue Masterful 3m...

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.

Epos ES 70's Romwood, £195.
THE VINTAGE VALVE TECHNOLOGY FAIR 2003
HELD AT HAYDOCK PARK RACECOURSE,
NEWTON LE WILLOWS,
MERSEYSIDE WA12 0HQ
- ON THE A49, 5 MINUTES FROM M6 JUNCTION 23 & A580

ON SUNDAY JULY 27TH 2003
PUBLIC ENTRY 10:00 TO 16:00

- Easy to find & easy to get to!
- Stall holder and Public car parking FREE!
- Stalls still available ONLY £25!
- Public entry ONLY £2.50 accompanied bored wives & kids FREE!
- On site catering & licensed bar in operation at the fair!

Tel: 01274 824816

www.connoisseuraudio.co.uk
UK SUBSCRIPTION £27
VISIT OUR WEBSITE: www.hi-fiworld.co.uk

YES! I want to subscribe to Hi-Fi World for:-

☐ £27.00 for 12 months

Your Details
Title     Initial     Surname

Address

Post Code

Daytime Tel:

Start Issue

Delivery Address (if different)

I would like to pay by cheque made payable to Audio Publishing Ltd.

Please debit my VISA ☐ MASTER ☐ SWITCH ☐ AMEX ☐

Switch card issue No ☐ Expiry Date: /  

Cardholder Signature:

Please choose service:-

Airmail
Middle East & South-East Asia £60

Airmail
Europe £50

Airmail
USA, Canada, Australia, Japan, Korea & China £70

Surface Mail £40

Send this form to:
Hi-Fi World, Freepost LON3478, London, NW6 6YR.

Get your issue of hi-fi world straight to your door!

Get to our amazing classified ads first and grab a bargain!!

➤ Run by dedicated hi-fi engineers and enthusiasts.

➤ Hi-Fi World has become famous for its informative reviews and radical kit designs.

Credit Card Hotline +44 01923 270 833
Monday - Friday 9.30am - 12.00 noon; Fax +44 01923 260 588

MISSED AN ISSUE?

Back issues also available at a cost of £3.50 only (includes P&P), payment by cheque only - overseas please contact subscriptions department for details.

Send cheque to: Hi-Fi World, Freepost LON3478, London, NW6 6YR.
Oxford Audio Consultants Ltd.

Our superb service is the same regardless of price.

Now Demonstrating

Ex-Demonstration & Previously Owned Equipment

SALE LIST

Meridian 500 CD Transport £795 SH
Musical Fidelity A3.2CD CD Player £795 SH
dCS Delius DAC £3995 SH
Threshold Stasis II £695
Mission 753 speaker £295
Lexicon MC1 P.O.A. SH
Nordost Blue Heaven Balanced £95 SH
Nordost Blue Heaven speaker cable 2m Biwire £250 SH
Musical Fidelity Nuvista CD Player £1995 SH
Krell KS20i £3995 SH
Naim 42 preamp £75 SH
B & W 602 £175 SH
Quad 66 preamp £395 SH
Unison Research Mystery One/Smart 845s P.O.A.
Martin Logan Aecon ex dem £2495 XD
Graaf 13.5 preamplifier £1895 SH
Theta Dreadnought 5 channel £2495 XD
Musical Fidelity A3 Preamp Ex Dem £695 XD

SH - Second Hand XD - EX Demonstration

0% interest free credit
Licensed Credit Broker

REFER TO OUR WEBSITE FOR THE LATEST UPDATED SALE LIST.

TAX FREE EXPORT SERVICE
MAIL-ORDER AVAILABLE ON MANY ITEMS

Oxford Audio Consultants Ltd.
Cantay House, Park End Street
Oxford OX1 1JD
Telephone: Oxford (01865) 798978
Facsimile: Oxford (01865) 791665
E-MAIL: oxford.audio@tinternet.com
WEBSITE: www.oxfordaudio.co.uk

E-MAIL: tony@centralaudio.co.uk

OPEN MON-SUN 10.00 TO 8.00
Website: www.centralaudio.co.uk.
E-mail: tony@centralaudio.co.uk

Also Agents For
All used cartridges are checked under a microscope before being offered for sale.

### Manufacturer

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arcam</td>
<td>ARV1100</td>
<td>£1,199.00</td>
</tr>
<tr>
<td>Arcam</td>
<td>Arcam Alpha 1DAVE</td>
<td>£1,649.00</td>
</tr>
<tr>
<td>B&amp;W</td>
<td>CMC</td>
<td>£1,349.00</td>
</tr>
<tr>
<td>B&amp;W</td>
<td>CM2</td>
<td>£1,399.00</td>
</tr>
<tr>
<td>Cyrus</td>
<td>CD7</td>
<td>£1,399.00</td>
</tr>
<tr>
<td>Cyrus</td>
<td>DVD 7+ (new)</td>
<td>£1,399.00</td>
</tr>
<tr>
<td>Cyrus</td>
<td>FM 7.5</td>
<td>£1,399.00</td>
</tr>
<tr>
<td>Cyrus</td>
<td>ACA 7.5</td>
<td>£1,399.00</td>
</tr>
<tr>
<td>Cyrus</td>
<td>PS3 R</td>
<td>£1,399.00</td>
</tr>
<tr>
<td>Denon</td>
<td>AVC A15R</td>
<td>£2,399.00</td>
</tr>
<tr>
<td>Denon</td>
<td>A15R</td>
<td>£2,399.00</td>
</tr>
<tr>
<td>Denon</td>
<td>AVH1652</td>
<td>£2,399.00</td>
</tr>
<tr>
<td>Denon</td>
<td>DVD3300 BSR</td>
<td>£2,399.00</td>
</tr>
<tr>
<td>Denon</td>
<td>DVD3300</td>
<td>£2,399.00</td>
</tr>
<tr>
<td>Jarro</td>
<td>Concert 11</td>
<td>£2,399.00</td>
</tr>
<tr>
<td>Jarro</td>
<td>Concert 1 C</td>
<td>£2,399.00</td>
</tr>
<tr>
<td>Jarro</td>
<td>D8/S</td>
<td>£2,399.00</td>
</tr>
<tr>
<td>Mission</td>
<td>M53</td>
<td>£2,399.00</td>
</tr>
<tr>
<td>Mission</td>
<td>M61</td>
<td>£2,399.00</td>
</tr>
<tr>
<td>Mission</td>
<td>730</td>
<td>£2,399.00</td>
</tr>
<tr>
<td>Mission</td>
<td>780</td>
<td>£2,399.00</td>
</tr>
<tr>
<td>Monitor Audio</td>
<td>Studio 20 Heritage</td>
<td>£2,399.00</td>
</tr>
<tr>
<td>Musical fidelity</td>
<td>X100</td>
<td>£2,399.00</td>
</tr>
<tr>
<td>Rotairia</td>
<td>Kandy</td>
<td>£2,399.00</td>
</tr>
<tr>
<td>Rotairia</td>
<td>Cayko</td>
<td>£2,399.00</td>
</tr>
<tr>
<td>Rupertson</td>
<td>Ecouteur Centre</td>
<td>£2,399.00</td>
</tr>
<tr>
<td>Sony</td>
<td>STRDB9070</td>
<td>£2,399.00</td>
</tr>
<tr>
<td>Sony</td>
<td>SCID X9 940</td>
<td>£2,399.00</td>
</tr>
<tr>
<td>TAG McLaren</td>
<td>125D</td>
<td>£2,399.00</td>
</tr>
<tr>
<td>TAG McLaren</td>
<td>100G</td>
<td>£2,399.00</td>
</tr>
<tr>
<td>TAG McLaren</td>
<td>T20</td>
<td>£2,399.00</td>
</tr>
<tr>
<td>TAG McLaren</td>
<td>CD20R</td>
<td>£2,399.00</td>
</tr>
<tr>
<td>TAG McLaren</td>
<td>PA010</td>
<td>£2,399.00</td>
</tr>
<tr>
<td>TAG McLaren</td>
<td>PA20</td>
<td>£2,399.00</td>
</tr>
<tr>
<td>TAG McLaren</td>
<td>DVD32R</td>
<td>£2,399.00</td>
</tr>
<tr>
<td>Yamaha</td>
<td>RXV1000</td>
<td>£2,399.00</td>
</tr>
<tr>
<td>Yamaha</td>
<td>DSPA8X20</td>
<td>£2,399.00</td>
</tr>
</tbody>
</table>

### Manufacturer

<table>
<thead>
<tr>
<th>Product name</th>
<th>Product type</th>
<th>New/used</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linn</td>
<td>AIA</td>
<td>New</td>
<td>£3,999.00</td>
</tr>
<tr>
<td>Musical fidelity</td>
<td>X100</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
<tr>
<td>Rotairia</td>
<td>Kandy</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
<tr>
<td>Rotairia</td>
<td>Cayko</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
<tr>
<td>Rupertson</td>
<td>Ecouteur</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
<tr>
<td>Sony</td>
<td>STRDB9070</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
<tr>
<td>Sony</td>
<td>SCID X9 940</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
<tr>
<td>TAG McLaren</td>
<td>125D</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
<tr>
<td>TAG McLaren</td>
<td>100G</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
<tr>
<td>TAG McLaren</td>
<td>T20</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
<tr>
<td>TAG McLaren</td>
<td>CD20R</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
<tr>
<td>TAG McLaren</td>
<td>PA010</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
<tr>
<td>TAG McLaren</td>
<td>PA20</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
<tr>
<td>TAG McLaren</td>
<td>DVD32R</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
<tr>
<td>Yamaha</td>
<td>RXV1000</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
<tr>
<td>Yamaha</td>
<td>DSPA8X20</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
</tbody>
</table>

### Manufacturer

<table>
<thead>
<tr>
<th>Product name</th>
<th>Product type</th>
<th>New/used</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linn</td>
<td>AIA</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
<tr>
<td>Musical fidelity</td>
<td>X100</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
<tr>
<td>Rotairia</td>
<td>Kandy</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
<tr>
<td>Rotairia</td>
<td>Cayko</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
<tr>
<td>Rupertson</td>
<td>Ecouteur</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
<tr>
<td>Sony</td>
<td>STRDB9070</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
<tr>
<td>Sony</td>
<td>SCID X9 940</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
<tr>
<td>TAG McLaren</td>
<td>125D</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
<tr>
<td>TAG McLaren</td>
<td>100G</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
<tr>
<td>TAG McLaren</td>
<td>T20</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
<tr>
<td>TAG McLaren</td>
<td>CD20R</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
<tr>
<td>TAG McLaren</td>
<td>PA010</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
<tr>
<td>TAG McLaren</td>
<td>PA20</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
<tr>
<td>TAG McLaren</td>
<td>DVD32R</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
<tr>
<td>Yamaha</td>
<td>RXV1000</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
<tr>
<td>Yamaha</td>
<td>DSPA8X20</td>
<td>Used</td>
<td>£3,999.00</td>
</tr>
</tbody>
</table>
Upgrade Your Turntable

"It's value is nothing short of tremendous"
Listener Magazine

"The single most important upgrade you can ever make to any record deck concerns the motor drive...Nothing can compare you for the shock of going DC, in a word, Gobsmacking"
Common Ground Magazine

"...if you are thinking of upgrading your system...the Origin Live DC-motor kit should be high on your list for consideration" TNT Audio

Various Upgrade Kits:

Modern Turbocharging your Rega arm

"Nothing less than total dynamite" Hi-Fi World

If you are the proud owner of any rega tonearm, you are now in the enviable position to transform its performance into the league of super arms with modifications offered by Origin Live - the Origin live structural modification at £75 will enable your Rega to perform at a level exceeding that of arms costing over £1200. High performance rewiring with high grade litz cable is also offered at an additional £70 and external rewiring is £70 this further increases the performance.

"I have to say the Rega modifications turn this humble arm into a real Giant killer. Gone is the rather grey, sterile sound of the cooking Rega. Instead, tonal colour is fresh, dynamics have great speed and impact, and the sound stage is huge."
Hi-Fi World, Nov 97 (structural modification on RB250)

What Hi-Fi? gave this modification 5/5

Structural Modification - £75
Internal Rewiring - £70
External Rewiring - £70

For arm modifications we normally return your arm in 2 - 3 days.

Origin Live Ultra Turntables
Build & setup in an hour

"...this Vinyl front end had my jaw heading towards the floor with the solidity and transparency of the music it was making....with all these goodies in place the Standard would give turntables at the £1200 -1400 mark a hard time...
...Overall a deeply impressive deck...brilliant value for money...component quality is superb and the build process is a doddl."
Hi-Fi World

"the best sounding deck here (group comparison test of 8 leading turntables)...sounds fantastic."
What Hi-Fi?

"One of the most enjoyable and musically involving turntables I have ever heard ...Regardless of make or reputation"
Audiophile

Now you can own a professionally built, high performance turntable at a fraction of the normal cost. Origin Live turntable kits are supplied in 3 different specifications:

1. A standard kit of parts to enable you to build your own plinth at £282
2. The complete standard kit offered with a non-suspended pre-drilled & finished plinth at £349
3. The complete ultra kit comes in two options. The Ultra Kit Classic offering a truly high end suspended sub-chassis turntable with beautifully finished solid wood plinth. The Ultra Kit modern offers the performance of the Ultra Kit Classic combined with the modern day skeletal styling of our sensational resolution turntable. Both options available at £538.00

All kits are supplied with well illustrated instructions and are easier to assemble than many of today's pre-built turntables.

FOR MORE INFORMATION SEE WEBSITE OR CONTACT
Origin Live, Unit 5, 362b Spring Road, Sholing, Southampton, SO19 2PB, U.K.
Tel: 023 80578877 / 80363249 Fax: 02380 578877 e-mail: originlive@originlive.com
http://www.originlive.com
### Valve Amps
- **Valve Amps**
  - **Quad DC 24 Pre & Quad 1450 Monoblocks (Retail £4000)**
  - **Adavon Research Studio 5 Pre & 1000 Monoblocks (Retail £4000)**
  - **Lumley Reference LR-55 Monoblocks (Troide Switchable)**
- **Audio Research 52 Pre Amp (Mullard Revalve)**

### Solid State
- **Vinyl Interface**
  - **Vinyl Interface Reference $2.5M Pair**
  - **Vinyl Interface Reference $5M Pair**
  - **Vinyl Interface Reference $10M Pair**
  - **Vinyl Interface Reference $20M Pair**
  - **Vinyl Interface Reference $50M Pair**

### Special Offer
- **Vinyl Interface Reference $20M Pair** (AS NEW/BOXED)
  - **Retail Price**: £1450
  - **Special Offer Price**: £1000

### Cables
- **Speaker Cables**
  - **Audiocord Silver Reference 1.5M Pair**
  - **Audiocord Silver Reference 2M Pair**
  - **Audiocord Silver Reference 3M Pair**
  - **Audiocord Silver Reference 4M Pair**

### Tachometers/TAPE/FEED/PDF/Misc
- **Tachometers/TAPE/FEED/PDF/Misc**
  - **Tachometers/TAPE/FEED/PDF/Misc**
  - **Tachometers/TAPE/FEED/PDF/Misc**
  - **Tachometers/TAPE/FEED/PDF/Misc**

### Are you making the right connections?
- **Are you making the right connections?**
- **Are you making the right connections?**
- **Are you making the right connections?**
- **Are you making the right connections?**
- **Are you making the right connections?**
- **Are you making the right connections?**
- **Are you making the right connections?**
- **Are you making the right connections?**
- **Are you making the right connections?**
- **Are you making the right connections?**
- **Are you making the right connections?**

Please send me your **FREE** Custom Cable Catalogue

**Name**

**Address**

**Postcode**

**NO FURTHER INFORMATION REQUIRED**

Send to: Custom Cable Service

PO Box 4007

London SW17 8XG

HPW 07/03

Are you making the right connections?
NEW HIGH QUALITY HI-FI • VINTAGE HI-FI FOR SALE AND WANTED

• DEM ROOM AVAILABLE THREE MONTHS WARRANTY ON ALL USED HI-FI

SEE OUR WEB SITE FOR THE LATEST STOCK

SHANLING, MICHELLE, CELESTION, QED, AUDIOQUEST, SOUNDSTYLE, ETC...

NEW AND VINTAGE VALVES - INTERCONNECTS & SPEAKER - OFC & SILVER

VISIT OUR UPDATED WEBSITE

www.matrixhi-fi.co.uk

FREE EASY PARKING

01376 521132
07802 483698
CHELMSFORD, ESSEX
E-MAIL: info@matrixhi-fi.co.uk WEB: www.matrixhi-fi.co.uk

MATRX HI-FI

5 MINS FROM M25

RECORD DECKS

QUAD 1944 GREY PHONO - GOOD CONDITION SLIGHT MARKS
QUAD 606 MK1 POWER AMP AVERAGE CONDITION

VIENNA ACOUSTICS MOZART BEECH WOOD GOOD CONDITION BOXED
RUARK CL20 BEECH VERY GOOD CONDITION

PRO-AC TABLETTE 50 CHERRY- IMMACULATE
NAKAMICHI1 CASSETTE DECK 2
NAKAMICHI1 OMS5E/11 CD PLAYER- WAS £1500 NEW- LOVELY CONDITION
NAIM NA CD- X CD PLAYER 3 YRS OLD SUPERB

NAIM NAPI80 SUPERB CONDITION ETC
NAIM NAP90/3 BOXED AND IMMACULATE

MERIDIAN 200/203 DAC-7 AVERAGE CONDITION- NO REMOTE

KRELL KSA80B POWER AMP SUPERB CONDITION
DENON AVC-AISE BLACK BOXED AND SUPERB 7.1 DTS ES AC3-RF

DEFINITIVE DINOLOGY PRO TOWER 4013 ( INCL VAIN ACTIVE SUBS-£235) NEW)

ARCAM POWER BOXED AND IMMACULATE
ARCAM FM7 TUNER BOXED AND IMMACULATE- 2 YEARS OLD

ARCAM REV 7 TUNER BOXED AND IMMACULATE

ARCAM ALPHA 10 AMPLIFIER CRANE BLACK- UNUSUAL ( BEARD?)
GATES 3COB PUSH PULL

ARCAM REV 7 TUNER BOXED AND IMMACULATE

ALNICO 3 FILTER AMPLIFIERS

227 DARENTH ROAD
65 DARENFTH ROAD

DARTFORD

KENT DA1 1LU

3 MONTH WARRANTY ON ALL ITEMS

MUSIC STYLISH

SPECIALIST MANUFACTURER & SUPPLIER FOR MORE THAN 40 YEARS

REPLACEMENTS & ORIGINALS

MANY OBSOLETE/78 VERSIONS

PICK-UP CARTRIDGES

RECORD/TAPE/CD ACCESSORIES

WHY NOT TRY US AND HEAR THE DIFFERENCE !!

NAGAOKA CARTRIDGES NOW IN STOCK

For further information tel/fax/e-mail to:-
MUSONIC (UK) LIMITED
Unit 13 Wentia Business Centre Colne Way
Watford Hertfordshire WD24 7ND

Tel: 01923 213344 Fax: 01923 213355
E-mailsales@musonic.co.uk

VISIT OUR UPDATED WEBSITE

www.musonic.co.uk
Please call us if you have any equipment to sell or are looking for anything in particular. New stock daily.

All equipment is fully tested and guaranteed.

Also: Music CDs, Games, Software, Computers, Components & Accessories.

Web page: www.electrical.com
email: xx@electrical.com

125 King Street, Cheshunt
Town Centre, Cheshunt
020 - 8563 7383
4 Station Bldgs Fife Road Kingston
Games & CDs upstairs at Kingston
020 - 8546 4442
43 Church Street Croydon
020 - 8680 0007

CLASSIQUE SOUNDS,(LEICESTER) INC ONE THING.

WANTED Vintage and modern hi-fi equip. Part exchange welcome.

FOR SALE/POWER AMPLIFIERS

Pair Leak TL30 valve power amp. £900
Quad ESL57 speakers. £199.00 per half meter. 7 day money back guarantee. Enquiries to: CLASSIQUE SOUNDS, (LEICESTER)

NEW B&W DM70 Electrostatic panels now undertaken. Price for one panel is £150.00. Reduced! £85.00. Phone 0845 123 5137 (local rate). 020 8563 7383.

VINTAGE HI-FI & VALVE SPECIALIST TEL 0645 213 5137 (local rates) UK only.

CLASSIQUE SOUNDS,

93-95 Nantwich Rd., Crewe, Cheshire.
Telephone: 01270 21413

Linn Szimik Maple Sub (XD) - £650
Linn Kain Pre Pro - Amplifier (XD) - £600
Linn Kain Pre Pro - Amplifier (XD) - £400
Linn Kollector Pre - Amplifier (XD) - £275
Linn Mimik CD Player (SH) - £350
Musical Fidelity X-9a Mono Block (SH) - £250
Musical Fidelity Typhoon Pwr Amp (SH) - £250
Infinity Kappa 400 Speakers (XD) - £560
Tannoy Eryx 1 Rosewood Speakers (XD) - £300
Technics 5081610 (XD) - £75
Meridian 505 Mono Pwr Amps (XD) - £650
Each Meridian D2500 Active Subwoofer (XD) - £1500
Linn 2250 Power Amps (XD) - £2£1500 Each Audiolab 8000 S Amplifier (SH) - £450
Audiolab 8000 M Monoblock Amps (SH) - £750
GAE Audiovision Turntable (SH) - £600
Monitor Audio GR20 Beech (XD) - £1300
Arcam CD72 CD Player (SH) - £300

Linn Keileide Speakers (Black) - £300
Rotel RB955 - 5 Channel Amplifier (SH) - £450
Castle Stirling Speakers (Oak/XD) - £600
Castle Pembroke Speakers (Walnut/XD) - £300
Castle Howard Speakers (Oak/XD) - £950
Linn Classic Movie System (XD) - £1650
Elac 610 Speakers (Cherry/XD) - £775
REL Q400 Subwoofer (Maple) - £650
KEF 104/2 Speakers (Black) - £575
JBL TlK 6 Speakers (Beech/XD) - £1500
NAD T752 Receiver (XD) - £1475
Marantz MD93/8/9/95 Player (SH) - £400
Roksan Caspian 4 Channel Amp (XD) - £650

Agencies Include: Linn, Musical Fidelity, S.M.E., Origin Live, Monitor Audio, Castle, Quad, Wharfedale, Harman Kardon, C i d, Meridian, Tannoy, Infinity, Loewe, Sanyo, Ortofon, VDH, JBL, Pro-ject, Roksan, QED, Cable Talk, Michell, Arcam, Trichord, PMC.

We buy, sell & part exchange quality Hi-fi.

AMPLIFIERS / RECEIVERS / PROCESSOR

Arcam FM9 (SH) - £1221
Naim 955SE (SH) - £1495
Audiolab 8000 M Monoblock Amps (SH) - £750
Humble 1100A Mono Amplifier. £295
Naim 901SE (SH) - £1450
Naim 907SE (SH) - £1650
Naim 908SE (SH) - £1895
Naim 909SE (SH) - £2095
Technics 1190999 (XD) - £195
Technics MAIO Transport (XD) - £195
HMP-819 speakers in cherry condition. £299

CD PLAYERS / SPEAKERS

Tannoy Eyris 3 Maple Speakers (XD) - £650
Linn 2250 Power Amps (XD) - £2£1650 Each
Technics 5119070 Pre Amp (XD) - £145
Tuners Yamaha 83583 (L) - £95
Technics 5E9960 Power Amp (XD) - £25

CASSETTES

Quad 405 and 405-2 - £1195/225
Kenwood KA3020 (XD) - £5
Linn Bairn Preamp (XD) - £895

TURNTABLES

Technics 1190999 (XD) - £195

NEW- B&W DM70 Electrostatic panels now undertaken. Price for one panel is £150.00. Reduced! £85.00. Phone 0845 123 5137 (local rate). 020 8563 7383.

1. We reserve the right to alter prices without notice.
2. All items come fully tested.
3. 7 day money back guarantee on all new stock.
4. All new stock comes with full 3 months warranty. Please call for information on all used stock.
5. Ex-condition items are sold as seen.
6. No refund on non-working items.

One Thing Mains cables. Class 1 RFi suppressed. Silver plated conductors.

"Classique Sounds servicing restores the Quads to a position where they can hold their head high", For Marks HI-FI WORLD, April 1999. Full servicing facilities available.

Tuner throughput service & realignment £200.00. (excludes valves, Rarely needed). One thing stereo decoder (back in stock) £150.00 Ex review Hi-fi World.

TRANSLUCENT (some of a bargain) HI-FI World, Jan 1999.

Pioneer CDP 2E CD player. Ex condition. £250
Cygnet RT1 tuner. Wooden case. Beautiful. £150
Cygnet CD player. Good condition. £175

QUAD ESL57 & ESLS3 PANELS SERVICING ETC

NEW B&W DM70 Electrostatic panels now undertaken. Price for one panel is £150.00. Reduced! £85.00. Phone 0845 123 5137 (local rate). 020 8563 7383.

One Thing Mains cables. Class 1 RFI suppressed. Silver plated conductors.

Voltage spike protection. only...£160.00.

EXEMPLARY VINTAGE & MODERN HI-FI EQUIPMENT

Bar 334 MM/MC phone stage. No volume control. Brand new. Boxed at only £395

TUNE 2000 10/10 turntable. (Local rate anywhere in the UK).

Tel 01262 82351 or 07802 213740 (Mobile). Callers by appt only.

Opening times. 10:00am-6:00pm Mon-Friday. 10:00am-2:00pm Saturday. 61 Aylestone drive. Aylestone, Leicester. LE2 8QE. Email clasique_sounds@yahoo.co.uk.

JULY 2003 HI-FI WORLD & COMPUTER MICRO.
Second hand ex dem deals

Dynaudio 4x loudspeakers in (simulated) cherry. Absolutely as new in the box with warranty card and manuals. Not even run in yet ($450) . . . . $300

Monitor Audio Studio 20 SE loudspeakers. Boxed, unmarked in cherry veneer. Story from one local owner who has had them from new for the last three years. ($1300) . . . . $790

QLN Signature loudspeakers. New old stock. The boxes have been opened simply to check the contents. High quality, chunky, Scandinavian stand-mounts in unusual asymmetrical cabinets finished in maple veneer. Originally £1200 ish . . . . $95

Red Rose "rosebud" loudspeakers, boxed, perfect, ex demonstration. Light wood veneered ribbon hybrid compact stand mount ( £500) silly price to clear . . . . $225

Densen 5500 preamplifier. Black anodised aluminium case with chrome controls. Remote controllable with Densen "Gizmo" handset (not included). S/H, boxed, unmarked ( £5000) . . . . $600

Lexicon MC-71 music / film processor. Rebuilt and warranty for 14 months by the Lexicon importer. Boxed, as new with DTS AC3 etc. £5500 . . . . $1500

Primare A45 integrated amplifier. S/H a few weeks old, purchased due to a compatibility issue with a REL sub. (£1500) . . . . $1150

Nordost cables

Red Dawn Revi loudspeaker cable 4m pair single wire. Used. in good condition ( £960) . . . . $560

Red Dawn balanced interconnect 2m pair dual (£120). £45

Superflat (gold) bi-wire 2.5m pair. New. ( £180-£200) . . . . $135

Superflat (gold) bi-wire 7m pair. Used ( £300-£350) . . . . $220

Reise of the Month:

Bob Dylan "Rolling Thunder Revue" (Bootleg Series Vol 5)
3 LP Box Set from Classic Records - call for details

Other forthcoming reissues:

Bert Jansch Birthday Blues £13.90
Charles Mingus Mingus Mingus Mingus £19.90
Elia Fitzgerald Clap Hands Here Comes Charlie £26.90
Frank Sinatra The Voice (Classic Records) £26.90
Jefferson Airplane Volunteers (Speakers Corner) £19.90
Kinks Face To Face/Lola £13.90
Nina Simone Sings The Blues (Sp Corner) £19.90
Pharoah Sanders Journey To The One £19.90
Rainboh Fishbone Gut Shaggs £15.90
T Rex Electric Warrior £27.95
The Who Who's Next 3LP set £18.90
The Wicker Man OST Stereo ( Simply Vinyl) £18.90
Yes The Yes Album £13.90

Disco Anti Stat LP Cleaner

Probably the most economical LP cleaning device on the market

Only £41.95

Call for details

Call for a catalogue of over 3500

Doing new LPs at visit

www.diversevinyl.com
### Phone for Latest List

**New, Ex-Dem and Clearance Items**

<table>
<thead>
<tr>
<th><strong>RRP</strong></th>
<th><strong>Sale</strong></th>
<th><strong>Status</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acoustic Energy AEI MKII</td>
<td>£995.00</td>
<td>£499.00</td>
</tr>
<tr>
<td>Arcam Alpha 10</td>
<td>£799.00</td>
<td>£519.00</td>
</tr>
<tr>
<td>Arcam FMJ P25</td>
<td>£750.00</td>
<td>£189.00</td>
</tr>
<tr>
<td>Arcam FMJ CD23</td>
<td>£1099.00</td>
<td>£699.00</td>
</tr>
<tr>
<td>Arcam FMJ A22/Dave AC3</td>
<td>£1849.00</td>
<td>£1,199.00</td>
</tr>
<tr>
<td>Arcam FMJ A22</td>
<td>£1,1.00</td>
<td>£769.00</td>
</tr>
<tr>
<td>Arcam FMJ P35</td>
<td>£830.00</td>
<td>£539.00</td>
</tr>
<tr>
<td>Cyrus SL Amp</td>
<td>£400.00</td>
<td>£199.00</td>
</tr>
<tr>
<td>Cyrus AV Master Processor</td>
<td>_</td>
<td>£195.00</td>
</tr>
<tr>
<td>Krell KAV 5000 Int. Amp.</td>
<td>£5,498.00</td>
<td>£2,495.00</td>
</tr>
<tr>
<td>Linn Kabel</td>
<td>£1,995.00</td>
<td>£695.00</td>
</tr>
<tr>
<td>Meridian M33 Active speakers</td>
<td>£1,495.00</td>
<td>£995.00</td>
</tr>
<tr>
<td>Neat Mystic</td>
<td>£775.00</td>
<td>£499.00</td>
</tr>
<tr>
<td>Neat Elite</td>
<td>£1,200.00</td>
<td>£779.00</td>
</tr>
<tr>
<td>ProAc 3.8</td>
<td>£3,990.00</td>
<td>£2,299.00</td>
</tr>
<tr>
<td>Rotel RX965RDS</td>
<td>£950.00</td>
<td>£595.00</td>
</tr>
<tr>
<td>Mission 781</td>
<td>£399.00</td>
<td>£219.00</td>
</tr>
<tr>
<td>Mission 773 SE</td>
<td>£399.00</td>
<td>£239.00</td>
</tr>
<tr>
<td>Mission 78AS subwoofer</td>
<td>£699.00</td>
<td>£449.00</td>
</tr>
<tr>
<td>Vienna Acoustics Beethoven</td>
<td>£2,500.00</td>
<td>£1,795.00</td>
</tr>
<tr>
<td>Vienna Acoustics Mozart</td>
<td>£1,500.00</td>
<td>£1,195.00</td>
</tr>
<tr>
<td>Vienna Acoustics Hayden rosewood</td>
<td>£750.00</td>
<td>£569.00</td>
</tr>
<tr>
<td>Vienna Acoustics Mahler</td>
<td>£6,000.00</td>
<td>£4495.00</td>
</tr>
</tbody>
</table>

**Musical Fidelity Special Offers**

- **A3 CD**: £799.00 | £499.00 | D+N
- **A3 pre amp**: £999.00 | £559.00 | D+N
- **Musical Fidelity X100**: BARGAIN!!! £799.00 | £549.00 | N

**Hi-Fi Multiroom and Home Cinema**

- **Acoustic Energy Arcam ASH Design Audio Research Celestion Copeland Cyrus Denon KEF Krell Linn Tag McLaren Martin Logan Meridian Michelle Mission Monitor Audio Musical Fidelity Neat Acoustics Pioneer Proac QED Quadraspire Rel Sonus Faber SME Stands Unique Stax Theta Wilson Audio Etc...**

---

**The Listening Rooms Ltd**

161 Old Brompton Road London SW5 0LJ
Tel: 020-7370 0192
www.listeningrooms.com
E-mail: tir@dial.pipex.com
Mon-Sat 10-6pm
BARGAIN BULBS

£195

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 Kec182 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 HE 10, 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 Kec182 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 Kec182 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-by-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 Kec182 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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency response</td>
<td>+/-3dB 15Hz - 75kHz</td>
</tr>
<tr>
<td>Power output</td>
<td>8 watts into an 8 ohm load</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>850mV (suitable for CD)</td>
</tr>
<tr>
<td>Hum</td>
<td>0.5mV</td>
</tr>
</tbody>
</table>

The Kec182 amplifier kit is available from World Audio Design. Tel/fax: 00 44 (0) 1908 218836 or order online at www.worldaudiodesign.co.uk

Kec182 amplifier kit (UK price) £195.00 (inc. vat & carriage)
Kec182 amplifier kit (EU price) £195.00 (inc. vat, exc. carriage)
Kec182 amplifier kit (Overseas price) £170.00 (exc. carriage)
## IAN EDWARDS
**MAKERS OF FINE HANDMADE FURNITURE**

**Tel:** 01423 500442  **Fax:** 01423 7052(X)

**www.iansbespokefurniture.co.uk**

---

### RESERVE YOUR COPY TODAY!

Complete this form and hand to your local newsagent.

Please reserve/deliver* (delete as appropriate)

**Hi-Fi & Computer Audio World** on a regular basis, commencing with the next issue, until further notice.

**Name**

**Address**

---

**Signed:**

**Date:**

---

### apex acoustics

**USED AND EX DEM EQUIPMENT**

- **Audio Analogue Bel air Pre Amp** Silver £190.00
- **Audio Analogue Master CD Player** 24/96, 5 Months old £450.00
- **Audioquest Python I/Connect** £295.00
- **Commonal DMD D5 Black** £405.00
- **Arcam Alpha 10 DR Tuner** £330.00
- **Biamp Silver Signatures, Inc** £500.00

**Granite Stands** £500.00

- **B&W DM200 Sub** £405.00
- **8 & W CD 570 Green Black** £125.00
- **Bryson 405/1 Pre, Novance, Silver** £1350.00
- **Ryman 48 ST Power, Silver** £1395.00
- **Chord Anthem 17T Connects** £220.00
- **Chord Chameleon 1 Connects from** £400.00
- **Chord Chorus 1 Connects from** £315.00
- **Chord Skym 1 Connects from** £350.00
- **Chord Solo 1 Connects** £100.00
- **Chord Signature 1 Connects** £400.00
- **C.A. Development Kalypso Valve Int. Amp** £295.00
- **Copland LAM 216 CD Mini** £425.00
- **Cyrus Quartet & Cyrus Stereo Power Amp** 4 3/5 £900.00
- **Cyrus 40 3 with Q DAC, Remote** £950.00
- **Cyrus 4 Int. & PSX, Serviced, Inc QED** £495.00
- **Silver Spiral I/Connect** £100.00
- **Denon AVR 3802 Surround Sounder Amp** Black £975.00
- **Denon TA-1620 Tuner, Black** £100.00
- **Ino Jascha Aplten Gamma Evolution I/Connects** £495.00
- **Ino CPM Now** £495.00

---

*PHONE STEVE ON 01527 450500 / MOBILE : 07773198336*

**E-MAIL Apexmm@aol.com**

**www.apexacoustics.co.uk**

---

**tomtom audio**

**THE NAIM AUDIO SPECIALISTS**

We buy and sell mint, pre-loved and ex-demo naim equipment with a full 12 month guarantee

**www.tomtomaudio.com**

**call 07971 202742 / 01727 893928**

**email: tunes@tomtomaudio.com**

---

**RESERVE YOUR COPY TODAY!**

Complete this form and hand to your local newsagent.

Please reserve/deliver* (delete as appropriate)

Hi-Fi & Computer Audio World on a regular basis, commencing with the next issue, until further notice.

**Name**

**Address**

---

**Signed:**

**Date:**

---

**Distributed to the newsfree by**

**COMAG**

**MAGAZINE MARKETING**
**Special Internet offer see page 130 for details**

**Private Ads**

Dealers must not advertise in the Private Classified section. Monthly consecutive insertions will be considered Trade advertising. The Publisher reserves the right to judge submissions.

**MARANTZ CD7 Limited**
Edition CD player mint condition £2650. Mark Levinson 380 pre-amp mint condition £3000. Tel: 01843 584030 (Jul)

**UNISON RESEARCH Simply**
Four integrated valve amplifier, excellent condition, packaging, manuals £600. Rega Planar 3 without tonearm excellent condition £50. Tel: 020 7774 6676 (Jul)

**LINN KARID CD player, mint, boxed £600.**
Muschel Fidelity P180 power amplifier and CRPS power supply, 80 watts, boxed, £450. Carriage can be arranged economically within UK. Tel: 01691 659604 (Aug)

**DYNAUDIO CRAFFT**
oupspeakers cherry veneer on Something Solid stands. Boxed £750. Tel: 01885 410517 (Jul)

**QUAD 34, FM4, 306.**
Vgc, phono, in Quad Mount £500. Thorens TD 150, SME 3009 arm fixed head £150. Tel: 01341 422111 (Gwynned) (Jul)

**QUAD 63s ESL £975. Quad II's monoblocks (K.T. GECS) £575.**
Densen pre £300. Rega Planet £180. Icon valve amp £400. Gale speakers 301's £85. Extinct! Marantz PMB amplifier, big, awesome sound. Tel: 07771 007406 (Jul)

**ANALYSIS EPSILON ribbon panel speakers good condition, boxed £3500 new, £800 ono.**
Marantz CD 80 with Pandora conditioner, perfect condition £160. Tel: 01634 332683 or 07901 893982 (Jul)

**AR A85 fitted phono M/MC module plus AR85 superb bi-amping pair approx 18 months old £850. Original price £1450.**
Will not split. Tel: 01526 320513 (Lincs) (Jul)

**NA M 02 tuner boxed green style excellent condition £750.**
Also Naim CD1 player excellent £750. Tel: 01623 458628 or Email: glenn@witchend.co.uk (Jul)

**FREX701ES digital tuner £250 new, will sell for £150, mint.**
Tel: Nick 0116 224 9282 (Leicester) (Jul)

**AUDIO NOTE M1 phono pre-amp mint boxed £375.**
Audio Synthesis Passion passive pre-amp, mint £375. Epos ES14 speakers, mint, boxed, plus stands £275. Tel: Tom 020 8986 1762 (Jul)

**LOWTHER ACOUSTAS PM6 drive units. Nice condition £275.**
Thorens TD150 turntable, belt drive with Thorens arm. Cover damaged £35. Willingly demonstrate. Tel: 071709 55403 (Jul)

**ATC SCM 10 loudspeakers black ash active floor standers 225w each £775.**
Inclusive of all leads. Tel: 0771 007 4046 (Aug)

**TAG MCLAREN 100x5 amplifier, black, £2150. Celestion 'A-Series' compact loudspeakers, rosewood finish £125.**
Chord Company Cadac digital cable, 3.8m, £20. All in excellent condition, with original packaging. Tel: 01489 570990 (Jul)

**REGA ELICIT amplifier boxed, excellent condition £270. NAD 412 tuner excellent condition with box £60.**
Seismic Sink £40. Tel: 01639 766452 or Email: dokeeffe@ntlworld.com (Jul)

**NAI M NAC 424 pre, NAP 110 monoblocks, power supply, all extensively upgraded by Avondale. Linn LPI12, Mission/Bask Plus.**
Cartridge Castle Severn I speakers, painted cream, Silver Sounds 12/2 speaker cables, 4x4 metres, all excellent/ must go. Reasonable offers please. Tel: 01872 271280 Cornwall (Jul)

**NAI M CD2, boxed with manual, mint condition £700 ono.**
Monitor Audio, Studio 20SE's, cherry, boxes with manual £700 ono. Tel: 07733 174990 (Jul)

**TALK ELECTRONICS**
Hurricane 3 line preamp, Torrano 3 100w power amp. Remote, manuals, boxed, excellent condition, (£1600) £695. Tel: 01604 709541 (Northampton) (Jul)

**LFD MISTRAL phono amp Hi-Fi World favourite, black, 13 months old, mint £210. Mission C one £90. Rotel RA930 AX amp £45. Ortofon MC 20 Supreme £20. Wanted: Shackman 220 amplifier Tel: 0161 291 9331 (Jul)

**SUBWOOFER INFINITY**
Modulus 250 watt internal amplifier new 12 inch driver Japan black finish very heavy buyer collects £185. Tel: 01553 617642 or Email: ghatcher@doctors.org.uk (Jul)

**MANLEY 300B neo-classic monoblocks in stainless steel, switchable SEIPP and adjustable feedback. Fitted NOS]J 300B tubes and excellent condition/boxed £3500 (new £7000) Tel: 020 8879 0364 (answerphone) (Jul)

**ORTOFON ROHMANN moving coil cartridge £275.**
Tel: Andrew 01623 752036 (day), 0115 964 1033 (night) (Jul)

**MERIDIAN 565 AC-3 surround sound decoder wanted Tel: 01642 559078 ask for Peter (Jul)

**MERIDIAN 601 computerised pre amp £775. 602 CD and 606 DAC complete £900. M1 black ash active floor standers 225w each £775. Inclusive of all leads, interconnects and remote, all recently serviced, mint and boxed. Tel: 0771 007 4046 mobile, 020 8959 3611 day. (Aug)

**EZ0 SYSTEM CD/F0G, Pre/Facencord power Ams/Facenord controller £3100 ono Tel: John anytime 01885 410571 (Jul)**
YES! I want to subscribe to Hi-Fi World for:-

☐ £27.00 for 12 months

Your Details
Title Initial Surname
Address
Post Code
Daytime Tel:
Start Issue

Delivery Address (if different)

I would like to pay by cheque made payable to Audio Publishing Ltd. ☐

Please debit my VISA ☐ MASTER ☐ SWITCH ☐ AMEX ☐

Switch card issue No. Expiry Date: /

Cardholder Signature:

Please choose service:-

Airmail
Middle East & South-East Asia £60 ☐
Airmail
Europe £50 ☐
Airmail
USA, Canada, Australia, Japan, Korea & China £70 ☐
Surface Mail £40 ☐

Send this form to:
Hi-Fi World, Freepost LON3478, London, NW6 6YR

Get your issue of hi-fi world straight to your door!

Get to our amazing classified ads first and grab a bargain!!

› Run by dedicated hi-fi engineers and enthusiasts.
› Hi-Fi World has become famous for its informative reviews and radical kit designs.

Credit Card Hotline
+44 01923 270 833
Monday - Friday 9.30am - 12.00 noon; Fax +44 01923 260 588

MISSED AN ISSUE?
Back issues also available at a cost of £3.50 only (includes P&P), payment by cheque only - overseas please contact subscriptions department for details.
Send cheque to: Hi-Fi World, Freepost LON3478, London, NW6 6YR.
WANTED ELEMENTAL. Audio Hi-Fi shelf or stand. Tel: Andrew 01332 553151 (Jul(I)

CASTLE HOWARD S3 speakers boxed, mint condition, as new fantastic in yew original receipt, owned from new, cost £1600 new, moving to small house! £799. Tel: 01483 771058 or 07967 564602 (Jul(I)

OPERA CALLAS gold solid mahogany focal drive units, remarkable open sound, bass extension, 50Hz offers exceedingly good value, a genuine bargain £599. Tel: Kevin 01245 251235 (Jul(I)

WILSON BENESCH Act One. Tactic upgrade May 2003. Immaculate, boxed, £3800 ono. Tel: 01908 224 319 (Essex) or 01840 261 030 or Email: walnut. Boxed and in very good condition £599. Tel: Kevin 01245 251235 (Jul(I)

MICHHELL ISO/HERA phono stage £450. Audiotquest Diamond interconnects 2x 0.5m, 1x 0.7m £100: Tel: 07711 855 599 (Jul(I)

INTERCONNECTS DIGITAL power amp and mains cables from Kondo: Yamamura Nordost Transparent JPS Shunyata Synergistic Research Silver Sound All top quality mint items. Tel: 01928 826 830 (Jul(I)

WANTED: SUGDEN A21 age immaterial. Tel: 01442 874 749 (Jul(I)

WANTED: TDL Reference Series monitors or IMF SACM speakers. Tel: 07932 063335 (Jul(I)

AVI 2000 MP pre-amp MM/ MM input remote control, motor volume, excellent performance quality, mint with box and manual, £380 ono. Tel: 01928 725 877 (Chester) (Jul(I)

GRAPHITELINE STAND mounted speakers, rare classics, ex condition £200 ono. Marantz 63 KI CD, perfect condition £150. Manuals etc. Hi-Fi Magazine 1993-2003 offers. Selection of interconnects and GED speaker cables. Ref: Sub: Q50 £200. Tel: 0774 766 4742 (Jul(I)

LINN LP12 (black boxed) Trampolin, Ittok, K18, Lingo, Intek, £2100 new, £550 ono. Nakamichi CR-3E £100. Tel: 020 7015 1026 (weekday) mobile 07810 765 284 or Email: mlockyer@arrowe.co.uk (Jul(I)

WANTED: URGENTLY Heathkit Cotswold speakers. Tel: 01691 659604 (Jul(I)

FOR SALE Pair of ATC SCM150ASL (Black), <30hrs play, excellent condition, will deliver in UK, £4000. Tel: 07974 330242 or Email: jknapper@cityairexpress.com (Sep(I)

MICHELL ISO/HERA phono stage £450. Audiotquest Diamond interconnects 2x 0.5m, 1x 0.7m £100: Tel: 07711 855 599 (Jul(I)

INTERCONNECTS DIGITAL power amp and mains cables from Kondo: Yamamura Nordost Transparent JPS Shunyata Synergistic Research Silver Sound All top quality mint items. Tel: 01928 826 830 (Jul(I)

FOR SALE Pair of ATC SCM150ASL (Black), <30hrs play, excellent condition, will deliver in UK, £4000. Tel: 07974 330242 or Email: jknapper@cityairexpress.com (Sep(I)

ARCAM ALPHA 8 integrated amp £115. Arcam Alpha 8 CD £145. Tel: 01728 747735 or Email: tonynelson@btconnect.com (Jul(I)

MARMANTZ PM17 KI integrated amplifier £550. Nakamichi DR3 cassette deck £150. New Sumiko Blue Point Special MC cartridge £190. Mission DAD 5 and DAC 5 CD player £150. All boxed. Tel: 01484 307 096 (Jul(I)

CHORD ANTHEM interconnect, 1 metre length. Improve your system with this amazingly musical and detailed cable. New £300, sell £200, just run in. Phono to phono. Tel: 01639 710 113 (Jul(I)

AUDIOLAB 8000M mono power amps (pair). Audiolab 8000C pre-amp, excellent condition, fully boxed with manuals, £795. Tel: 020 8658 3806 after 8pm (Jul(I)

SONY XA20ES CD player £200 ono. Arcam Alpha 9C preamp £380. 2x Arcam 8 power amps £250. Pair Tannoy R2 loudspeakers £200. Aiwa Cassette deck ADP910 remote £200. Pr Acoustic Energy AE120SE £300. Tel: 01752 813 500 (Jul(I)

SONUS FABER Electa Amator II wironwood stands £2200 (£3200) mint. Sonus Faber Gravis B1 subwoofer, less than 1 year old £750 ono. Townshend Isolda DCT 3m bi-wire speaker cables £600 (£800). Tel: Chris 020 8543 5531 evenings (Jul(I)

BOWERS & WILKINS 297 loudspeakers using the famous Fane 601 plasma tweeter, good condition £300. Sony Eicacast tapes, new old stock SLH 60's and 90's £3.75 each, call for details. 01889 325 844, 07974 312 355 or Email: justy@fhk.demon.co.uk (Jul(I)

JIM LAB Mezzo Utopia loudspeakers. Superb high end sound. Brand new, still in box, genuine reason for sale, cost £8k, can deliver, £4495. Offers considered. Tel: 01772 493 999, mobile 0776 422 8526 (Jul(I)

WANTED: Any DA30, DA50, DA100, PP3/250, PX4, PPS/400, PX25 valves and amps: RCD 1046; Dynatron LS9; Soundsale; Decca. Also Arturo Lagk, Phe, Quad, Rogers, Tannoy amps and speakers. Any Audio interesting valves, KT66, GZ34, KT77 etc. Tel: 020 8343 0533 or 07901 976 441 or Email: cimbino@aol.com (Jul(I)

FOR SALE: Quad ESL57 electrostatics in good working order, black grilles. Tel: 01908 372 284 or Email: mrs.langley@virgin.net (Jul(I)

FOR SALE: Quad ESL57 electrostatics in good working order, black grilles. Tel: 01908 372 284 or Email: mrs.langley@virgin.net (Jul(I)

BOWERS & WILKINS 297 loudspeakers using the famous Fane 601 plasma tweeter, good condition £300. Sony Eicacast tapes, new old stock SLH 60's and 90's £3.75 each, call for details. 01889 325 844, 07974 312 355 or Email: justy@fhk.demon.co.uk (Jul(I)

JIM LAB Mezzo Utopia loudspeakers. Superb high end sound. Brand new, still in box, genuine reason for sale, cost £8k, can deliver, £4495. Offers considered. Tel: 01772 493 999, mobile 0776 422 8526 (Jul(I)

FOR SALE: Quad ESL57 electrostatics in good working order, black grilles. Tel: 01908 372 284 or Email: mrs.langley@virgin.net (Jul(I)
Upgrade Your Turntable

"It's value is nothing short of tremendous" Listener Magazine

"The single most important upgrade you can ever make to any record deck concerns the motor drive. Nothing can compare you for the shock of going DC, in a word, Gobsmacking" Common Ground Magazine

"...If you are thinking of upgrading your system...the Origin Live DC-motor kit should be high on your list for consideration" TNT Audio

Whatever your current turntable, the results in upgrading to the Origin Live DC motor and power supply are simply astounding. Designed as a drop in replacement for almost all turntables, the Origin Live upgrade kit offers vast improvements to all versions of Linn turntables, as well as Anston, Rega, Systemdeck, Roksan, Rock, Oracle, Thorens, Well Tempered etc. With only a 12 Volt power supply and a full set of illustrated instructions our upgrade is both easy and safe to install. The upgrade is also offered with a full money back guarantee if you are not satisfied. The kit consisting of a high grade dc motor, soldered regulator board and power supply is only £262. This provides an extremely cost effective route to truly high end audio and is significantly superior in performance to other power supply upgrades costing 4 times the price. A larger purpose built transformer is also available as an optional extra at £175.

Turbocharging your Rega arm

"Nothing less than total dynamite" Hi-Fi World

If you are the proud owner of any rega toneram, you are now in the enviable position to transform its performance into the league of super arms with modifications offered by Origin Live - the Origin live structural modification at £75 will enable your Rega to perform at a level exceeding that of arms costing over £1200. High performance rewiring with high grade litz cable is also offered at an additional £70 and external rewiring is £70 this further increases the performance.

"I have to say the Rega modifications turn this humble arm into a real Giant killer. Gone is the rather grey, sterile sound of the cooking Rega. Instead, tonal colour is fresh, dynamics have great speed and impact, and the sound stage is huge." Hi-Fi World, Nov 97 (structural modification on RB250)

What Hi-Fi? gave this modification 5/5

Structural Modification - £75
Internal Rewiring - £70
External Rewiring - £70

For arm modifications we normally return your arm in 2 - 3 days.

Origin Live Ultra Turntables
Build & setup in an hour

"...this Vinyl front end had my jaw heading towards the floor with the solidity and transparency of the music it was making....with all these goodies in place the Standard would give turntables at the £1200 -1400 mark a hard time...
"...Overall a deeply impressive deck.....brilliant value for money ...component quality is superb and the build process Is a doddle."

Hi-Fi World

"the best sounding deck here (group comparison test of 8 leading turntables). Sounds fantastic."

What Hi-Fi?

"One of the most enjoyable and musically involving turntables I have ever heard ...Regardless of make or reputation"

Audiophile

Now you can own a professionally built, high performance turntable at a fraction of the normal cost. Origin Live turntable kits are supplied in 3 different specifications:
1. A standard kit of parts to enable you to build your own plinth at £282
2. The complete standard kit offered with a non-suspended pre-drilled & finished plinth at £349
3. The complete ultra kit comes in two options. The Ultra Kit Classic offering a truly high end suspended sub-chassis turntable with beautifully finished solid wood plinth. The Ultra Kit modern offers the performance of the Ultra Kit Classic combined with the modern day skeletal styling of our sensational resolution turntable. Both options available at £538.00

All kits are supplied with well illustrated instructions and are easier to assemble than many of today's pre-built turntables.

FOR MORE INFORMATION SEE WEBSITE OR CONTACT
Origin Live, Unit 5, 362b Spring Road, Sholing, Southampton, S019 2PB, U.K.
Tel: 023 80578877 / 80363249 Fax: 02380 578877 e-mail: originlive@originlive.com
http://www.originlive.com
WORTHING AUDIO True Sound Series Crossoverless monitors 96dB efficiency, single 8” driver, perfect for low powered tube (S.E.T.) and solid state. Audionote OTOS.E. integrated line amplifier, boxed, latest version. £875. Amphon Argon loudspeakers £599. Musica Collins loudspeakers by Bernhard Thiel & Partners (German) £1000. Audionote AN-EESEC lacquered finish + stands £5000. (RRP £13600). Tel: Worthing Audio 01903 212 133 or 07909 918 882 (Jul(I))

VINTAGE WIRELESS COMPANY LONDON Website: www.vintagewirelesslondon.co.uk Buy-Sell-Exchange, Vintage wireless and classical audio. Repairs, spares, restoration, modification to all valve equipment. Quad II, Leaks etc. shipped worldwide, best prices, call us at 17 Bell Street, London, NW1 5BY. Tel: 020 7258 3448 Fax 020 7258 3449 Email: vwirelesslondon@aol.com (Oct(I))

NEW VALVE Amps, powers £260; matching preamp £190, other valve related goodies at www.audioclassicss.co.uk or telephone 01942 257525 for more information. Dealer enquiries welcome. (Oct(I))

HIFI HUtte in Harrogate offering the following quality brands: Bryston, Creek, Custom Design, Harman Kardon, Neat, Pmc, Quad, REL, Wharfedale. Phone for details, directions 01423 810 990 or 07736 392 852. www.hu-hifi.co.uk (Aug(I))

WOODSIDE ELECTRONICS offer a repair service for Radford, Woodside and Quad II valve amplification. Transformers manufactured to original specification for these products as well as bespoke designs. Tel: 01758 741 026 or Email: m.davis@virgin.net Web: http://freespace.virgin.net/m.davis (Jul(I))

AMAZING CABLES! Unlock your system’s full potential. Handbuilt silver hybrid interconnects from £85, solid silver speaker cables from £220. £5 ft/p. Fantastic performance, refund guarantee. Details: 0115 982 5772 after 7pm, Email: Bob@skydivers.co.uk (Sep(I))

TOM TOM Audio - Specialists in Naim Audio, supply top condition pre-loved and ex-demo Naim equipment with full 12 month money back guarantee. Demonstration facilities. Can deliver; stock list at: www.tomtomaudio.co.uk Call 07971 202 742 or 01727 983 928 or Email: tunes@tomtomaudio.com with requirements. Wanted: mint Naim gear, cash waiting, will collect. (Jul(I))

MUSICAL FIDELITY Nu-Vista Ltd edition Pre & M300 power, mint, boxed etc (£5000) £3600 Krell KAV 300 Amp, mint as new. (£2300) £1250. Telephone Jules on 01792 280006, Email: info@soundjudrleshifi.co.uk Web: www.soundjudrleshifi.co.uk (Jul(I))

LINN KEILIDH'S black ash, active cabs, passive (£1000) £450 Audiolab Transport and DAC, Mint condition C/W manual and box £930 ono. AudioTechnica OC9 cartridge brand new £270. Telephone Jules on 01792 280061, Email: info@soundjudrleshifi.co.uk Web: www.soundjudrleshifi.co.uk (Jul(I))

ELAC CL310; 'Jet' speakers, C/W matching stands, silver 2 months old, mint and boxed. (£1000) £650. Musical Fidelity XP100 Pre amp & XAS 100 Power £1600 £950 onono Telephone Jules 01792 280061, Email: info@soundjudrleshifi.co.uk Web: www.soundjudrleshifi.co.uk (Jul(I))

LFD Mistral C6 player/stainless steel & gold livery, boxed, mint condition. (£1050) £450 Hand Built Valve Amp, integrated, 30watts push-pull, 4x KT88s, 2x ECC82s, 2x pentodes. (£1000) £650 Telephone Jules on 01792 280061, Email: sales@soundjudrleshifi.co.uk Web: www.soundjudrleshifi.co.uk (Jul(I))

NAIM NAC 32.5 pre, with phono stage, mint condition £275. Linn Karik, mint, (£1850) £650. Rotel RT 830 AL tuner £60. Telephone Jules on 01792 280061, Email: info@soundjudrleshifi.co.uk Web: www.soundjudrleshifi.co.uk (Jul(I))

LONDON TAPE RECORDERs. Open reel to reel specialists, established 30 years, machines bought, sold and exchanged. Akai, Sony, Pioneer, Teac, Tascam, Revox, Technics. Servicing on selected machines. Tel: 020 7603 0303 or 07950 400005 (Jul(I))

QUALITY VALVE Amplifiers, repaired, restored, modified. Custom designs commissioned. Kags assembled. Experienced Engineer. Free estimates and fair prices. Tel: 01525 756 935 http://www.dhaen.co.uk/amps.htm Email: amps@dhaen.co.uk (Aug(I))

QUALITY Hi-Fi always wanted Linn, Naim, Rega, Quad etc will take entire systems. Contact: Midlands Audio 07974 769249 or Email: flat.earthlsociety@ntlworld.com (Jul(I))

SEE NEW FARADAY Emperor loudspeakers at www.faradaysound.co.uk Low density ceramic cabinets. 'A sonic revelation'. The ultimate hi-fi is probably within your budget. Some ex-demo and kit form available. (Aug(I))

SINGLE ENDED 100w monobloc amps, handcrafted audio excellence designed to drive your speakers to high levels at an affordable price 50w/ch stereo version available. Details: 01243 532464 (Jul(I))

REVOX A700 £450, A77 £250, A722 £50, B760 £750, E36 £80, B77 £450, C278 £250, B126 £280, Studer A810 £480, A807 £500, A80 VU £800, A710 £480, B67 VU £750. Tel: 01246 275479 or Email: j.i.tipping@amserv.net (Jul(I))

QUALITY Hi-Fi always wanted Linn, Naim, Rega, Quad etc will take entire systems. Contact: Midlands Audio 07974 769249 or Email: flat.earthlsociety@ntlworld.com (Jul(I))

GARRARD THORENS! Answer Apherical! Solid hardwood or laminated MDF plinths. Three models for all motor units. From £200. Also our vinyl storage system format. Prices from £26. All on permanent demonstration. Call 01604 409 300 or visit our website: www.aphelion.co.uk (Jul(I))
classifieds ads order form

RATES - ALL ADVERTS MUST BE PRE-PAID
Maximum length per advert is 30 words, each additional word is 50p extra. Telephone numbers and E-mail addresses are treated as one word. Model numbers are treated as one word i.e. Quad 303 = two words. Please tick the box for the advert required

Dealers must not advertise in the Private Classified section. Monthly consecutive insertions will be considered Trade advertising. The Publisher reserves the right to judge submissions

SPECIAL OFFER
Book a private or trade classified advert, and get one month's *FREE internet advert

*FREE internet adverts are published three weeks AFTER the magazine has been published

Please write or type your advertisement copy in block capitals with one word per box. Please continue on a separate sheet if necessary.

WE WILL ACCEPT PHOTOCOPIES OF THIS FORM

Name
Address
Post Code
Daytime Tel:

Please debit my VISA/MASTER/SWITCH Card No.(Switch card issue No)__________ Expiry Date:__________ Cardholder Signature:__________

I enclose a cheque/postal order for £____________ Made payable to: Audio Publishing Ltd.

Send in your private classified ads with our NEW Freepost service. No need for a stamp!

Send this form together with your payment in an envelope marked:

Hi-Fi World, FREEPOST LON3478, LONDON NW6 6YR

ADVERTISERS INDEX

Affordable Valve 46
Apex Acoustics 111
Audio Destination 16
Audio Salon 88
AV Lounge 38
Billy Vee 89,90,91
Campaign Audio Design 16
Central Audio 114
Choice Hi-Fi 94
Classique Sounds 119
Connoisseur Audio 112
Custom Cable 117
Definitive Audio (Brighton) 46
Definitive Audio (Nottingham) 16
Diverse Vinyl 121
ECG 38
Emporium (The) 120
Global Hi-Fi 122
Heathcote Audio 117
Heatherdale Audio 115
Henley Designs 6.93
Hi-Fi Trading Company 108,109
Ian Edwards 124
Ian Harrison 115
Jem Distribution 107
Mantra Audio 93
Matrix 118
Midland Audio Exchange 110
Mission BC
Musical Fidelity 12
Musical Images 111
Musonic 118
Noteworthy Audio 16
Origin Live 60,116
Oxford Audio Consultants 114
Q.T.A. 112
Retro Reproduction 107
Sevenoaks 27,28,29,30,31,32,33
Signals 121
Sound of Music (Crewe) 119
Soundcraft 115
Sounds Expensive 120
Soundstage 118
The Chord Company 38
The Listening Rooms 122
Tom Tom Audio 124
Tube Shop 92
UKD IBC
VVT. 112
Walrus Systems IFC, 60
Williams Hart 111
Wire World 46
X-Electrical 119

PRIVATE & TRADE CLASSIFIED ADS ORDER FORM

AUGUST 2003 ISSUE - WEDNESDAY 14TH JUNE 2003
SEPTEMBER 2003 ISSUE - WEDNESDAY 9TH JULY 2003

130 HI-FI WORLD & COMPUTER AUDIO JULY 2003 www.hi-fiworld.co.uk
Opera SuperPavarotti MkII £1150/pair

Opera's loudspeakers constantly delight both the ear and the eye. This latest floorstander uses high quality drive units to deliver a high class sound from a beautifully crafted, elegant hardwood cabinet.

Unison Research Unico CD Player £1095

This new player employs a valve amplification stage in combination with a CD-Rom mechanism and advanced microprocessor control for supreme performance.

Audio Analogue Maestro CD Player £1600

Featuring 24bit/96kHz upsampling, high quality audiophile components and impeccable build quality, the Maestro is a truly musical performer.

Triangle Magellan £20000/pair

The Magellan is the new statement loudspeaker from Triangle. Five years of development have produced a true high-end reference design whose performance simply astounds.