We test the hard disc sound server system from Imerge. Is it the future of hi-fi?

+ AAD E-48 'speakers
+ Diapason Adamantus III 'speakers
+ Linn Klimax Twin power amp
+ LG CD recorder
+ Bristol Show report

Moon I-5 integrated amp
+ Project RPM 9 turntable
+ Rotel RCD1070 CD player
+ Wilson Benesch Arc 'speakers
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COMPETITION

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or a few years during my late teens and early twenties, when I should have been revising for exams or writing essays. I spent the odd midweek afternoon in the front stalls of many a London cinema indulging myself in the latest David Lynch or French 'art house' masterpiece. I even illicitly indulged myself in the latest Arnie-type 'shoot 'em up' on the odd occasion (but only when a fellow bunking student didn't accompany me - and especially not a female). I consequently joined the National Film Theatre in the South Bank arts centre to help quench my thirst for all things celluloid both underground and overground ("Wombling free... ").

There were two reasons for these afternoon escapades: [1] it was a lot cheaper than going in the evening, and [2] the cinema was usually empty except for a few fellow lecture skivers and the occasional snoozing who'd bunked in through the emergency exit. I've now grown up to discover that every David Lynch film apart from The Elephant Man and Blue Velvet is complete twaddle and I only resist the urge to go AV out of choice as long as I can, knowing that perhaps at some stage I may have to swallow these words. I fear next year's May editorial introduction could well be an essay on the delight of watching Barney the dinosaur in plasmatic surround sound.

I feel it's time to bite the bullet and buy a proper telly, although my real enjoyment I fear will still come from the vinyl record, but I'll resist the urge to go AV out of choice as long as I can, knowing that perhaps at some stage I may have to swallow these words. I fear next year's May editorial introduction could well be an essay on the delight of watching Barney the dinosaur in plasmatic surround sound.

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1. **Hi-Fi World** has its own advanced test laboratory and acoustically treated listening room.

2. **Hi-Fi World** has a dedicated in-house team of experienced listeners. We review thoroughly by extensive auditioning, rather than by quick-fire group listening tests.

3. Hi-Fi World's engineering team designs a wide range of products in-house.

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reviews

digital source players

SILVER SERVICE - IMERGE DIGITAL SOUND SERVER 9

This hard disc recording and playing device could herald the dawning of a new audio age. David Price guides you through the ins and outs of hard disc hi-fi.

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This new £500 DVD player from Denon promises to bring new sonic performance to the midrange market with its DVD-A compatibility and audiophile credentials.

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This new midprice CD spinner from Rotel is part of the new company strategy to move further up market. Dominic Todd is mightily impressed...

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This recorder from the giant consumer electronics company features a dual deck mechanism. How will it fare against the specialist hi-fi competition?

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The latest high end product from Linn is a stereo version of their powerful yet sleek Klimax power amplifier. Crammed full of interesting technology inside an ultra slim chassis, is it a case of less is more?

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This well built beauty hails from Canada. With its beefy power output and serious looks will it pose a threat to the strong competition, asks David Price?

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These are the new 'budget' standmounts from the Sheffield high end specialist. Mani Sandher discovers whether they're worth your money or not!

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These fine looking hardwood standmounts from Italy prove that hi-fi can indeed be a work of art. Will the sound match the looks?

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The stylish new RPM9 is the latest top of the range turntable from the Czech budget vinyl company. It's £1000-plus price tag puts it up against the big boys - how will it compare?
Two sets of speaker cable come under the scrutiny of Simon Pope.

David Price highlights the success and failures of aesthetic hi-fi of the years past.

We compare the hi-fi performance of a top notch five channel amp against a midpriced two channel integrated. Can you guess the result?

Simon Pope reports from this year's West Country AV jamboree.
**CARDBOARD ‘SPEAKERS? CUT IT OUT!’**

Here’s something decidedly different in the hi-fi market - and it’s no April fool, either. Soundpax recently demonstrated at the Bristol Sound and Vision show the world’s first “full range” cardboard loudspeakers! Measuring the size of your average traffic cone (70cm) and weighing the same as a bag of sugar, the pyramid shaped ‘speakers are the brainchild of NXT in conjunction with DS Smith Packaging, who manufacturer the product. The manufacturers emphasise the importance of the design potential, as virtually anything can be printed on the cardboard. Easily transportable, they are connectable to any standard amplifier and make ideal music producers for outdoor barbecues and the like (weather permitting, of course).

The ‘speaker itself works by using NXT SurfaceSound technology, where an exciter vibrates the specially designed panel to produce a uniform and dense set of resonances throughout the desired frequency range.

The ‘speakers are expected to retail for around £30 per pair and NXT and DS Smith Packaging are in talks with brands and distributors about the project. A second generation Soundpax speaker set, complete with amplifier, is promised ready for the summer. As for performance, we’ll let the supplied specifications speak for themselves:

- Frequency response: alarmingly good;
- Sensitivity: deeply felt;
- Power handling: loud enough to dance to”.

Who said hi-fi was boring?

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**MERIDIAN’S DEBUT PAIR**

In addition to their demonstration of the new multichannel DVD-A system, Meridian took the opportunity at the recent Bristol show to show off two new stereo hi-fi products. The first is the new entry level 507 CD player, the successor to the well-received 506.24 model. The machine employs 4 separate power supplies 6-layer PCBs and the latest surface-mount technology. It is apparently kept to a minimum by the use of double buffering techniques created originally for the

508. The stereo analogue output uses 192kHz/24-bit DACs with a direct-coupled audiophile standard output amp.

The other product is the new 559 stereo power amplifier which employs a new amplifier topology which first appeared in Meridian’s DSP88000 high end loudspeaker. It is designed to meet the demands of new audio formats such as SACD and DVD-A. The 559 can deliver a weighty 300W per channel into 8ohms and a possible 1500W of power in bridge mode. The power supply features a proprietary “soft-start” system, two high mass transformers and a host of audiophile grade components. Internal wiring is courtesy of van den Hul. Each channel uses twenty 16-amp output devices in a super-class-A output stage and features Meridian’s proprietary dynamic bias system.

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KEF’s high-end Reference range gets a new addition in the shape of the Model 205 floorstander, a four-way bass reflex design. As with the other speakers in the range, the 205 features the latest generation Uni-Q driver accompanied by the hypertweeter pod faired into the cabinet. There are two 8” bass drivers with balanced Faraday loops above and below the coil to ensure perfect symmetry. It also features the titanium dome tweeter featured in the flagship 207 model whose output is tuned to KEF’s Uni-Form waveguide. The 205 has tri-wire capability and a quoted sensitivity of 90dB. Expected retail price is £3999 per pair.

High end company Goldmund have announced the arrival of their first “Home Networking” product, the Chiasma music server, which uses a unique wireless distribution capability which can serve several rooms simultaneously. Somewhat of a surprise product from such an esoteric hi-fi company, the Chiasma has a “silent computer” construction which is provided by Goldmund’s sister company, Sylans (www.sylans.com). The system has a storage capacity of 150GB which can be extended to the multi-Terabyte “dimension” using multiple additional storage units linked by the provided Gigabyte Ethernet interface.

Music can be stored in the Chiasma as uncompressed, compressed or both using proprietary compression algorithms developed by another Goldmund partner, AudioNetworks (www.AudioNetworks.com). It also features extremely fast CD ripping with a 15x speed factor. Future upgrades will probably include a DVD-Rom ripping device. The price? Well, as with all Goldmund products, if you have to ask...

**GOLDMUND’S CHIASMA CHARISMA**

**OFF THE WALL?**

JM Labs have announced details of their first in-wall range of speakers. The Caché series features use of a wide dispersion inverted dome tweeter and the “W” sandwich cone low mass bass/midrange driver developed in 1995 for the company’s flagship Grande Utopia model. These are housed in a rigid aluminium frame and a sealed MDF cabinet. The range features four models, the 406, the IC 406 and the SR 400, all three of which are main speakers with the LCR 400 doubling as a centre channel, plus the SR 400 bi-polar effect dedicated AV model. There is also a ‘wall boost’ effect control and a three position tweeter level adjustment in 3dB steps. Prices are yet to be confirmed.

**next issue**

**here’s a little taster of what we hope to bring you in June’s issue**

**UNISON RESEARCH C5/P30K PRE/POWER AMPLIFIERS**

This is the latest stylish pairing from the Italian valve specialists. Will the KT88s used in the power section deliver the necessary clout? Find out next month.

**MERIDIAN 507 CD PLAYER**

As the successor to the excellent 506.24 player, the new 507 promises to be a fine entry level player from the digital experts. Check out the review in four weeks.

**PINK TRIANGLE INTEGRAL AMPLIFIER**

This stunning looking beauty is the latest long awaited product from the Pink Triangle stable. Will it be a welcome return for one of hi-fi’s most individual companies?
David Price thinks that someday, we'll all listen to music on something like Imerge's brand new SoundServer S1000-80 hard disk audio system.

Here is a fascinating glimpse of the shape of things to come. A few years down the line, surely all audio players will work this way, using a hard drive and a built in CD/DVD-ROM spinner for recording! Music will have migrated off standalone 'separates' and on to 'devices' that do a number of things, from playing to recording to radio and - at the bottom end, at least - video. Upgrading won't be a case of part exchanging your old CD player for a new one down at your dealer, but downloading new software at your player's dedicated website and maybe plugging in the odd new module or two 'round the back. Fun, isn't it?

Imerge's SoundServer S1000 is essentially an audio computer (like one you can build from bits bought at a computer fair) but with a difference - the bespoke operating system it runs, plus its superior build quality and ergonomics. It lets you store and play uncompressed 16/44 PCM digital audio from its internal hard drive, or compressed music files in the shape of 128, 160 or 192kbps MP3s.

Imerge offer the SoundServer in a variety of configurations, beginning with the S-series 1 Zone 80 at £1,599. As its name suggests, it boasts an 80GB hard drive which allows approximately 150 hours of uncompressed music, or over 1400 hours of MP3s. The Zone 1 designation refers to its single-room capability - the Zone 2 and Zone 3 models offer two and three outputs respectively for multi-room use. Costs are £1,999 for the S1002-80 and £2,599 for the S1003-80 - expensive, but methinks the prices won't stay that high for long. There's also the option of a wireless keyboard for £83 and - interestingly - a XiVA Control Application for Palm OS at £150.

**LIVING IN A BOX**

As large (436x106x390mm) anonymous looking silver boxes go, the SoundServer isn't bad. It has a neat anodised metal fascia sporting a cluster of backlit buttons offering the usual 'transport' controls (play, pause, stop, record, track skip), plus four menu keys and an open/close control. There's also a CD tray, which glides in and out with the grace of your average computer CD-ROM drive - not quite as nice as a Linn CD12, then! The 4 line, 20 column alphanumeric backlit LC display cleanly shows CD text and track information, but you can always plug in a TV for a better display thanks to a neat graphical user interface.

Round the back you'll find the usual analogue line level inputs and outputs via gold plated RCA phono sockets, as well as a single digital coaxial in and out - shame TOSLINK isn't included, too. There's also a USB connector, an RS232 serial port (9 pin D connector), Ethernet RJ45 connection (10 base T/100 base T), a

**THE SOFT PARADE**

It's the purpose-designed XiVA 'Hard Disk Media Appliance Software' that makes it all happen. Already used by Linn's Kivors, it's rapidly becoming the standard for the next generation of consumer electronics products that are hard disk-based and Internet-enabled. Created by Imerge itself, it integrates all the various parts of the machine (i.e. hard drive, memory, modem etc) making the management of audio libraries simple and flexible. Music tracks can be stored and played back by album, track, artist or genre. The software takes care of
review

playback, automatically selecting tracks from the entire music collection to fit the mood or style selected.

It connects to the internet via the XiVA-Net portal, and lets you get web-based music content onto your TV screen via your hi-fi. It sends users information tailored to their own tastes, such as music purchases, ticket and artist information. Imerge say it's "like accessing your own online music magazine with all the latest industry gossip, all from the comfort of your sofa whilst you enjoy listening to your favourite music".

Imerge is now licensing the code to other third party manufacturers. Computer geek readers may be interested to know that it's a scalable high level language that's portable across operating systems (including Windows and your beloved Linux!) Usefully, it's upgradable online - and the S1000 tested here uses the very latest version 3.0.

XiVA-Net was launched in November last year, bringing together various content providers to supply:- Pop news and gossip, updated regularly from Dotmusic, Europe's largest music website, as well as albums, singles and latest concert reviews; Classical news and hundreds of composer biographies, from Classical.com; Gig news in your area, as well as music, film, comedy and theatre events taking place in the UK and Ireland, with ticket booking via a dedicated phone number, provided by Livegigguide. Just enter your postcode and the software does the rest!

Over 10,000 venues and approximatley 12,000 events are listed at any given moment. It's continuously updated during the day by Livegigguide staff, PR companies and independent journalists and is fully updated every 24 hours with: Album and singles charts from the Official Charts Company; Biography and discography information on your favourite artists; CD, DVD and concert ticket purchases either through the post or by download; Internet radio and music streaming; Capability for dovetailing with music subscription services.

SOUNDING OUT

As an audio device the SoundServer works brilliantly. Much of what I found about the Linn Kivor applies to this product too. Despite its functional similarities though, the audio circuitry is different, and ultimately this is where this product will succeed or fail. Despite its superb flexibility and convenience, if you spend fifteen hundred odd quid on something that plays music, you'll want it to improve on your cheapo CD player.

I listened to the SoundServer as a source component in my reference system comprising Cyrus CD7/PSX-R CD spinner, Cyrus 7/PSX-R amplification and Yamaha NS1000M loudspeakers. Auditioning it meant that I had to ‘rip’ a number of my music CDs to its hard drive (in both WAV and MP3 formats), hit the play button and A-B it against my CD player. As expected, the S1000 didn’t exactly monster the CD7 (which is only a little cheaper), but nor was it bad at all.

Playing uncompressed digital audio it’s clean and open, with plenty of detail, a wide and spacious soundstage and surprisingly generous amounts of bass. Indeed it has a very pleasant ‘tone’ - rather than sounding forward, harsh and scratchy like a cheap CD player it’s very smooth and svelte! The Cyrus CD7 ran rings around it in terms of articulation and fluidity, but the S1000 certainly didn’t sound wooden. The bass guitar playing on Air’s ‘All I Need’ had a fine sense of rhythm, and pushed the song along vigorously. Switching to the
Cyrus showed greater grip and dynamics - the accenting being easier to pick up - but it was still a good result for the SoundServer.

Moving up the frequency scale I heard a smooth and lively midband with good articulation. There's little of the Cyrus combo's rock-solid image location - things are big and loose in space - but again it was perfectly listenable, with an impressive amount of low level detail. Treble was courteous and civilised, lacking just a touch of sparkle. The Cyrus proved better able to get deep into the texture of the cymbals played on Simple Minds' 'New Gold Dream', making the SoundServer's 80GB hard drive on board. You'd expect low bitrates from small portable devices like Creative Labs' DAP Jukebox (with just a few gigs to play with), but in truth the situation is precisely the opposite.

Although it still sounds impressively civilised and 'hi-fi', at 192kbps the result is rather bland and uninvolved MP3 playback. Perhaps we can take some consolation from the fact that this aspect is software upgradable - so perhaps we'll see AAC, ATRAC and MP3 Pro compatibility soon, which will obviate the need for high bitrate MP3s.

Yes - it's a great product. I enjoyed the S1000 immensely. It's extremely refined, yet enjoyably musical sounding and easily the better of a decent £400 CD player. It does not, however, compete with similarly priced dedicated hi-fi separates. Merge would doubtless argue that this is missing the point. And you can of course plug it into a better standalone digital converter via its coaxial out, where it becomes a fine digital transport. A brilliantly conceived and executed product - I loved it.

Immerge® S1000-80 £599

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World Verdict

Superb mix of features and convenience, and the sound isn't half bad either. Fine build and ergonomics complete an extremely impressive package.
AAD are a new name in 'speaker design here in the UK but their founder is no stranger to the industry. Simon Pope listens to the sleek and stylish new E48 floorstander.

Imagine few of you will have heard of AAD. Although formed in 1998 the company have not appeared in the UK until now. But they're no new upstart, headed by an experienced 'speaker designer whose background is in the very heart of the UK 'speaker industry -and here lies an exotic and interesting tale and one which I'll attempt to keep as brief as possible!

Founder of the company is one Phil Jones, renowned as one of the finest 'speaker designers around, Phil started his hi-fi life when he founded a certain company called Acoustic Energy back in the eighties and it was here he gained his reputation for delivering the best possible quality from relatively small monitors. It was also during this time that he pioneered the use of all metal drive units. From here, Jones moved on to Wharfedale, then he packed himself off to the USA where he worked for Boston Acoustics, developing the rather clever Amplitude Modulation Device to correct for non-linearities in metal dome driver behaviour. He also spearheaded the company's high-end Lynnfield project.

After two years at Boston, Phil moved on to start up his second company, Platinum Audio based in New Hampshire. It was here that he wooed the press with his Solo and Reference monitors using his trademark metal cone technology. He also dabbled in crazy high-end territory with the massive, full range Airpulse 3.1 horn 'speaker which collected a gong from the Japanese Audiophile Press as their product of the year.

Phil now spearheads AAD, aiming to deliver high-end sound quality with a sensible price tag. He spends much of his time in the China factory, although the company has offices in the USA and UK. Manufacture in China means that production costs can be kept to minimum, giving the products a 'real world' retail price.

The E48 loudspeaker I review here combines many of Jones's past technologies in one very tall - yet sleek and unobtrusive - package. All drive units are designed and manufactured by AAD in China - consequently nothing is 'bought in'. On the thin front baffle we have two metal domed drive units placed either side of a metal grill covered tweeter. The tweeter itself is a silk dome design which has a liquid cooled 25mm copper/aluminium voice coil immersed in a high flux magnetic field. Behind the dome is an acoustically damped chamber machined into the pole piece. This, say AAD, results in smooth and extended treble. The midrange units either side of the tweeter are fairly small, due to the extreme narrowness of the cabinet. They use a high technology molecular matrix cone material of aluminium blended with polypropylene, attempting to combine the smooth nature of polypropylene with the detail and speed of aluminium. The surround of these drivers is made from rubber, as opposed to widely used foam.

Hidden on the side of each 'speaker lies the answer to the question that crosses one's mind on first sight of the cabinets: "How are you going to get bass from something that narrow?". Each cabinet has a side firing aluminium passive bass unit for the lower frequencies which sits in a rear firing ported enclosure. The idea here is to get the maximum possible sound with the smallest possible enclosure. The cabinet itself is made from 15mm MDF with a high grade laminate and a striking if not totally satisfactory silver front baffle. Arched supports are found at the base of the cabinet for the extra stability needed with such a narrow design.

When it came to sound quality the E48s were something of a surprise - and a pleasant one at that. However, first impressions weren't particularly inspiring, with a loose and slightly ill focussed sound. After twenty-four hours running in things began to take shape and the sound both broadened out and loosened up. The first thing that grabbed me - not surprisingly when the narrowness of the cabinet is considered - is the superb imaging properties of the E48s. My benchmark at this price are Mission's superb 782s which excel in imaging and the 48s were well up...
SAVVY

with them. Indeed both have side firing woofers, so they're similar in nature. Rock recordings show up the imaging best and in Paul Weller's Stanley Road the intricate mix was expertly reproduced in true professional monitor style, with pin point accuracy.

It was also with rock music that the 48s showed they could rock with the best. They have an exciting high sensitivity sound and with all out, in- yer-face fare such as Skunk Ananasie's 'Little Baby Swastika' or Rage Against The Machine's 'Bulls On Parade' they'll produce floor shaking bass and eye opening attack and speed that's a real surprise. The 48s are hard to better in this respect at this price.

One more plus point: they'll also play crappy rock recordings pretty well, too. This is a definite bonus; the 48s welcome all-comers!

With more refined jazz and classical music the 48s, whilst sounding full and involving, also lacked a certain amount of cohesion and integration with the lower midrange suffering from a lack of body. Also acoustic instruments don't really sound as natural as they do with the Mission 782s. This said though, I've heard a lot worse. The 48s still manage to deliver a big sound with big orchestral music such as Mahler's 5th symphony and that is no mean feat for a speaker at this price level.

Some of the intimacy of John Coltrane's 'A Love Supreme' was lost but overall there was a nice frequency spread in the sound and cymbals remained sweet and detailed. There was also a nice tone to Coltrane's tenor sax, albeit not quite as smooth as I've heard.

These are well engineered speakers that produce as good a bass sound as you'll get at the price, from the dimensions. If space is a domestic concern then the 48s will easily fit the bill. They're not perfect and suffer a bit from a synthetic sound with acoustic material but rock recordings are often a revelation, with that remarkable imaging ability being a real bonus. Those who favour quality bass won't be disappointed either as whilst it's not earth rumblingly low, coloration is minimal and it's very fast, too. I'm looking forward to getting my ears around some more AAD products.

A very fine speaker that's just let down by a slightly synthetic sound with acoustic music. Rock recordings are superbly relayed, however, and imaging is excellent. Recommended.

AAD E48 £599

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MEASURED PERFORMANCE

Floor mounted bass units of the sort used by aad are becoming popular with manufacturers. They drive the height mode of a room well, which helps give some oomph around 80Hz, or high bass, enhancing bass "speed". The driver itself gets little lower than 63Hz (-6dB) but the port is very well damped and peaks at 40Hz, extending down to 16Hz. The bass drive system works differently to usual it appears. Not only are these results unusual, but also the impedance curve shows little of the "twin peaks" displayed by reflex systems. There's only a smooth, broad peak, our impedance analysis shows. Exhibiting much lower reactance than usual this looks promising. Unfortunately, the impedance curve gets a little wild further up the frequency range where there are some strong swings, so the E-48 is fairly reactive and will return energy to the amplifier.

In spite of being reactive as a load, the 'speaker draws less current than most, since it has an 8ohm impedance and the curve gets no lower than 7ohms minimum. In view of this its sensitivity of 86dB is good. Most amplifiers should be happy enough driving the E48s.

The frequency response curve shows a pronounced dip from 1.5kHz to 4kHz, something that existed on both loudspeakers. In a characteristic that is otherwise flat it looks like it isn't meant to be there. A dip like this will soften the sound and mute the delivery of detail.

Nicely engineered and interesting in many ways, the E-48s have a lot of strengths, but also a few weak points. I suspect a few production problems have worked their way into a well-handled basic design.NK
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World Verdict
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October 2001

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David Price tries out the first 'affordable' DVD Audio player, Denon's pretty little DVD-1600.

So, here it is then - what the world has been waiting for. Forget about the likes of Denon's DVD-3300 - not everyone has loads of cash to splash on an esoteric indulgence. If there's going to be a future for a 'high resolution' digital format, then it has to be within the realms of Joe Punter.

The brand new DVD-1600 is precisely that - a fully featured DVD Audio spinner that also - of course - has total DVD Video functionality. Which means you can watch that copy of Terminator your mum gave you last Christmas via the top notch 54MHz,10-bit video circuitry and built-in Dolby Digital and DTS decoders, or mosh out to the full 24bit, 192kHz digital audio Monty as the mood takes you.

The price for this slick slice of home entertainment heaven? A mere £499 to you, Sir - and pulling it out of the box, frankly it shows. If the DVD-3300 was the 'before', this player is unmistakably 'after' the corporate cost cutters have pored over every aspect of their prized DVD design. Although neatly finished, especially in the gold brushed aluminium front panel you see here, not only is the box unduly small (at 434x82x252mm) but also seems full of air. Weighing in at just 2.9kg, it feels about as substantial as my budget Cambridge CD4SE reference, which means 'not very'. By contrast, the build of my DMD-1000 MiniDisc (1998 vintage) seems little short of Krell quality!

The DVD-1600 is reasonably well specified - there's the usual DVD video functions (along with a few picture and cinema sound enhancements, not really relevant here), all accessible by the sensibly laid out remote. Round the back, you'll find a flimsy real panel sprinkled with yer usual compliment of DVD socketry - 3 pairs of 5.1 RCA phono analogue outs (front, centre and surround), plus a pair of ye olde '2 channel' audio outputs. Video, S-Video and a pair of SCARTS complete the line up, along with a single, desultory TOSLINK optical digital socket, offering 96/24 PCM, Dolby Digital and DTS Digital output.

Okay, so it hasn't come from the same place as Studer, Goldmund or EMT gear, but this - I suspect - won't worry potential purchasers. Frankly, we're here for its mouth-watering 24/192 capability. In theory, this gives 144 dB dynamic range (lest we forget, nearly 50dB better than CD!) and a frequency response from 2 Hz to nearly 100 kHz (almost 80kHz wider than CD!). In practice of course, it doesn't come close to the promise of its digital specification, because - as we all know - right now, 24bit converters are struggling to achieve anywhere near that. Denon claims 96 and 102dB for CD and DVD respectively.

In my humble opinion, the most useful practical benefit of DVD Audio is the fact that it doesn't go wobbly in the very sensitive upper midband region. With its 44.1kHz sampling frequency, CD struggles to go higher than 20kHz and - as any digital audio engineer will tell you - the PCM coding system suffers terrible noise problems at anywhere near this, which in turn manifests itself as distortion (and therefore) harshness. By moving PCM's 'awkward zone' up to way above 50kHz, we can no longer hear the coding system going AWOL in the audible spectrum. Result - a smoother midband and treble, if nothing else.

Call me Sherlock Holmes, but the Denon rather bore out my suspicions. Feed the DVD-1600 with a Denon 2ch 24/192 disc of Beethoven's Piano
If you want a massive leap in performance

THE SILVER 250

"this is probably the best tonearm in the world right now...words can’t express how good this is...one of the designs of the decade.”
HI-FI WORLD 2002

Very occasionally a new product appears that is so advanced as to render all previous benchmarks obsolete. People believe the Silver 250 is just such a product and we invite you to experience an unprecedented leap in your system performance - regardless of your current tonearm. Arrange for an audition now - The Silver 250 is £599 and our top arm - the Silver Taper is £1295. Both products carry a full no risk money back guarantee and are available via your nearest Origin Live dealer or by direct mail order.

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Tel:- 023 80578877 / 8036249 Fax:- 023 80578877 e mail: originlive@originlive.com

web site: www.originlive.com
The near-flat CD audio response of this player suggests an even tonal balance. Subjectively, flat-response players often sound a little bright to most ears, rather depending upon other insidious factors like component quality. The DVD-1600 will come across as normal enough in its tonal balance though, playing normal CDs.

Both noise and distortion were low at high signal levels, but as level decreased there was a rise in non-linearity. This compromised the measured dynamic range of the player, which was a poor 106dB. Nowadays 110dB is not uncommon. Quite how this impacts upon sound quality is less clear and best left to listening tests, but it suggests the Denon will sound a little less clean than possible.

With good channel separation and normal output the DVD-1600 was otherwise well specified in practice, so although it doesn't match the best players it turns in a reasonable set of figures.

Frequency response 4Hz 20.8kHz

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Dynamic range 106dB

Output 2.28V

No doubt about it - this is brilliant value. After all, why buy a standard DVD video player - one that coaxes passable sound from your CDs - when you can get one that does the movie bit just as well - and gives dramatically better sonics? I get the feeling that DVD Audio will be on every DVD player within a year or two, and more and more we'll be able to hear the difference between all the respective machines. I got far better sound from the DVD-1600 simply by sticking a few lumps of sorbochane under its feet, and a flat square of the stuff on top of that very flimsy, resonant casing. As manufacturers struggle to slash build costs, I can foresee a whole new tweaking fad start around these machines!

Thoroughly recommended then, if you're sure that DVD-A is where you want to be - but don't expect it, or any other machines like it, to sound perfect out of the box. Digital audio has now come a long way - far enough for us to see clearly what a long, long way it still has to go!

Denon DVD-1600 £499

Hayden Laboratories Ltd
Hayden House, Chiltern Hill
Chalfont St. Peter,
Bucks SL9 9UG
Tel: 01753 888447

MEASURED PERFORMANCE

The near-flat CD audio response of this player suggests an even tonal balance. Subjectively, flat-response players often sound a little bright to most ears, rather depending upon other insidious factors like component quality. The DVD-1600 will come across as normal enough in its tonal balance though, playing normal CDs.

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Dynamic range 106dB

Output 2.28V

World Verdict

Offering a tantalising taste of the new digital dream, this machine represents superb value for money.
The new Pro-ject RPM9

Exclusively at Centres of EXCELLENCE

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* Ortofon only
** Pro-ject only

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Tel: 01235 511166, Fax: 01235 511266, E-mail: henty.designs@virgin.net, WWW.hentydesigns.co.uk
With so many options available, just which ‘speaker cable is the right one for you? Simon Pope picks out two audiophile ‘speaker cables to fine tune your system.

SUPRA CABLES QUATTRO
4X4T £7.99 per metre terminated

This particular cable hails from Sweden and is distributed in the UK by Glaive. Although the company may be a new name to many, they were actually one of the first specialist cable companies to hit the market with the Supra 2.5 which they launched way back in 1976.

The look is decidedly audiophile - chunky with L style banana plugs - and the weight is heavy. The Quattro 4x4 is the top of the range product in the Classic series of speaker cable and is a bi-wire design and employs the use of tin plated OFC Ulrafine strands within a 3sq mm conductor. These strands are organised in seven concentric parallel “bundles” per conductor and then bound in a concentric and tight rope-lay weave. This weave is then surrounded by low-dielectric polypropylene insulation. The whole is then laid in a bed of cotton yarn bound with paper and finished off with a soft PVC sheath. For all this, they’re actually not that chunky, measuring 9.5mm in diameter but these cables are certainly well built and compact, meaning that they are also fairly stiff. Hollow style plugs are fitted (favoured by Nordost and van den Hul) that fit a remarkably wide range of connectors, including the dreaded EC approved type.

Sound wise the Supra cable is very good for the price. There is deep bass which, whilst not super fast, is fairly tight and weighty and brings a good sense of depth and space to well recorded music such as Paul Weller’s Stanley Road album. Detail is good, too, with the drum kit well represented and cleanly separated. It has a smooth sounding treble too, fairly rare at the price, with cymbals nicely glistening and never harsh or edgy. Vocals were warm and well focussed and to the front of the stage, which although not as deep as I’ve encountered was pretty realistic. On the downside, whilst detailed I felt that the overall coherence could have been better but at the fairly humble price point this is perhaps being a little picky. Highly recommended for audition and a great upgrade from ultra budget wire.

Glaive Ltd.
Tel: 01622 664 070
www.supracables.co.uk

ECOSSE REFERENCE
ES2.3 £13.49/metre, £110/3m pair terminated

Like the Supra’s use of tin, there’s something decidedly different about the construction of this ‘speaker cable from the highly regarded Ecosse stable in Scotland. It consists of almost four hundred 0.07mm Ultra High Purity multi-stranded OFC copper of purity degree 5N (99.999% pure). Insulation is a special ion stable PVC which the company claim minimises corrosion of the tin surface. The unusual employment of tin apparently minimises the “skin effect” and makes less current jumps between the wire surfaces. The Quattro is a so-called concentric cable and also uses short pitch twisting for low inductance and radiation as well as high tolerance to bending and vibration.

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Glaive Ltd.
Tel: 01622 664 070
www.supracables.co.uk
David Price tries out Pro-ject's new top of the range RPM9, complete with its fashionable off-board motor.

If, as Le Corbusier said, "design is intelligence made visible", then turntables have been too stupid for too long. It's pretty amazing to think that - even now - many vinyl spinners come with one of their most sonically damaging components bolted firmly to their plinths.

This, of course, is the motor. Its major job is to rotate at a steady speed and not succumb to the vagaries of mains supply imperfections and load variations. The problem is that a function of the torque needed to spin it is noise, and generally speaking the more powerful (and speed stable) a motor is, the noisier it is too. You can do several things to get round this, including choosing the quietest and best quality motor you can find, using fancy power supplies to keep the mush out and mounting it carefully. Ultimately though, the best way is to disconnect the motor from the plinth completely.

This sounds so obvious that one wonders why it wasn't done sooner, but such is the general conservatism of the turntable market that things don't happen overnight. Indeed, amazingly, one particular late eighties product (the Voyd) bolted two more of the darn things onto its suspended chassis plinth! The problem is that by historical accident (?) Thorens' TD124/150 has become the universal turntable paradigm - motor bolted to plinth, isolated by rubber grommets and the enclosed suspended subchassis.

Still, there have been various dissenters. Back in 1994 John Michell took the step of disconnecting the motor from the plinth to dramatic effect. The Orbe became a big hit and the idea started filtering 'downmarket'. The latest exponent is Pro-ject's RPM9, and very nice it is too. We see plenty of good sound 'modern' practice here - not wholly dissimilar if I may venture to suggest to the aforesaid British superdeck. To wit, it's an exoskeletal design (as opposed to hiding everything inside in plinth), with an offboard motor (and power supply) driving by means of a long, thin section belt, the rim of a chunky 3.5kg acrylic platter. Acrylic, as we should all know, has very low resonance properties and obviates the need for a mat. An unfathomably heavy brass record puck duly anchors the disk to the platter.

The bearing is an inverted type with a tough ceramic thrust pad, and sits in a chassis that also holds the supplied Pro-ject 9c tonearm. This boasts a conical carbon fibre armtube which allows azimuth adjustment - a great feature if you install a lot of cartridges! It also has adjustable VTA, and an inverted bearing arrangement sporting hardened stainless-steel tips in ABEC7 spec ballraces. High quality wiring and gold-plated RCA phono sockets complete the package. Those
review

LIVES

with a natural suspicion of 'naked' turntables will be happy to learn that a dust cover is available as optional extra. Overall dimensions are 500x165x300mm, with an all-in weight of 8.5kg.

Although not quite up there in the Rega class, the supplied tonearm is a nice bit of kit. It has an effective length of 230mm and takes cartridges between 6-10g, although an optional counterweight allows a 9-14g range. Henley Designs emphasise that the supplied arm leads are to 'get you going' and that they're well worth upgrading - so I substituted them for my beloved LFD Spirolink 3. The deck and arm cost £1,000, but you also get a great deal (25% off) any Ortofon cartridges. This one came with no less than a (£750) Ortofon Kontrapunkt B, bringing the price up to £1562.50. Sporting a Nude FG80 stylus with Ruby cantilever, this 10g pickup has a healthy 0.47mV output and has acquired quite a reputation for its powerful, musical sound. I myself use one and love it.

Listening was conducted through my Michell Delphini and World Audio phono preamps, feeding a tweaked World Audio K5881 power amp, Yamaha NS1000M loudspeakers and Velodyne subwoofer. With the Ortofon's recommended 2.5g tracking weight dialled in, listening kicked off with The Waterboys' 'Glastonbury Song'. Through my Michell GyroDec SE (running OL RB250 and Ortofon Kontrapunkt B), it's a very forceful and upfront track, suffering a little from eighties-style digital recording. Again, the Michell showed a lot more urgency, far deeper and more dynamic bass (with loads more slam) and a far more forensic midband. This was more impressive, and ultimately more accurate, but I'm really not sure if it was any 'nicer' to listen to - quite the reverse, indeed.

Moving to some classic rock courtesy of James Taylor, the RPM9 really sang. It's an extremely sweet and beguiling performer - even though it softens the leading edges of snare drums and plucked guitar strings a little, it still has a fantastically rhythmic sound that entices and seduces. It kind of reminds me of the difference between a Graham unipivot tonearm and a whiz-bang SME V - the Michell is more in the latter camp. Lee Morgan's 'The Rajah' showed the RPM9 to be a little lacking in the soundstaging department. It hangs strong images just in front and behind the plane of the loudspeakers, but doesn't drop miles back or push hard forward like the Michell. Treble is similarly less focused - it's sweet and silky (deliciously so) but doesn't have the hard metallic clang of a real hi-hat being struck by a wooden stick.

This is a very 'nice' sounding deck, and I don't mean that as an insult. It's beautifully sweet, smooth and subtle - the complete antithesis of CD in fact. It has depth, breadth, air and space, and makes everything you play on it sound good. It's not for followers of the Great God of Neutrality though - you don't get the original master tape, warts and all. By digital standards (CD, SACD, DVD) it amazes me that something this cheap can sound this good. It works out of the box and will have you swooning over the seductive sounds of vinyl within a matter of minutes of unpacking it. That's the Pro-ject's strength, and it's a brilliant one.

Pro-ject RPM9 £1562.50

Henley Designs
Unit 10, Moorbrook Southmead Industrial Park, Didcot, Oxfordshire OX11 7HR
01235 511166
www.henleydesigns.co.uk

World Verdict

£££££££

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If computer CD burners can do high speed dubs, then why not hi-fi CD recorders? David Price tries out LG’s four speed ADR-620 digital dubbing deck.

Remember the eighties? One of its great surprise hi-fi sales successes was the humble cassette deck, thanks in no small part to the invention of 'high speed dubbing decks' that appeared towards the end of that decade.

To the abject horror of the recording industry (poor souls, they had yet to discover Napster, bless 'em!), a large number of audio buyers rather liked the facility of making easy, 'one-touch' copies of their fave tapes at double speed. The result was that by the end of that decade, every manufacturer - from Amstrad to Denon - seemed to be making 'double deckers'.

Well, cassette is now but a vanishing memory. All the research organisations - from the BPI to Mintel - will tell you that it's moribund. There's still a huge 'legacy' presence, in the sense that most households still have something that plays cassettes, but new sales have dived as audio buyers' needs become increasingly met by CD-R.

The problem is that, ironically, most hi-fi digital disc burners lack the convenience of those late, lamented (?) cassette dubbing decks, let alone their high speed copying facility. Enter LG's ADR-620, a twin transport, all-in-one, copy-it-yourself design claimed to offer the user-friendliness of those tape decks of yore - and the high speed stuff too. Better still, because we're not talking about iffy cassettes in poorly pressed shells spooling through cheap transports at an unhealthy rate of knots, there's a fighting chance of getting decent sound, too.

This South Korean made dual deck is capable of making high-quality CD recordings of single tracks or whole albums, and claims the re-recordability convenience of MiniDisc whilst still retaining the full uncompressed digital sound quality of an original CD. The four speed dubbing facility is well within recordable CD's capabilities - in my experience, computer CD-R discs start sounding a bit phasey at around 12x to 16x copying! It means you can spin off a copy of your fave new album (purely for your own personal use, officer) in just over 15 minutes. Just time for a brew before your friend goes home with his copy of your new CD! (Only joking, your Worship!) LG claims the CD-Rs it makes can be played in 99% of home, portable and in-car CD players, too - which isn't far off.

The ADR-620 doesn't exactly come from the Nakamichi school of build quality - light and flimsy, you get the impression it's going to struggle to last the distance. As per the old cassette 'double deckers', it features one play-only CD transport, and another play/record drive next door. This writes to both CD-R and CD-RW discs, and records directly from the play transport, or an external digital source, accessed by a thoughtfully positioned coaxial digital input on the front panel. It features the usual 48/44.1/32 kHz sampling rate converter, making it DAT and computer soundcard compatible too.

The front panel controls comprise the usual transport buttons, while the recording deck also gets an input selector. In the centre there are CD Sync and Dubbing buttons (offering simple one-touch recording), plus Speed, Erase and Finalise buttons (you can choose between auto or manual track numbering). Above these, two time displays are provided to tell you what each deck is up to. There's a 6.3mm headphone jack, complete with level control, next to the aforementioned coaxial digital input. Round the back you also get optical digital input and output sockets. It's hard to imagine why, but the ADR-620's dual deck function allows simultaneous playback of both decks, or you can copy through the external inputs to the recording deck.
whilst also listening to a CD on the playback deck.

So, how does it sound? As a playback deck, it's safe to say that better designs are available. While you couldn't characterise this LG as dreadful, it isn't much further up the evolutionary scale than your average CD Discman. At least its sins are those of omission — rather than adding harshness, distortion and pain, you simply get a rather lightweight, bland rendition of whatever you feed it. Bass is reasonably supple, but lacks punch, power or articulation. At the other end of the scale, treble is smooth(ish) but has very little purchase on what's really going on. To wit, you get a rather barren, airless rendition with no glinten or shimmer to cymbals. In the midband, the LG lacks detail, depth and dynamics, but at least its inoffensive enough to get the job done.

What then of its recording abilities? Perversely, these are far better than its playback performance. At 1x speed, the LG makes impressively clean and crisp copies — there's very little change in sound apart from a slight flattening of stereo depth perspective, and a very subtle lightening of the frequency extremes. Amusingly, you can't tell any difference between original and copy on the LG — only when you put it into a dedicated hi-fi silver disc spinner can you hear what's really going on. Fifteen years ago — when double deckers first hit British streets — only Nakamichis offered such 'signal integrity'. For once, progress is a pleasing and impressive thing.

Wind the thing up to its full 4x tilt and aside from the copying taking far less time than you'd think, there's very little to report. The LG did faultless high speed copies time after time, with very little additional sonic degradation. Frankly, I was hard pressed to tell the difference between a 1x copy and a 4x — there are certainly no nasties. Once again, compared to high speed cassette copies, we're in another country — simple as that.

The LG isn't the best silver disc burner around — if you want tighter bass and crisper treble then anything from a Pioneer PDR-609 to a Marantz DR-6000 will improve on it. But if it's the copying thing — and more specifically the high speed copying thing — is what you seek, you really can't go very wrong with this. Recommended.

**World Verdict**

A fine, no-nonsense CD copier which offers useful high speed operation, decent sonics and a practical array of features.

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**MEASURED PERFORMANCE**

The LG player didn't feel very well made and one of its trays started to stick as last tests were completed. So I rather expected measured performance to reflect low apparent quality in poorer than usual figures. Surprisingly, the opposite happened: it measured better than usual. Perhaps LG put more into the electronics than the case. Whatever, frequency response possesses a lift up at high frequencies so the player will have a brightish sound. There was little noise and distortion, however, especially down at —60dB and below. Linearity was good all the way down, by 16-bit standards. This contributed to an unusually high 111dB EIA) dynamic range figure. With good channel separation and normal output the ADR-620 measured well in all areas, but it will sound bright.

- **Frequency response**
  - 4Hz to 21kHz
- **Distortion**
  - —6dB 0.01 0.01
  - —30dB 0.015 0.016
  - —60dB 0.3 0.3
  - —90dB 27 27
- **Separation**
  - 1kHz 105 106
  - 20kHz 82 81
- **Noise**
  - With emphasis —109dB
  - Dynamic range 111dB
  - Output 2.1V

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LG ADR-620 £350

LG Electronics 0870 607 5544
The Arc is the latest entry level loudspeaker from the high-end stable of Wilson Benesch. Mani Sandher embarks on a short journey of discovery.

All the models in Wilson Benesch's new 'Odyssey' range were derived from their £20,000 flagship, the 'Bishop'. As a result, they share common characteristics, such as identical drivers, allowing different models to be used in a surround sound system. But what really differentiates this range of speakers from virtually any other is their use of complete monocoque carbon fibre composite systems and alloy structures, in an attempt to control resonance within enclosures.

For consistency all components are manufactured in house, with the exception of soft dome, hand painted silk tweeters, which are OEM parts to Wilson Benesch specifications. Inside each speaker, you'll find selected polypropylene capacitors and air cored inductors in the crossovers, silver plated copper in PTFE cables, soldered connections throughout and short path PCB designs. Make no mistake, the 'Odyssey' is a high-end range of speakers.

Here, we take a look at the Arcs, the smallest and cheapest speakers in the range. These are described as '2-way, true linear-phase, free space, ported enclosure, stand mounted monitors'. Our sample pair looked gorgeous in their 'Regal Silver' finishes and attached to their silver stands. Many other finishes are also available, including more traditional finishes such as burr walnut and cherry, maple and oak-satin. At 310mm x 230mm x 300mm and 10kg, they're quite small and light, which fortunately makes for easy placement. Around the back are two pairs of terminals for bi-wiring/bi-ampling, unlike other Wilson Benesch ranges, which house three pairs.

I began listening by bi-wiring the Arcs to my reference system: Marantz SA-1, Pass Labs X1 pre & X600 power monoblocks, Analysis Plus Silver Oval interconnects & speaker cables, Kimber power cords and Townshend seismic sinks. The Arcs are a ported design, with two ports firing downwards from their base, and sounded most balanced 0.5m from the rear wall and over 1m from the sidewalls. As usual, I left the Arcs playing for a few days before taking a serious listen.

Sonically, the most immediate and striking feature of the Arcs is their low-end extension. In absolute terms, it's nothing particularly special, but considering their size, it's quite amazing. Track 13 on Art of Noise's 'The Seduction of Claude Debussy' CD is a real bone shaker and the Arcs coped admirably with its low frequency rumblings. With this track, I found that I could take the volume up considerably higher with the Arcs than with many larger speakers. So impressive were the Arcs in this respect that I became quite accustomed to visitors asking me where the sub woofer was located! There's no such thing as a free lunch though, and the Arcs pay for this amazing extension by way of some very slight low-end smearing. Overall, it's a good compromise though.

But the larger than life sound of the Arcs is a momentary distraction. It soon becomes apparent that the Arcs are a very dynamic, low colouration and high-resolution design, easily bettering my more expensive B&W N803s in these areas, which is quite a feat. With such killer attributes, good timing and therefore musicality, is pretty much ensured. I sat agape listening to Telarc's 'Howhanness' SACD (pure DSD recording) with Yolanda Kondonassis on harp. The Arcs reproduced every nuance of this delicately played music, managing to
contrast it against a completely silent and black background.

The Arcs are just as happy with heavy dance beats. They kicked out the heavy drumming on the opening track of Toto’s ‘IV’ SACD, once again defying their size, and were similarly impressive pumping out ‘Summer Son’ on Texas’ ‘The Hush’ CD.

The Arcs are also superb at rendering depth, atmosphere and ambience, bringing recordings to life. On Al Di Meola’s ‘Friday Night In San Francisco’ SACD, the two guitarists on track 2 were placed perfectly on the stage and could easily be heard talking and laughing as they passed riffs between each other. Bruce Springsteen’s ‘Live 75-85’ 3-CD set sounded great, the Arcs providing a great sense of the space and ambience of various venues the E-Street band were playing in.

Not surprisingly, with their resolving ability, the Arcs are incredibly unforgiving of bad source material. I found they easily showed up the faults of badly recorded, mass market CDs, preferring instead the best analogue and DSD recordings on SACD. Overall they tend to lack any inherent warmth, which may be an issue for some. Though this is hardly the fault of the Arcs, with inferior ancillaries they may sound too analytical and not at all musical. I strongly advise that you audition the Arcs within their intended system.

Overall, these are superb speakers that look great in Regal Silver and sound even better. They may seem pricey for their size, but considering their sonic prowess, I’d say they’re reasonably good value for money. Though this is hardly the fault of the Arcs, with inferior ancillaries they may sound too analytical and not at all musical. I strongly advise that you audition the Arcs within their intended system.

By today's standards the frequency response of these speakers was not particularly flat. Other models from Wilson Benesch have managed better. The tweeter is a bit over-enthusiastic in its contribution to proceedings, treble rising steadily to a +5dB peak at 16kHz. This is almost certainly going to produce sharpness in the sound with wideband programme material. Absence of a crossover dip will ensure the speaker sounds detailed and forward.

At the other end of the frequency spectrum the bass driver reaches down to 80Hz before rolling off slowly to 40Hz (-6dB). The port system is tuned quite high, to 60Hz, and even though the ports reach down quite a long way I suspect that bass output will sound firm and controlled rather than especially deep.

The impedance characteristic is fairly gentle in its slopes and sits unusually high. Impedance measured 8.4ohms and the minimum was 6.1ohms, meaning the speakers are a very easy load, and very valve-amp friendly. The only downside to this is a low-ish sensitivity of 85dB, so at least 40W-60W is needed to drive them to high-ish volume.

The WBs will likely sound bright, clean and fast. They may also sound a bit sharp at times too. On balance though they are well engineered.

**World Verdict**

Superbly designed and super clean sounding, the Arcs are a fine speaker but need to be carefully matched to avoid sonic stoniness.

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**MEASURED PERFORMANCE**

**Frequency response**

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<tr>
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<td>6.1</td>
<td>6.1</td>
<td>8.4</td>
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</table>

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Wilson Benesch Arc £2000
Wilson Benesch
Falcon House
Limestone Cottage Lane
Sheffield
S6 1NJ
Tel: 0114 285 2656
www.wilson-benesch.com

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Wilson Benesch
Falcon House
Limestone Cottage Lane
Sheffield
S6 1NJ
Tel: 0114 285 2656
www.wilson-benesch.com
Turntables & Tuners

- Arcam DiVA T51 Tuner: £279.95
- Denon TL260L MKII Tuner: £109.95
- Linn LP12/Pro-Auto Turntable: £1749.95
- Marantz ST4000 Tuner: £129.95
- Michell Gyro SE/RE3300 Turntable: £1017.95
- Project Debut Phono Turntable: £139.95
- Sony ST-D777ES FM/DAB Tuner: £429.95
- Videologic DP601E DAB Tuner: £279.95

**PRO-JECT Debut II Turntable**
£109.95

"The original Debut turntable romped away with a Product of the Year Award in 1999, and the MKII version continues the extremely good work. It's a simple affair, that's easy to set up, but don't let the price fool you - it sounds a whole lot more expensive than that. This is a fine turntable, and it clearly reveals the benefits of listening to vinyl: a rich and detailed soundstage, and a good dynamic response. It's available in six funky colours, so you should find one to suit your decor, and at just a smidge over £100, you can have no excuse not to keep that old vinyl collection in employment for a good few years yet."

***** What Hi-Fi? Awards 2000

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

**MUSICAL FIDELITY**

A3 CD Player: £799.95
A3 Amplifier: £849.95

A3 CD Player: "OK, so not everyone will be drawn to the styling, but when it comes to turning on the sonic fireworks, few players come even close at this price... A class act and a worthy winner."

A3 Amplifier: "The A3 does a wonderful trick of conveying a great romantic sweep of music while at the same time delivering as much internal detail as anyone could possibly want... This is an amplifier capable of performing well beyond its price. We guarantee you won't be disappointed."

***** What Hi-Fi? Awards 2000

**B&W**

DM601S3 Speakers: £249.95

"Ultimately it's the 601 S3s' lack of any weakness that makes them so special. Their talent is so widespread that most of the competition is left reeling. Detail, resolution, dynamics, insight... everything is present and correct, and these speakers rate highly in every area.

What more can we say? These new B&Ws are a terrific buy. The price rise over their predecessors puts them against tougher rivals, but on this showing B & W has little to worry about. Unlike the competition."

***** What Hi-Fi? January 2002

**CD Players**

- Arcam DVA CD62T: £349.95
- Arcam DVA CD62T: £849.95
- Arcam FMJ CD23T: £1149.95
- Denon DCD485: £139.95
- Linn Gemini: £994.95
- Linn Iemini: £1949.95
- Marantz CD4000: £199.95
- Marantz CD6000K Signature: £599.95
- Musical Fidelity NVA 3D: £2999.95
- Roksan Caspian MKII: £894.95
- Roksan Kandy: £494.95
- Rotel RCX507: £499.95
- Sony CDPX570: £119.95

**Recorder Selection**

- Marantz DP6000 CD-RW: £349.95
- Pioneer PDF609 CD-RW: £199.95
- Sony MDS-JE770 Minidisc: £229.95
- Yamaha KX393 Cassette Deck: £119.95
- Yamaha KX580SE Cassette Deck: £199.95

Please Note: Some products may not be available at all outlets.

Advertisement valid until at least 10th April 2002.
Amplifier Selection

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ARCAM

DiVA CD72T CD Player £399.95

DiVA A85 Integrated Amplifier £749.95

DiVA CD72: “The CD72 will have you jumping out of your seat from the very first notes. Both powerful and punchy, it delivers every ounce of air and detail present from detailed midrange to smooth, singing treble. Sometimes a product comes along that sets new standards...”  ***** What Hi-Fi? Awards 2001

DiVA A85: “You'll have realised by now that we rather like this amp. It took us completely by surprise, and further strengthens Arcam's already impressive product range... The A85 is superb, and we can't wait to put it up against its peer in a group test.”  ***** What Hi-Fi? March 2001

MONITOR AUDIO

Silver 8i Speakers £699.95

“No other speaker in this test can match the Monitor Audios when it comes to delivering seismic basslines with sofa rattling power and weight. That this part of the spectrum also enjoys plenty of speed and control confirms the Silver 8is' position as bass kings... A great speaker needs more than simply great bass, however, and the Silver 8is do far more than merely thump. With the likes of Curtis Mayfield's 'Move On Up', they produce a sound of such verve that it becomes hard to sit still... They produce music with plenty of excitement - but don't forget the subtleties too. Add excellent build and an easy load and these Monitor Audios make a formidable case for themselves.”  ***** What Hi-Fi? April 2001

VideoLogic

DRX-601ES Digital Tuner £329.95

"New name, new format, new winner: the VideoLogic story is as simple as that. The £299 DRX-601E digital tuner came out of nowhere to establish the firm as a major player in the digital tuner market. With this upgrade, VideoLogic goes one step further: it's still a DRX-601E at heart, but quite apart from the sleek silver styling and sexy blue LEDs it now has a better, white-on-blue display, and what the company calls 'Psycho-acoustic Compensation' - a form of signal processing designed to make the tuner sound less digital.

And it works: the DRX-601ES has a presentation that's rich, clean and extremely informative. Bass is big and powerful, while the midband and treble are well controlled. The style alone would justify the slight price rise; the sound quality makes it a Product of the Year.”  ***** What Hi-Fi? Awards 2001
## CD7 CD Player
**£799.95**

Cyrus 7 CD: "This player is just as convincing with thundering orchestral strings and brass, making a great job of Bernstein's recording of Mahler's Symphony No 5 and it has the definition to unravel the instrumental strands in the Kronos Quartet's disc of Philip Glass string quartets. It's that that makes it special - and this is a very special player indeed."

*****  What Hi-Fi? November 1999

## 7 Integrated Amplifier
**£699.95**

Cyrus 7 Amplifier: "This is a fabulous amplifier. It's fast, punchy and has bags of power on tap but crucially delivers huge sackfuls of subtlety when the music requires. Some of the other amplifiers in this group may be better with particular genres of music but as an all-rounder it takes some beating."

*****  What Hi-Fi? November 1999

### Mission

The **78 Series** balances performance on a 165mm Nomex bass unit fitted to a reflex enclosure ensuring excellent low frequency extension from a graceful and compact cabinet. The **783** houses a larger 200mm bass unit with massive motor system, capable of floor shaking, yet tightly controlled low frequency extension. Both use Keraform midrange drivers for outstanding clarity and midrange detail coupled to superb dynamic range together with Mission's silk dome tweeter.

**782** "Versatile and with a sound that works well with a wide variety of hi-fi kit, these speakers were worthy of this title last year, and this year have achieved the tough task of making it the double."

*****  What Hi-Fi? Awards 2001

### Q3 Speakers

**£399.95**

Like its award-winning predecessor, the floorstanding Q3 offers exceptional value for money. With the new Ferrofluid-cooled metal dome neodymium tweeter derived from the Reference Series unit, the coincident source 160 mm (6.5") Uni-Q driver creates a spacious and intricate sound image throughout the room, and bass extension from the large front-firing port is accurately controlled to preserve the clarity of the midrange. KEF's unique bracing system increases cabinet rigidity to minimize distortion, and the sophisticated crossovers are connected directly to the bi-wire terminals for optimum signal integrity.
System Selection

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<tr>
<th>System</th>
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<td>Yamaha PianoCraft E150 Inc Speakers</td>
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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 panders 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. Boasting fine impact and drive, it retains its grip even as it thumps out rock and dance tracks. Ask it to play quiet acoustic music and its smooth, liquid presentation impresses still further. The Classik offers the performance you'd expect from high quality separates in one lovely package - this is a very superior product."  ***** What Hi-Fi? Awards 2001

TEAC Reference 300 System £549.95

"Teac's Reference 300 system is an absolute belter. The company's Reference series has won lots of awards and many admirers in the past, and the 300 range at £500 less than the bigger 500 series, is no disappointment. Your £600 buys you everything but speakers: an amplifier, tuner, CD player and cassette deck. As beautifully built as we've come to expect from Teac, this system delivers the goods with style."  ***** What Hi-Fi? Awards 2001

DENON

D-M30 CD Receiver £229.95
SC-M50 Speakers £69.95

"Denon's gorgeous D-M30 has a fine pedigree - and a record of success. Its forebear the D-M3 kept impressing us with its balance of good looks and great sound, winning two What Hi-Fi? Awards on the trot. Now the latest generation takes home a Product of the Year gong two years in a row. On its own merits, too, as this is much more than a rehash of the D-M3. Upgraded audio circuitry, improved power supply and the Mission-designed speakers all improve the package. The sound is superb, well-balanced and weighty... It's a big system in a very cute box."  ***** What Hi-Fi? Awards 2001

Optional Recorders:
CDR-M30 CD-RW Recorder • DMX-M30 MiniDisc Recorder • DMR-M30 Cassette Deck

Please Note: Some products may not be available at all outlets. Advertisement valid until at least 10th April 2002, E&OE.
“The beautifully engineered Gyro SE not only looks the part but has a wonderfully clean and fluid sound.”  

** What Hi-Fi? July 1999

** What Hi-Fi? March 2000

** What Hi-Fi? March 2000

J A Michell

Gyro SE Turntable £1017.95

Founded in Borehamwood by mechanical engineer John Michell. For over thirty years, Michell Engineering have been at the forefront of quality audio, with world-wide appreciated products like the GyroDec and Orbe Turntables.

In the early eighties, the revolutionary GyroDec Turntable, with its elegant and effective suspension system, was introduced. The Gyro SE is a smaller and cheaper package that retains the classy sound of the GyroDec and can be upgraded to the full GyroDec specification by adding a plinth and dustcover.

Price includes Rega RB300 Tone Arm

Linn

Genki CD Player £994.95

Majik Line Amplifier £694.95

Genki “Tempting though it is to think of Genki as a Glaswegian word, it's actually Japanese, and the nearest definitions we could find involve vitality, vigour and spirit. And used as adjectives, these words go a long way towards describing the sound of the Genki, which always manages to communicate the music first and foremost, and let the rest of the hi-fi thing look after itself.

It's a very well-thought-out player, too, from its clear and simple control layout to the provision of four sets of analogue outputs, two at fixed level, and two with level control. Completing the package is a 24-bit Burr-Brown DAC and Pacific Microsonics HDCD filter. Few owners will worry about all that stuff, however, as they'll be too busy enjoying the way Genki plays music, its purity of tone and sense of drama on Mozart's Don Giovanni being a fine example of its talent. By any standards this is a superb player, and not just one for the army of Linn enthusiasts.”

Linn Majik

The Linn Majik is a sophisticated control amplifier complete with on-board stereo power amplifiers. A core entry-level product for powerful and flexible control of hi-fi, video or multi-room installations. "Sneaky" add-on modules expand its functions. It can accommodate many source components. The Majik is available in two versions: The 'Phono' version has five line-level inputs and one Moving Magnet phono input and the 'Line-level' version has six line-level inputs.

Musical Fidelity

3D CD Player £2999.95

“It’s hard to put your finger on exactly why and how the 3D CD Player turns in such a performance and to a certain extent it’s a pointless exercise: it just does. OK, so at three grand it’s a serious financial commitment, but if you’re after a CD player to last ‘til you take your final breath it could well fit the bill. Get a move on, though, numbers are limited to just five hundred and they’ll sell, believe me. Simply get a listen to one and go back to your reference player - all will be revealed.”

A limited edition of 500

Musical Fidelity has enough nuvistor tubes to build 500 Nu-Vista 3Ds and also to hold a spare set for every unit. (The limited edition Nu-Vista preamp, power amp and integrated are proving to be remarkably reliable, with a tube failure rate of about 0.1%). Music lovers don't need SACD technology, they just need a better CD player. Now a lucky few will be able to own the Nu-Vista 3D compact disc player. Out of the total production of 500, 265 are allocated for sale in England, and of these, 97 have already been reserved.

Please Note: Some products may not be available at all outlets. 

Advertisement valid until at least 10th April 2002, EWE.
scotland and north
Aberdeen 491 Union Street 01224 587070
Edinburgh 5 The Grassmarket 0131 229 7267
Glasgow 88 Great Western Road 0141 332 9655
Hull 1 Savile Row, Savile Street 01482 587171
Leeds 112 Vicar Lane 0113 245 2775
Liverpool 16 Lord Street 0151 707 8417
Manchester 69 High Street, City Centre 0161 831 7969
Newcastle 19 Newgate Street 0191 221 2320
Preston* 40-41 Lunn Street 01772 825777
Sheffield* 835 Queens Road, Heeley 0114 255 5861

midlands and east
Bedford 29-31 St Peters Street 01234 277277
Cambridge 17 Burleigh Street 01223 304770
Ipswich 12-14 Dogs Head Street 01473 286977
Leicester 10 Loseby Lane 0116 253 6567
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The sleek and sexy Klimax Twin is the latest power amplifier from Linn Products. With plenty of research behind it and crammed full of advanced technology, Simon Pope checks its credentials.

Things have come a long way since Mr. Tiefenbrun honed his first commercial turntable with the help of his father's engineering company on the outskirts of Glasgow. Time has seen Linn Products turn their hand to all aspects of audio since then, from amplifiers to the first video source product in the form of the new Movie Classik DVD/multichannel receiver. Over the past few years the company have rapidly progressed from traditional hi-fi into a technological force to be reckoned with.

Divergence into multiroom installations and hard disc servers has seen the company involved in some advanced and decidedly high-end products. First came the flagship CD12 CD player, the company's ultimate statement and testament to the I6-bit optical audio disc. This was followed by the stylish and sleek Klimax mono power amplifier and the Komri flagship 'speaker that uses the Klimax technology in its powered bass drivers. Now comes the latest product in this high-end line up, the £5,000 Twin Klimax stereo power amplifier.

There's one fact about this amplifier that brings home how much research and development the egg heads at Linn have put in. It is barely higher than one inch, yet can deliver a quoted 230W per channel into 4ohms from its humble dimensions (100W into 8ohms). Given the usual monolithic proportions of similarly rated power amplifiers it hardly seems possible. Unless of course, you employ the technology that Linn have. They have recognised the demand for more domestically pleasing and space conserving equipment and met it well.

The Klimax Twin is a two channel version of the mono Klimax that can be used in both multi-amplifier and multichannel audio/video systems.

**FULL TECH SPEC**

There's a lot of advanced technology crammed into this amplifier's minimalist of exterior. Crucially, at the heart of the amplifier lie a few very important aspects that contribute to both performance and size. Firstly, there is a switch mode power supply. Most power amplifiers use a large transformer with a rectifier and reservoir capacitors, which consume a fair amount of box space. Additionally, they also have voltage regulators to maintain power under load. It all adds to the total audio path.

With the Klimax Twin switch mode power supply the incoming mains is filtered and rectified to generate a high voltage DC supply - usually around 300-350 Volts. This is "chopped up" by semiconductor switches and applied to a small transformer which transforms the voltage to the required value and acts as safety isolation barrier from the mains supply. Only a small transformer is required, because the operating frequency is very high.

There are many problems associated with switch mode power supply, such as high frequency electrical noise and the complexities of designing the system, both of which Linn claim to have mastered in the
manufacturer whose power amp chip designer is a dedicated audiophile. He had created a high-volume chip with attention paid to detail, using an appropriate circuit topology. It is these little gems that are employed in the Klimax Twin.

The power output stage of these chips uses MOSFETs, as well as the linearisation circuitry needed for low distortion that the amp demands. Three chips per channel are used and it is all-direct coupled with no capacitors in the signal path.

A protection circuit system cuts the amplifier out if a level of current above the specified threshold is reached for a few seconds, or if a sudden current pulse is delivered above the 'absolute' threshold.

The Klimax uses signal sensing where, in the absence of a signal, the amp reverts to a low power standby mode after ten minutes. When a signal is detected the amplifier waits a second or so whilst the circuitry checks it is indeed a signal and not just noise. And yes, the hiss from a preamp will trigger it, so make sure the preamp is muted or volume is turned down to a minimum.

Because of the high powers that can be delivered, a cooling system is needed and the Klimax actually uses two methods: natural and forced air convection (a fan), both needing an ample supply of air for ventilation. The stylish looking slits on the top of the amplifier are in fact a "central heat exchanger" which is the natural air convection cooling process. If this is restricted or the amplifier is being driven especially hard then an internal fan will quietly kick in.

**HEY, GOOD LOOKING**

This sleek and stylish amplifier uses the same high quality machined finish first found in the CD12. It has obvious individuality, imparted by the grain of the hard-anodised solid alloy casing.

Although relatively small the Klimax weighs a fair amount at 9 kilos, but it's not a back breaker.

On the front sits a simple logo, accompanied by a blue light which is dimmed when power is applied; it is dimmed in standby too. When a signal is detected the light will brighten and dim again ten minutes after the signal has ended. It's safe to leave the amplifier switched on and although it does run hot when being used for any prolonged period, in standby it stays comfortably cool. As I mentioned earlier the row of slits on the top of the case are part of the natural air cooling system.

At the rear there are two types of inputs in the form of XLR balanced sockets and WBT phono unbalanced sockets. Accompanying them are Neutrik and a single but very solid pair of speaker binding posts. And that's it - for all the technology crammed into it, the Klimax is refreshingly simple and minimalist and fits easily into any type of décor. To add to the appeal, if you really want to show it off as a style statement it can even be wall mounted. Not a bad idea when you consider it's the price of many a piece of desirable fine art!

**SOUND QUALITY**

I used the Klimax with a number of sources and 'speakers, including a Wadia 301 CD player (using its variable gain output), Creek's reliable passive preamp and a Unison research CSP valve preamp, plus 'speakers in the form of Living Voice's high efficiency Avatars and Mission's dependable 782s. To really test the driving capability of the Klimax, my rarely used Magneplanar SMGa panels were dusted down. With a sensitivity in the low 80s, these are as tough to drive as a steamroller on an Arctic rally course.

The first thing I noticed about the Klimax was its super clean, and very powerful sound. It's also highly revealing - put it on the end of a
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dubious CD player or a ropey preamp
and it will show up the faults without
remorse. A selection of rock
recordings showed the Klimax to have
oodles of low end slam and drive -
Paul Weller's version of 'Walk On
Guided Splinters' had
a great sense of
rhythm and pace -
right up there with
Naim's best at the
price, for example.
Detail was
exemplary and all
aspects of the mix
were easily
discernable - there
was never any
confusion or
muddiness to the sound. Bass was low
and very taut yet this was
accompanied by a very detailed and
open midrange and intricate treble,
which whilst not valve-like sweet was
still very easy on the ear, even at high
volume (as my neighbours will
confirm!). The sheer attack and
reserve of power this amplifier has
confirmed. The Klimax showed what it could do
here. If you pardon the pun, climaxes
became real climaxes. Such in the first
movement of Mahler's fifth symphony:
often amplifiers will not realistically
determine between ff and ffff
dynamic markings in the score, making every
climax much of a muchness. Not so
with the Klimax when Bernstein lets
the reigns off the Vienna Philharmonic
you really feel it. Very few amps have
the capability to deliver this true high-
end trait and it's a real pleasure when
you experience it, as it's a sign of deep
ability.
I'd urge anyone in the market for
a solid state amp over £4000 to give
Linn's new Klimax a
thorough listen. As
well as being detailed
and intricate in its
sound, it's also a
power house and a
real workhorse - it
will drive anything you chuck at it with ease
and impose loads of
control.
Those who crave
the ultra transparency
and insight of a valve amplifier may not
favour the overly solid-state appeal of
the Klimax - this is not high end in the
Audio Note mould - but it plays any
genre of music with the same
enthusiasm and insight. Here's a fine
amplifier that is well worth a listen. If
you like power and detail, you may be
smitten.

Linn Klimax Twin £5000
Linn Products
Floors Road
Waterfoot
Glasgow
G76 0EP
Tel: 0141 307 7777
www.linn.co.uk

MEASURED PERFORMANCE

The Klimax was powerful enough,
producing 105W into 8ohms under
measurement, validating its quoted
specification of 100W. This rose
substantially to 182W into 4ohms so
the switch-mode power supply
produced enough current when
required. Obviously, the Klimax has
some grunt and since nowadays
'speaker manufacturers often use
4ohm bass units it's the 4ohm power
figure that is 'real' in practice.

There were a few little give
aways suggesting unconventionality.
Our distortion analysis at 1W
output, 10kHz shows no distortion,
but there is a small signal just above
50kHz, likely a byproduct of the
switch mode supply. Being out-of-
band and at a low level of a few
millivolts this would be subjectively
inconsequential in use. The feedback
mechanism also seems a little less
linear than usual at high frequencies,
distortion suddenly appearing at
around 10V and rising rapidly, with a
broad range of harmonics. Hitting an
acceptable 0.1% at full output it
should not be a problem unless the
amp is pushed hard. The Klimax has
a slightly limited closed-loop
bandwidth of 31kHz too, unusual
nowadays with SACD and DVD-A
requiring a little more, but again this
is a small point. There is still plenty
of gain at 100kHz.

The Klimax is unusually compact,
beautifully hewn from solid metal so
there are absolutely no joints or
seams anywhere to be seen, and very
powerful for its size. I would expect
a dry, powerful sound. NK

<table>
<thead>
<tr>
<th>Frequency (Hz)</th>
<th>Distortion (%)</th>
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<tbody>
<tr>
<td>10k</td>
<td>0.1</td>
</tr>
<tr>
<td>50k</td>
<td>0.05</td>
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<tr>
<td>100k</td>
<td>0.005</td>
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Naim Audio are without doubt one of the leading lights in specialist audio equipment in the world. Their range of source players, amplifiers and 'speakers are revered by thou-
sands and the company retains a loyal customer base that rivals can only wish for. The story begins when company founder, the late Julian Vereker, an avid music lover, began to make recordings of musican friends and then built himself 'speakers, mixing desks and eventually an amplifier.

Julian sold his designs to stu-
dios and friends initially, founding Naim Audio in 1973. It already had a reputation and a growing product line up. The unusual early amplifiers had a minimalist but classic design. What surprised the hi-fi establishment was the now trademark controlled and fast sound that belied the sometimes humble specifications. The rest, as they say, is audio history.

The company's reputation grew rapidly and by the mid eighties Naim's equipment had built up an enviable world wide following, exporting to over twenty-six countries. The range now spanned from highly acclaimed tuners, including the classic top of the range NATO I, to the benchmark unipivot ARO tonearm. In 1985 Naim were given the Queen's Award for Export Achievement. Importantly, all Naim products are designed, developed, assembled, tested and finished at the company HQ in Salisbury. Products are designed to allow as much upgrading as possible so existing customers can then benefit from improved components and assembly techniques as they become available.

Last year the company produced their most advanced and powerful power amplifier to date, the awesome flagship NAP 500. This product was in development for six years whilst new components and circuits were developed to cope with the amp's incredible demands. The topology and circuitry of the NAP 500 was next applied to its new entry level range, the Series 5 components. They share similar cast and machined finishes which give their 'budget' range an awesomely solid structure and low resonance.

The NAC112 and NAP 150 pre and power amplifiers we have to give away here are superb performers, as David Price discovered in his review for Hi-Fi World back in last year's June issue. He described the combination as being "a stunningly good performer. It sounds electric." Their sound is addictively punchy and rhythmic, combined with a great sense of speed and dexterity. We concluded the review by stating "A more gripping and thrilling sound at this price you will not get".

Well, one lucky HFW reader will get a pair of these amps for the price of a stamp. Entering couldn't be easier. Simply answer the questions below on a postcard and send it to the address below by April 30th. The first correct answer picked out of our hat wins this cracking prize.

Hi-Fi & Computer Audio World Competition rules and conditions of entry
1. Only one entry per house hold.
2. Multiple entries will be automatically disqualified.
3. Purchase of the magazine is not a pre-condition of entry.
4. No correspondence will be entered into.
5. The Editor's decision is final.
6. No employees of Audio Publishing Limited, or of any companies associated with the production or distribution of the prizes may enter.

CONGRATULATIONS!
...to Mr. B. Wilson of Derby, Mark Leece of Middlesex, Alex Cook of West Sussex and Frank Davidson of Aberdeen. The four winners of our March competition. A DRX-601ES Videologic DAB is on its way to you!
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David Price goes to town on Sim Audio's Moon 1-5 integrated amplifier. Does it set new standards for solid-state?

Ever heard of Sim Audio? Me neither. Named after its founder Victor Sima, the Canadian company was subsequently bought by John Poulin, who developed the Moon series of audiophile products. The svelte-looking 1-5 tested here is a Class A/B 70W integrated amplifier, retailing for £2500. Considering this costs more than many very respectable Brit pre-power combinations, it has to be something special if it's to succeed.

This 430x100x380mm amp certainly looks the part. The chunky 10mm brushed aluminium fascia contains a neat display window showing left and right channel volume levels. To the right of this are three buttons for monitor, mute and input selection plus a large volume control - all of which are duplicated on the optional (E140) sleek aluminium remote. To the fore and aft of Sim audio's trademark rounded heatsinks are four height adjustable cylindrical isolation cones. These, plus its not inconsiderable 12kg mass, help minimise the effects of vibration.

Round the back, you'll find two sets of WBT gold plated binding posts - designed to take thick North American style speaker cables - and five RCA phono inputs, plus a tape loop. The preamp output can be used to control another amplifier or subwoofer, and power is selected by a rear toggle switch - not a problem as the unit is intended to be on all the time.

The Moon 1-5 is based on the design philosophy of its parent pre and power amplifiers (W-3, W-5 and P-3 and P-5 respectively), rather pompously called 'Advanced Renaissance'. Essentially it's just about following ye olde common-sense audiophile practice - omitting overall feedback. There's only one step of local feedback in the output stage to maintain low total harmonic distortion, and intermodulation distortion is claimed to be virtually zero. The result, according to Poulin, is an exceptionally fast amplifier without phase errors.

This amplifier also uses the shortest possible signal path, claimed to be fifteen inches from RCA input to output binding posts. This is in part due to the use of a passive preamplifier section, devoid of both carbon-based passive components (i.e. resistors, pots, capacitors) said to adversely colour the sound.

The gain stage uses a Crystal microprocessor, functioning as a shunt-to-ground applying more or less impedance against the input signal. This is claimed to give a volume control which doesn't degrade sound, regardless of what volume it's being run at.

A bespoke Sim audio-designed 500VA toroidal transformer is used in the power supply, and complemented by quality components from the likes of Vishay Dale, Philips, Ero, Wima and Thompson, Nichicon, United Chemicon and Cornell. Output section wiring is custom proprietary silver plated OFC copper with Teflon insulation. All other signal path wiring uses silver plated copper with Teflon insulation. 2% silver alloy multicore solder is used throughout the circuitry.

Listening was carried out using my Michell Orbe/OL Silver 250/Ortofon Kontrapunkt B/Michell Delphini and Linn CD12 front ends, and Yamaha NS1000M loudspeakers. This amplifier is certainly a very charismatic performer - I was quite surprised that something so beautifully styled (complete with its great retro twin LED displays, which I loved!) could also produce such a focused sound. Essentially, the Moon 1-5 puts you right up front, next to the artists themselves. Rather than being an accurate 'hi-fi' amp, it's an extremely powerful and engaging performer. I ran the gamut of my vinyl collection and never ceased to be impressed with the clean power this thing can serve up when called for. In a sense it's very Naim-like in its take-no-prisoners, go-for-the-jugular musicality. What it adds to the equation however is an extremely
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The Moon amplifier turned out to be a fairly conventional package, measurement wise. It has good bandwidth, frequency response stretching from 4Hz up to 80kHz, within 1dB. That’s enough to handle SACD and DVD-A properly at the high end of the range, as well as reproduce digital subsonics at the low end of the range.

At all levels and frequencies the Moon produced some second and third harmonic distortion, with more at high frequencies as is common. With up to 0.06% at 1W output (10kHz) and 0.154% at full output levels were in the range of acceptable, our analysis showing a steadily step down in amplitude with frequency, a benign pattern. Since limiting feedback increases measured distortion but improves openness and depth perspectives there is a trade-off here.

With low noise, little d.c. offset and high sensitivity of 280mV for full output of 66W (8ohms) the Moon is quite normal in what it does. The power supply is well regulated, power increasing to 120V into 4ohms. It’s a neat and normal package that measures well enough. N.A.

Power 66 watts
CD/tuner/aux.
Frequency response 4Hz - 80kHz

Separation 80dB
Noise -95dB
Distortion 0.06%
Sensitivity 280mV
dc offset 0.4 / 7.8mV

Dynavector DV17 would suit better.

Suitably partnered, Sim audio’s Moon 1-5 amplifier is a deeply impressive product. Just about the best integrated I’ve yet to hear, it really gets into the groove and pile-drives its way through whatever you care to feed it. Although Naim-like in many respects, it’s actually more neutral and open. Only when you put it against a decent Class A transistor or valve set up do you realise that it isn’t the most lifting listen around. A ridiculously expensive integrated amp then, but the amazing thing is that it’s almost worth the money.

Moon 1-5 £2500

Redline Scotland Ltd.
Tel: 0131 226 1981
www.simaudio.com

MEASURED PERFORMANCE

open and clear midband, largely devoid of forwardness or grain. While it’s obviously a transistor design, sounding far more ‘crisp’ than any valve amp, that dreaded solid-state ‘mush’ is mostly absent. The result is a brightly etched yet uncoloured sound that cuts right to the chase.

Kicking off with Peter Gabriel’s ‘Solsbury Hill’, things sounded uncharacteristically vivid. This recording, which is normally slightly soft and warm, gained a little added bite – especially in the midband. The soundstage, normally stretching quite a long way back, seemed pushed forward and slightly robbed of depth perspective. This made for a decidedly edge-of-the-seat rendition, but it was certainly none the worse for it. In addition to its ‘hear through’ acoustic, bass was particularly impressive. Super tight, grippy and not at all swayed by the nightmare loads that the Yams imposed, the Moon integrated kept an incredible grip on proceedings, regardless of volume level. Even when really pushed, it stayed refreshingly distortion-free and able to deliver uncompressed peaks.

The track’s complex mix of percussion and guitar parts – especially in the midband. The Moon produced some second and third harmonic distortion, with more at high frequencies as is common. Given this more ‘showy’ hi-fi production to work with, it served up a hugely expansive (left to right) soundstage, if a little squashed in terms of depth perspective, yet again. Factor in that incredible bass grip and articulation (by the standards of any integrated), an extremely open and detailed midband and firecracker dynamics, and it was a hoot to listen to.

Randy Crawford’s ‘You Might Need Somebody’ signposted the Moon’s character in no uncertain terms. Play this through a decent valve amp and you’re left gasping at the expression and texture in her voice. By contrast, through a good solid-state amplifier like this you find yourself enjoying the Tommy LiPuma production more – there’s some very tight session playing and a beautifully wide soundstage. Once again, this amp took me straight to the front of the stalls for a powerful and emotive rendition. Although open by transistor standards, there was just a touch of coldness to Randy’s vocals, and a slightly mechanical start to some of the playing.

Despite that open midband, ultimately the Moon is just a little on the ‘brightly etched’ side of neutral. To wit, it works best with ancillaries which err towards ‘soft’ in their sound. My Ortofon Kontrapunkt B was very slightly bright - I suspect a Dynavector DV17 would suit better.
DO YOU COPY?

Help! I have never bought a CD player, because to me it has always sounded like a child's toy rather than real music. However I have an SACD player, an MD recorder and several Nakamichi cassette decks. My problem is that recording CDs (digitally) on to MD is fine, and although the cassette decks do a slightly better job, they add a little bit of hiss (using TDK SA90 tape). Recording SACDs on to MD results in sound no better than the CD layer (if it's hybrid disc) but the cassette manages to capture the SACD sound very well (again, apart from a little hiss).

To even get near to SACD quality digital recording we obviously need SuperMD - maybe going double-sided and using blue laser or holographic technology (MD already has the protective caddy that both blue laser and holographic disc products need). However, even with SA90 tape (which is not expensive) recording off AAA LPs produces a sound clearly much better even than SACD. I also have some higher grade tape, TDK MAX90 and Maxell Vertex 90 are frighteningly good at capturing much of even LP sound quality - especially Maxell Vertex (but then it was £18.99 in 1990), and they have virtually no hiss with SACD sources, but these tapes aren't available anymore. So can you give me news of a SuperMD recorder in the offing? Or for even better quality, get TDK and Maxell to start making these 'high end' tapes again?

James Morrow
Guildford

Hi James - what an interesting letter! Sadly it's all bad news though - don't hold your breath for either an audiophile MD format or madcap hi-fi cassettes at bankers prices. Firstly, MD is in decline and - aside from a few Sony decks - I predict that you won't be able to buy the machines at all in five years. This is because [a] as far as low end machines are concerned, flash-memory based 'digital audio portables' will have replaced them and [b] as the higher density MD results in sound no better than the CD layer, recording SACDs on to MD results in sound no better than the CD layer (if it's hybrid disc) but the cassette manages to capture the SACD sound very well (again, apart from a little hiss). To even get near to SACD quality digital recording we obviously need SuperMD - maybe going double-sided and using blue laser or holographic technology (MD already has the protective caddy that both blue laser and holographic disc products need). However, even with SA90 tape (which is not expensive) recording off AAA LPs produces a sound clearly much better even than SACD. I also have some higher grade tape, TDK MAX90 and Maxell Vertex are frighteningly good at capturing much of even LP sound quality - especially Maxell Vertex (but then it was £18.99 in 1990), and they have virtually no hiss with SACD sources, but these tapes aren't available anymore. So can you give me news of a SuperMD recorder in the offing? Or for even better quality, get TDK and Maxell to start making these 'high end' tapes again?

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Guildford
years ago I used to listen to tapes on my Pioneer car tape deck, recorded on a Nakamichi from my Linn. They sounded better than the CDs I now make via my Michell Orbe, Sony DAT recorder, Zefiro ZZ12 digital interface card/Pentium 3 PC/Sony CD burner, played on my car Nakamichi CD tuner. Makes you think, doesn’t it? Still, that’s progress! DP

A good Nakamichi will knock the socks off any digital rival

IN THE BEGINNING. . . THERE WAS NAD

Hello.

I’m moving into separates for the first time, and while I’ve made an almost definite shortlist of items, some advice would be great. I’ve been thinking of the NAD CS21 CD player, and NAD C350 amp; they seem like a logical pairing, but I was wondering if you could suggest something better? I have a wide range of musical tastes, but mostly listen to hip-hop, and want something with deep, powerful bass. Speaker-wise, I’ve been having constant changes of heart recently - I want floorstanders, as I am young and foolish, and am willing to sacrifice ultimate precision and detail for power and scale. I had my eye on the Mission 752s, but then the Yamaha NS 200s caught my eye, and then the affordable KEF Q35.2s. I now just don’t know what to choose! Some help would be really appreciated.

Thank you
Sebastian de Latour

Glad you’ve seen the light, Sebastian. The NAD combination is a classic first system choice as it offers high quality sound (powerful and detailed) and build for a price which, in relative terms, is as cheap as chips! However, such is the speed of development and change in the hi-fi industry that the ‘new’ CS21 CD player is already being replaced by an updated and ‘improved’ model which will feature in a review in these pages very soon. This could be good news, depending on your outlook, as the CS21 could now well be available at a bargain basement price and it’s a very fine player indeed – so search around.

As for the ‘speakers, I’d lump for the Missions. Again, the KEF’s are a good buy but such is the speed of development down in Kent that no sooner has one KEF model been launched than its replacement is on the drawing board!

The Yamahas are by no means a duffer but they do suffer a little from woolly bass and a lack of detail – there’s plenty of grunt, though. The m74s are a much better proposition, as they offer power and bass extension with refinement, as well as good audiophile characteristics such as superb imaging and stage depth – fairly rare at the price level. Whatever, you’ll gain far more pleasure from your CD collection than previously – welcome to the addictive world of hi-fi. Just make sure you don’t overdose too soon! SP

BRISTOL FASHION

I recently purchased a Nytech receiver model CTA252XD II. It drives my Mission 752s beautifully, with a very smooth, clear and dynamic output – an excellent controlled bass. This has been a great improvement over other amps I have tried (including Pioneer A400, Audiolab 8000a, Naim Nait 3 and Musical Fidelity A11), with the added bonus of a good FM radio. My main problem is however the phono stage, which doesn’t match my Goldring 1042 cartridge well (held by a Rega RB300 arm on a Slate Audio Garrard 401). There are three internally adjustable settings marked S 1.5mv, MC1 150uv and MC2 70uv. I have looked inside and

HIGH END THAT WON’T OFFEND

Dear Hi-Fi World

I am thinking of upgrading my amplifier and speakers on my CD only system. I have approx. £8000 to spend on this combination. I have been to a couple of demos but I am having great difficulty in finding speakers that will fit the bill.
A3 RANGE.
MACHINED, MIL-SPEC ALUMINIUM
FRONT PANEL.

TWO-YOUR-CARAT GOLD
PLATED FITTINGS.

REMOTE CONTROLLED.

PHONO STAGE.

POWERFUL, ROBUST, BUILT.

MUSICAL FIDELITY

A3 RANGE: INTEGRATED AMPS, PREAMPS, POWER AMPS, TUNER, CD PLAYER AND HOME CINEMA DECODER. FOR DETAILS OF YOUR NEAREST STOCKIST RING 020 8900 2866.
I would like floor standing full range loud speakers up to £4k (so that my budget is split 50/50 unless you recommend otherwise) but here lies my problem. My room is 4m square with wooden floor boards. I can only get approx. 24inch from the rear wall to the front of the baffle of the speaker; therefore the deeper the speaker the less space I can get behind it. Most speakers I have heard and like the sound of I cannot accommodate in my room. I would like the system to play all types of music, but realise that this is impractical, so it can exclude heavy rock and dance music. Any help would be most appreciated.

Regards
Graeme Symington

I take it you’re no good with a soldering iron, Graeme, or you’d have sped straight to the World Audio design page! For a good quality (ready built!) valve amplifier you’ll have to spend plenty of time assessing which models would suit your taste best. Of the models you suggest, perhaps the smooth and silky Quad two-forry monoblocks and matching preamp at bang on £4000 are the best all-rounders. If I had to make a criticism it would be that they don’t have that last ounce of attack and speed, but seeing as you’ve ruled out heavy rock and dance music this will be a less obvious obstacle!

EAR amplifiers tend to have more drive and low end extension than other valve amplifiers, whilst the Conrad Johnson and Canary amps on the whole tend to err more to the transparent school, which also sometimes means they can sound a tad thin, with the emphasis more on the midrange. Alternatively, consider the new C5P and P30K pre and power amplifiers from Unison Research which have plenty of drive and transparency (the power amp using the same KT88 valves as the Quad pair) and a stylish wood panel finish. These will set you back less than £3500 - almost a bargain!

As for ‘speakers start looking first at the the two Avatar models from Living Voice. These are superb performers well suited to valve amplifiers due to their high sensitivity. They have a beautiful open sound that highlights instrumental timbre and ambience and take up very little floorspace due to their slimline cabinets. The ‘ordinary’ version is priced at £2500, whilst the OBX with its higher grade components and external crossover is £4000. Other ‘speakers to consider for both space and performance are, of course, the two pairs of new Quad ESL988 and ESL989 electrostatics (£3400 and £5000 respectively) which deliver detail well beyond rivals (if not always the low end extension) or Tannoy’s new Dimension TD8 at £4000 with uni-Q driver and super tweeter - if you can hack the sci-fi look, that is!

 Regards
Graeme Symington

Hi Guys
After reading your mag for about 3 years I finally got round to upgrading my budget system with some second hand bargains. Since I am a big vinyl fan I now have a Systemdek IIX with R8250 both have mods (acrylic platter/Voyd arm board/Leitz wire) and a late Audiolab 8000a. This feeds into Mission 733i’s spiked, filled with sand and biwired. Needless to say the sound is a big improvement but there is one cloud on the horizon and this relates to the cartridge. This is a Goldring 1022gc. With anything but pristine vinyl the normal pops, cracks etc are very forward compared to my previous set up.

I have tried various things. Cleaning records helps a little - I have a Disco Antistat! The stylus is clean and looks OK under a microscope. So this is a problem. Although the sound of records has improved dramatically the emphasis of “damage” is taking away some of my enjoyment. Could it be damage to the cartridge or the matching of an analytical cartridge with a detailed amp or should I buy better vinyl (only joking!) or is there a more forgiving cartridge (budget for suggestions £150, noting amp is mm/mc). Any suggestions will be greatly appreciated.

Thanks
Gavin Ripley
Pickering N. Yorks

Mmmmm...you could always try a better record cleaner. There are a host of high quality record cleaners about and whilst they may seem like a bit of a rip off initially, they could ultimately lead to sonic satisfaction beyond your wildest dreams. As well as the models from VPI priced upwards from £300 you can get Moth’s excellent little cleaner in kit from for just over £200. Any of these will breathe new life into your vinyl collection.

As you say, the hardish sounding Audiolab does your somewhat cold sounding 1022 few favours. Consider the next model up on the Goldring ladder, the 1042. This is a more rounded performer than the shrillish 1022 and will glean more detail from your records.

Ultimately, though, you should plump for a moving coil model which will make those bumps and cracks sound more integrated with the music! The best budget models around are the £199 Dynavector DV10x4 and perhaps the Ortofon MC 15 Super II at £150. Either of these should show a vast improvement on your existing set up - both with music, and cracks! SP
**SOUND AFFECTS**

My system consists of a Rotel RA931 III amp, Rega Planar 3/Linn K9 turntable, Mission 780 loudspeakers, Atacama SE24 stands and CableTalk BiWire cables, currently set up in a spare room Mission 780 loudspeakers, Atacama kit, but to no avail.

I tried repositioning the 'speakers, tried different speaker cables and placed Vibrapods under all kit, but to no avail.

I listen to just about everything from Kate Bush, through jazz, classical and electronics. The latter especially sounds rather lacking. The midband from the 780s is spectacular, but lacks the warmth and depth previously enjoyed in a carpeted room! Is the answer to my problem as simple as introducing carpets and furniture in order to dampen the sound or do I need to rethink what I'm doing? Your recommendations for a replacement cartridge would be welcomed also. Hope you can help and thanks for a superb magazine.

Andrew Baird
Northern Ireland

It's every audiophile's nightmare - you move house and suddenly your system sounds 'not quite right'. The point is that when you listen to any system, what you're really hearing is the relationship between a particular combination of hi-fi components and the room they're working in. Moving house means the relationship changes, often with dramatic consequences. It's interesting isn't it, that we all invest vast sums on our hi-fi but take room acoustics for granted? Maybe it's because this subject isn't quite as sexy as that grand turntable sat there in the corner!

Any echo in a room is bad news. Clap your hands and hear how long the sound takes to stop reverberating - then move to the next room and do it again and it's likely you'll hear a difference. This simple test is a good starting point to getting your room acoustically optimised. Go into an anechoic chamber and that same hand clap will sound more like a dull thud.

Obviously, this isn't natural so you don't want to go this far, but the more you damp down your room's resonances, the better. In your case, you need to get carpets down - or if this isn't possible/domestically acceptable, buy a large thick wool rug. Hang drapes from the walls, put a sofa in, liberally scatter some cushions around, especially in the corners. If possible, put thick curtains up. Basically, introduce as many soft furnishings as you can to dampen down your rampant reverberations.

This done, things will sound significantly better, but not perfect. This is thanks to your combination of a relatively dry sounding turntable, shrill cartridge, lightweight amp and moderately bass light speakers.

Assuming you're keeping your amp - personally I'd swap it for a second-hand Audiolab 8000A (late nineties model) with its relatively full sound and handy tone controls - you need to ram your Missions right up against...
Dear David,

I have been reading your thoroughly entertaining reviews and features in Hi-Fi World for many years now, and the March edition proves no exception. However, I feel I have to take up one point you mention in your review of the NAD C660: You refer to mid-80s NADs being of flimsy build quality. I'm surprised given your knowledge of everything that was around then that you think this. I owned a NAD 3130 amplifier for eleven years, and it was built like a battleship - £150 in 1986 went a long way! I have such good memories of it I recently snapped up a second-hand 7130 receiver of similar vintage and this is now at the heart of a great second system. The performance of its tuner section is particularly impressive. As for it being flimsy - well, I'm pretty sure which would come out worse if it was tragically dropped on top of my main system Arcam A85 amp!

Ian Appleyard

Ian - thanks so much for your kind words. I too had a 3130 and would willingly admit it wasn't that flimsy - but contrast it to early NAD fare (i.e. 1978's 3030) and even this seems something of a featherweight. As you rightly say, those NAD folk knew how to do a good tuner - as anyone who's owned one will avow. The 4140 is a particular personal fave. as was the old 4020A. Don't go dropping things on NADs though, it's not fair - if you really want to 'ethnically cleanse' hi-fi, then pick on Albas, Amstrads and the like!

Christopher Pearson

As an absolute minimum, I'd start with a CDS, NAC I 12 / Flatcap/ NAP150. This would be just enough to give an enjoyably musical sound. It's not that the NAITS is a bad amp - far, far from it - but the Allaes are extremely revealing and don't really 'gel' if there are any weaker parts in the chain. Ideally though, you're looking at a CDX/NAC 102/Hi-Capi/NAP 180. Thus aspirated, the Allaes are incredibly dramatic and engaging performers, good enough to take you to the very top rung of the Naim ladder. Conversely, as I suggested in the review, non-Naim owners could consider them as a way of 'bringing their system out of itself', providing they have high quality, high power amplification, of course.

Matthew

I'm looking to buy a new CD player for my PC, but this time would like to buy one that can play normal music CDs without as many jitters as my dreadful Mitsumi 32x player. Do you have any recommendations?

Alan Smith

Can you recommend some software to remove clicks and pops from LPs? I've so far tried two brands - one, which I understood to be the acknowledged market leader, quiets clicks but distorts the sound to the point of total non-listenability. The other, lesser known and cheaper, does a good job on high frequency crackles, but in shifting the mid-range clicks and pops, degrades the sound drastically. Someone once told me he had some software which highlighted the individual clicks and pops on the screen, then allowed you to delete them individually. This seems a more promising approach as it presumably means the filter is only applied momentarily. I suppose you don't know what that software could have been?

Christopher Pearson

I have been reading your thoroughly entertaining reviews and features in Hi-Fi World for many years now, and your upbeat article about their Nairn system, and was heartened to know you think this. I owned a NAD 3130 and would have known how to do a good tuner - as (i.e. 1978's 3030) and even this seems something of a featherweight. I too had a 3130 and would have liked to see a more full bass performance than the lightweight Linn, and will really pull things up - the 4140x4 will add a bit more life and sparkle to the G1042's already fine repertoire.
Diapason's stylish 'speakers demonstrate that hi-fi can indeed be domestically friendly and a work of art. Simon Pope stands back to admire the Adamantes III.

When it comes to aesthetic design traditionally no one does it better than the Italians - and that's not just limited to haute couture or motor vehicles. Some of the most stylish and enduring looks in hi-fi over the past decade or so have originated in the land of Verdi, pasta and Ferrari. One of the most striking aspects of Italian hi-fi and one that is consistent throughout the designs of various manufacturers is the use of real wood. The likes of Opera, Zingali and Unison Research make thorough use of the material, the latter company even to the extent of remote controls. Diapason are also co-patriots and fellow users of the stuff. Based in Brescia, the company are a fairly small, specialist outfit, their whole range consisting of merely five models: the entry level Karis, the strangely named Nux (floorstanding version of the Karis), plus the Adamantes III and the top of the range Adamantes Anniversary limited edition. The last in the range is the Kenton centre 'speaker. As the name suggests, the Adamantes is now in its third guise and it was the company's first project back in 1985.

There's something about the look of these 'speakers that reeks of traditional craftsmanship. They are constructed from solid wood and feature a unique and highly attractive 'diamond' bevelled front baffle with a permanently fixed metal grill over the two drive units. The cabinets themselves are made from solid "Canaletto" walnut hardwood staves produced entirely by hand. They are then assembled in a particular way that attempts to make the structure rigid and free from resonance. The 2B dedicated stands are in a certain way an integral part of the design, as the 'speakers sit in three metal recesses on the stand via the three metal studs found on the bottom of the cabinet. This also benefits the sonic attributes of the Adamantes.

As well as the immediate appeal of the aesthetics there's something else which makes Diapason 'speakers slightly different from the norm. The last decade has seen the company work on their Direct Drive technology, which allows a direct connection between the amplifier and the bass unit. This eliminates the use of a low pass filter and the traditional disadvantages that come with it, such as loss of efficiency and phase rotations. The cabinets are hand-made in house, whilst the drive units come courtesy of Seas, modified for the company in their suspension.

The Adamantes III is a bass reflex design with a fairly wide rear firing port and there are two sets of very high quality 24Kt gold plated speaker terminals. The crossovers are hard wired with van den Hull oxygen-free silvered copper cable and do not use printed circuit boards. Only polypropylene capacitors are used to minimise signal colouration and loss.

All these features of design result in a 'speaker that concentrates on providing simplicity with a high efficiency. It is as well suited to valve amplifiers as solid state designs, Diapason claim.

Just as the design of the Adamantes appears to be as simple as possible, so the sound reflects this. There is something very un-hi-fi like in this 'speaker; it appears to make music as simply and effortlessly as possible. On its dedicated matching stands and powered by Quad's two-forty valve monoblocks, the Adamantes IIIIs delivered a full and deep sound with surprisingly deep bass. Paul Weller's Stanley Road on CD showed that the diamond bevelled baffle really contributes to very fine imaging, with the wide mix of the album well captured. Acoustic guitars were another highlight, being
review

TO PS
detailed and transparent, showing that the Adamantes work well with valve amplifiers in this respect. Where the sound tripped up slightly was with vocals, which sometimes sounded a tad strained at high volumes.

Where the Adamantes came into their own, I found, was with smaller scale intimate music such as John Coltrane's 'A Love Supreme' on vinyl, or the Florestan Trio playing Fauré and Ravel's piano trios on a Hyperion SACD. The former showed this to be a 'vinyl' 'speaker' reveling in the smoothness and fluidity that jazz on vinyl brings. Coltrane's tenor sax didn't suffer in the way that Paul Weller's voice did; it never became strained or pushed, but remained sweet, smooth and warm.

Good detail was present in the drum kit and the upright bass was natural sounding and deep voiced. The classical disc, meanwhile, was forward sounding and vibrant with a good sense of liveliness and vibrancy. The Adamantes tended to concentrate more on the instruments as opposed to the fine acoustic of the Henry Wood Hall, so the recording lost a little of its naturalness, but overall tonal balance was fine.

The Adamantes, in true Italian style, could be described as a little quirky in that they play some recordings (namely good acoustic ones) better than others, such as processed rock recordings. Here they can sound slightly compressed and hard, so they won't suit everyone. When the frequency range is extended however, theses 'speakers' are sophisticated and rounded. Sound wise they are for lovers of chamber music and jazz, where they can sound very sweet indeed.

However, they do deliver in the bass department so dance and rock fans won't be completely disappointed.

Other sonic attributes include excellent imaging and a high sensitivity that makes them easy to drive and a good match for most amplifiers, especially valve designs. When it comes to looks they are a work of art, especially with the 2B dedicated stands (at an extra £475) which are actually a part of the design - they are superbly built and finished and look a million dollars, or should that be Euros? ▲

Diapason Adamantes III £1999
UKD
23 Richings Way
Iver
Bucks
SL0 9DA
Tel: 01753 652669

MEASURED PERFORMANCE

With a heavily contoured cabinet free from sharp planar changes, plus a frequency response where the mid-band is pushed forward, these 'speakers will likely project well and set up good images. There's quite a lot of variation in their response though so there may well be a certain amount of colour in the sound. Whether this is acceptably euphonic or otherwise can only be determined by listening tests. The tweeter is in good balance with the rest of proceedings; there should be no sharpness in the sound. The bass unit peaks up a little at 40Hz and the port peaks at this frequency too. I suspect the 'speaker will have quite pronounced bass as a result. Just above this frequency though there is the usual dip down that precedes the peaking of an under-damped system. In practice this helps emphasise the lower peak. Again bass will be more characterful than is often the case nowadays, but not less entertaining necessarily.

As a load the Diapasons dip down to a low 3ohms and they average 5.3ohms. This means the 'speakers draw current and will benefit from being used with a sturdy amplifier. Not surprisingly sensitivity was high at 88dB. Are they suited to valve amps? Only if they have a 4ohm tapping.

The Adamantes Ills will probably have a lively sound with good projection. They're accurate enough, but need a good drive amplifier. NK

World Verdict
Not cheap but superbly built and fine looking. The sound won't be to everybody's taste but is very sweet and favours acoustic music.
Audiocraft
UK distributor for Rogue Audio & Lavardin

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FOQ Sweet and revealing sound/ True soundstaging, upgradeability
Against Nothing we can think of.
Verdict A great moving magnet/moving coil phono stage that offers a slice of high-end performance at a very competitive price.

World Verdict
A real 'hi-fi' sound and all that many will need. Highly recommended.
October 2001
It's hard to overstate the grip that the Dual brand had on Britain's 1980s hi-fi scene - the company had worked its way deep into the fabric of British audiophile life. David Price listens to its parting shot, the CS5000 semi-automatic turntable.

Back in the nineteen eighties, if you were serious about sound on a budget, then vinyl was your only choice. For most of the decade, CD was the province of the rich - in today's terms, even the cheapest Philips machines were selling for over £300 at the end of the decade. No, if you only had half that amount - or less - to spend, then vinyl it was.

Although the early eighties saw a number of Japanese 'budget audiophile' turntables jostling for hi-fi buyers cash - from Sansui's SR222/II to Pioneer's PL512 - there was only one real choice. Launched at the 1980 Harrogate show, Dual's £120 CS506 proved a revelation. It was a high quality, well built, semi-auto deck sporting a (then fashionable) ULM (Ultra Low Mass) tonearm complete with matching Ortofon cartridge. It proved an instant hit, but Dual got the whiff of success and decided to bring out an even more conspicuously 'value-for-money' product. The result was the CS505 - which proved a budget blockbuster in the truest sense of the world. £75 bought you most of the CS506's feature set, minus the illuminated strobe and lavish wood plinth. As neither of these features did much for the sound quality, the 505 lost very little from its bigger brother apart from its hefty price tag.

Suddenly, every other entry-level turntable fell by the wayside compared to this slick piece of German engineering. It was interesting to watch a European brand doing to the Japanese what they'd previously done to the likes of Garrard and BSR a decade earlier. Every hi-fi magazine scratched its head hard but just couldn't come up with a reason not to buy the CS505. The only obvious upgrade was the Rega Planar 2, which cost virtually twice as much when the price of a cartridge was factored in.

Not content to rest on its laurels, the CS505 was soon improved. The basic belt drive, independently sprung subchassis design was retained, but the fussy cartridge mounting system was improved - and a superior cartridge fitted - to make 1984's CS505/I. Then came a modified platter mat offering better support and another plinth change to give the CS505/I Improved. The 1986 CS5505/I had a better headshell and the option of a Deluxe model, offering the now defunct CS506's real wood plinth back again.

The 505 went from success to success, selling by the bucket load, but Dual sniffed a lost opportunity and decided they wanted more. The 1987 CS5000 was the result - essentially a 'high end' 505 with microprocessor controlled, quartz referenced motor complete with 78RPM speed facility, still driving the platter by a belt, and a better engineered arm with VTA adjustment and superior Ortofon OM20 fitted cartridge. A clear improvement over the CS5505 family, this £200 deck boasted a useful wow and flutter figure of 0.025% and a S/N ratio of 80dB - similar figures to seventies superdecks such as Technics' SP10.

Dual turntables have never sounded as good as Regas - bass is quite lightweight, and they're overly slick and airbrushed sounding. Although they make very nice noises, with a smooth and sweet tonality and no obvious vinyl nasties, they're a little unengaging. The CS5000 is like this but more so - plug it into a modern system and it sounds beautifully polished and refined, and makes a very pleasing job of anything you care to play. It doesn't, however, really get to the heart and soul of the music as a Rega Planar 3 would.

The good news is that all Duals - and the CS5000 in particular - are now pretty unfashionable, and as such superb value first turntables. If you've been born and raised with CD, you'll be amazed how sweet and beguiling vinyl can be for such a small outlay. For £50 you can pick up a reasonable CS505, whereas £125 will buy you a mint boxed CS5000. You can partner the former to an Audio Technica AT110E for £25, but if pressed the latter is up to tracking Goldring's superb £100 GI042. Don't, however, be tempted to use a moving coil in a Dual - the low mass tonearm is a poor mechanical match. Now as then, there's little better in turntable value than a Dual.
The new RCD 1070 is the latest product in the company’s move to the higher end of the market. Dominic Todd checks out this sleek but well built CD player.

Compact Disc is one area where Rotel have plenty of experience. They were one of the first companies to introduce both Bitstream and HDCD technologies at affordable prices. During the late eighties and early nineties they dominated the budget to mid-range market with their formidable 8 and 9-series players. In recent years, however, the competition has caught up, with Marantz, NAD and Arcam in particular giving Rotel some stiff opposition.

The new RCD-1070 reviewed here is part of Rotel’s armoury in a bid to move upmarket. At £525 it’s nearly £100 more expensive than the excellent Arcam CD72 and, perhaps surprisingly, doesn’t feature any new technologies such as SACD. Clearly, then the Rotel has its work cut out.

The 1070s spec sheet may not sound especially startling, but there can be no argument with the build quality and engineering. It’s good to see that at a time when many rivals appear to be skimping on build quality, this particular Rotel is just as solidly constructed as ever, even though the metal, faux rack mounts smack a little of overkill.

The good news continues on the inside, with Rotel having made much use of discrete components rather than cheaper and ‘dirty’ sounding ICs. There’s also a custom-built toroidal transformer and a decent quality 18-bit Burr Brown DAC. As a bonus, the Rotel will also decode HDCD discs. The only downsides I could find were the lack of an optical output for portable Minidisc users, and awkwardly spaced track and search controls; they should be next to each other, not at opposite ends of the player, please Rotel!

With an Arcam CD72 to hand for reference, I began by listening to Eminem’s ‘Drug Ballad’. The first aspect to strike me was the sheer expanse of the Rotel’s sound stage. Compared to the Arcam, and pretty much everything else at this price, the 1070 literally pushes the boundaries in that the staging is both deeper and wider than one would expect. This is helped to a great extent by its beautifully controlled bass response. There’s plenty of it, for sure, but also tightly controlled without boom or slop. Furthermore the vocals were produced with great articulation and projection, yet managed to sound natural and unforced. Smoothness is a Rotel tradition, and their latest model doesn’t disappoint here either. That trick of being able to pluck notes from an inky blackness is present too. Both of these are strong qualities of the Arcam but, amazingly, the Rotel beats it on both counts.

Claire Martin’s ‘Man In The Station’ gave the HDCD circuit a chance to shine, and shine it did. There was superb string resolution and a first class rendition of Martin’s vocals. Even more surprising was a fleshing out of background vibes that had hardly even registered with the Arcam. Furthermore the lead vocals had all the texture one could wish for which, when combined with decent imaging, gave the song real intimacy. So beguiling, in fact, was the rendition that one could have easily believed that here was a player costing at least 50 percent more.

The RCD 1070 wasn’t quite faultless. Given the superb vocal characteristics I was a little surprised to find that clarinet sounded just a little dull and lifeless. It was as though some of the notes had been rounded off in order to promote that silky smoothness. Yet this is a small price to pay for a machine that’s captivating to listen to for long periods of time.

Given the previous performances it was quite surprising to find just how
upfront Nelly Furtado's 'Turn Off The Light' sounded. Such was the presence given by the Rotel to her vocals that, at times they could sound just a little too forward. Yet, thanks again to that expansive sound stage, the vocals never managed to sound out of proportion. The deep chested bass response pushed the track along with plenty of gusto although, somewhat curiously, this didn't prevent the impression of slightly turgid timing. There didn't seem to be anything fundamentally wrong here. Just a slight lack of pizzazz compared with a few rivals.

There were no such problems with Vaughan Williams's Intermezzo (My Bonny Boy). The '1070 seemed made for just such mellifluous Classical music. Despite a slight gloss to the strings, the music ebbed and flowed from the Rotel in an effortless manner. It proved delicate and articulate when needed, yet with plenty in reserve for the more dynamic moments. Furthermore, there was a seamlessness throughout the frequency response that led greatly towards a sense of realism.

In conclusion, the Rotel is one of the finest CD players that I've heard for sometime. I would go so far to say that, at this price, it is the finest no question. When one considers the not unimpressive competition from Marantz, Arcam and others this is no mean achievement. Yet none of these rivals can quite match the Rotel's combination of knock out punch, control and sublime refinement. Best of all, it doesn't seem to matter what the music genre is, the Rotel will always give of its best, remaining captivating even after a prolonged listening session. My only real gripes concern an occasional lack of 'bounce' that can sometimes slow the timing down. Also, there was the odd occasion when the balance was perhaps just a little too smooth. Otherwise, though, this is a superb sounding machine that's solidly built and great value for money.

MEASURED PERFORMANCE

These days CD players don't vary much from the norm, but the RCD-1070 has quite a heavily tailored frequency response curve by current standards. Our analysis clearly shows a roll down in top-end energy of around -0.8dB at 20kHz, a trend that starts at 5kHz. This sort of characteristic softens the sound slightly, at least in comparison to flat-response players – which most are these days. So the RCD-1070 should have a different flavour to the norm, – an easier sound that may well be more amenable in the long term.

Distortion levels were low at higher signal levels, our analysis shows, but linearity deteriorated at ~60dB and was a little worse than usual below this level. The player resolved ~90dB all the same; it was not deficient in this respect, but the measured dynamic range was a few dB lower than usual.

Good channel separation and a normal output of 2.3V also put this player into conventional territory.

The RCD-1070 should sound a little less hard or bright than most. That is likely to be its most noticeable subjective feature, NK.

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<th>Distortion</th>
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<td>-6dB</td>
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<tr>
<td>1kHz</td>
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<th>Noise with emphasis</th>
<th>108dB</th>
<th>2.26V</th>
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| Distortion | 109dB | -99dB |

The new Rotel, with its build quality and superb all round performance is the pick of the strong bunch at its price. Excellent value.
People with open minds prefer the Gamut D200 amplifier to most high-profile super amps. Now it has some brothers, both bigger and smaller...

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The Gamut range has now widened to include a preamp optimised for CD players or DACs with their own volume control, a one-box CD player and a superb phono stage.

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Few hi-fi products have style - most just follow fashion. David Price looks back through audio's past for the worst offenders.

To style or not to style? That is the question that every hi-fi manufacturer has had to ponder since the day since DIY audio first graduated out of a home-made wooden box. You see, when you've come up with a hot (or not) new circuit topology, a brilliant solution to the problems of acoustic feedback, the best way to get round all those imponderables of speaker design, you then have to market and sell your creation. Much as we'd like to pretend otherwise, the look and feel of a product captures our imaginations and pulls us into showrooms to listen - and buy. That's why every manufacturer's marketing department needs to take a view over what's going to get the product into people's living rooms.

This is when it can all go horribly wrong. For every design classic where form follows function so effortlessly - Quad ESL57, Leak Stereo 20, Garrard 401 - there are a thousand that got away. In some cases, it's the designers trying to be clever, daring, bold - and failing disastrously - in others it's just plain old incompetence. Either way, what results is something that at best looks 'of its time' and at worst looks plain daft. What follows is a rogue's gallery of hi-fi's fashion past. To be fair, some of these were actually good to listen to - their crime being to have been conceived, designed or styled to satisfy the whims of fleeting fashion, which then upped and ran away. Marks are awarded for how fashionable they were at the time and how they actually sounded.

**SHARP OPTONICA RP7100**

*Type:* turntable  
*Date:* 1981

Ah, the early eighties - a time when everyone was obsessed by new technology. From the video recorder to the 'microcomputer', it seemed
like all the world's problems could be solved by something with an LED display and an 8-bit silicon chip inside. Sharp thought so too, and turned its digital dexterity to the problem of - yes, you've guessed it - LP track selection! Well, this was before CD, and the act of hearing track 4 on any given album by simply pressing a button was still an unknown pleasure to most folk.

To wit, Sharp equipped its top direct drive deck of the day with APSS (Auto Program Search System, natch!) by the simple expedient of using a 'twin tube tonearm' - one carried the cartridge as per usual, the other a clever optical sensor. Allied to a computer chip with the processing power of an ant, the result was that you could play Duran Duran's first album in completely reverse order! Rarely has technology been so nobly harnessed, this aside, the 'Buck Rogers in the 21st Century styling' was a fitting bonus, and being a Japanese top-of-the-range affair, the deck was beautifully built and finished. Much to most people's amazement, this thing actually sounded quite good!

**PHILIPS BLACK TULIP**

**Type:** hi-fi separates  
**Date:** 1979

Don't you just love Philips - virtually every time this Dutch consumer electronics giant goes anywhere near serious hi-fi, it all goes horribly wrong. Such was the 'Black Tulip' range - the company's range of avowedly high-end late seventies esoterica designed to take on the Brits and the Japs in one fell swoop. Unfortunately it made about as much impact on the audio market as a DAF Variomatic around Silverstone.

To the Dutch, black tulips are considered the rarest and most beautiful of flora - well, Philips was right about the 'rare' bit at least, as no one bought any. The main problem was that, as the name suggests, these separates were black when this was about as trendy as a Vanden Plas Allegro. Silver was sexy, and the Japanese mass market practice of producing god-awful audio and putting it into big brushed aluminium boxes festooned with massive chrome knobs worked a treat. Only Philips' conceit could have convinced the marketing men that it could change folks' tastes overnight.

The tragedy is that the preamps, power amps and tuners weren't half bad. As well made as anything the Japs were doing at the price, they actually sounded quite a bit sweeter. The black brushed aluminium fascias also looked quite neat - if only Philips had done them five years later, it could probably have cleaned up. It didn't, of course, and the 'Black Turnips' bombed.

**WHARFEDALE E50**

**Type:** loudspeakers  
**Date:** 1977

Look on the back and you'll see a massive sticker proudly proclaiming 'made by the Rank Organisation' - whoa there, they're not that bad! The Wharfedale E50s were to the 1970s what the Quad Electrostatics were to the 1950s - completely and totally of their time. Unfortunately however, the former era's highest aesthetic practice seems to have aged better.

What you see in the E50's case is a sturdy 50 litre (surely shome mishake!) enclosure, veneered in a tasteful shade of seventies teak, with the maddest front baffle imaginable, into which a vast 'fishnet' grilles slots. Looking like something from a space-age Ford Capri, awesome.

The E50s are actually damn fine loudspeakers - if you like that sort of thing. In a decade where there seemed to be some kind of competition to make the most...
Kenwood car DAT

inefficient, power-hungry loudspeakers imaginable (or was that the eighties?), these dared to be different. They went incredibly loud with next to no power - I W gave around 95dB! This was thanks to simple paper coned bass and midrange units, plus a horn loaded tweeter, and a bass port the size of the Channel Tunnel. Factor in the aforementioned large cabinet and crude crossover and you had a recipe for decibels!

Most important to the mix however was the E50’s aluminium trim rings, surrounding all three drivers and bass port. Through the fishnets they looked ‘futuristic’ enough to win a part in the next Gerry Anderson TV show. These speakers are so quintessentially seventies that a pair should be preserved in New York’s Museum of Modern Art - next to the Transcriptors turntable! Rarely are the sublime and the ridiculous seen in such close company.

AIWA AD1250

Japanese tape supremos Aiwa were obviously on the piste when they designed their ski-slope cassette deck back in the mid seventies. Inspired by the brilliant looking Yamaha TC-800GL, an ultra high end wedge shaped affair designed by Mario Bellini a few years earlier, they set out to get a piece of the action. It was simple really - take a bog standard (but characteristically well made) Aiwa cassette recorder, strip it of its conventional front loading chassis and stick it on a slope. Then wait for loads of people to buy this trendy vision of hi-fi’s future.

Additional space-age cred points include a swanky smoked grey Perspex dustcover and a variable bias pot and ‘memory counter’. Factor in a peak LED (then de rigueur) Mic/Line mixing and a swanky, additional smoked plastic cassette door and it’s a veritable riot of sumptuous style and clean functionality - not.

Unusually for ‘bonkers’ hi-fi, the Aiwa sounded pretty good and got fine reviews, presumably from the more visually impaired hi-fi hacks of the day. Cool, but faintly ridiculous.

KENWOOD CAR DAT

Type: in-car stereo
Date: 1989

DAT, lest we forget, was very much The Next Big Thing back in the late 1980s. To wit, the pressure was on to get the new format into practically every application. Sony came up with the first DATman portable (which was far from it, frankly) and even got its new format into a midi system. Kenwood meanwhile, as a serious purveyor of ‘ICE’ (as it was then) duly did the business in car; so to speak. The result probably seemed like a marvel of modern technology, pushing the envelope to the state of the digital art, etc., etc. Now though, it can only be viewed as yet another piece of crass eighties yuppie stupidity.

So achingly, painfully, cringeingly of its time, Kenwood’s car DAT is larger still than most late eighties cellphones, which is really saying something. The main unit itself, containing the DAT deck and front panel is standard DIN size - allegedly - but then there are about fifteen other extra boxes, including a power supply and separate tuner unit, that you’re somehow supposed to fit into your car. Unless you drive a Bentley Turbo R, you’ll need a new car to fit it in. The notion of a car DAT player (the home machines were fussy and fragile enough, anyway) was silly enough, but in this design the idea was all the more risible. Its tiny, square buttons and ‘technical’ fascia legends must have once looked so cool but now are just a pain. Still, at 48kHz oversampling it sounds superb - short of a Linn CD12 in your boot, you won’t get a better sounding bit of car kit.
Seventeen stock clearance is a chance to pick up a genuine bargain. Stocks are limited, so be quick! Everything is ex-display and sold with instructions, accessories, packaging and manufacturers warranty. Nothing is Second-Hand. Prices may vary between outlets - this is due to either finish or condition. Please call to confirm product availability before traveling.

A regularly updated list is available on our website.
At HFW we get a number of enquiries from readers who wish to upgrade their kit ready for high resolution audio formats such as DVD-A and SACD. The problem for them is that they want to get the best from both multi-channel and two-channel and wish to know if the latest bunch of the multi-channel amplifiers will fit the bill for audiophile quality stereo and surround sound. It’s a question that not only we, but also the manufacturers have to answer. Hopefully we can do it here.

Just a few years back, there was but a handful of DVD players and AV receivers to choose from, and prices were as high as the novelty of being able to watch movies without VHS’s many nasties. Now though, ‘home cinema’ has come of age and DVD players, AV amps, processors, receivers and surround sound ‘speaker systems are ten a penny. At the budget end prices have tumbled, and at the high end the quality has come on in leaps and bounds. Many British specialist hi-fi separates manufacturers are joining the fray - even ‘purists’ like Linn and Naim that once championed minimalist systems with ‘single speaker listening rooms’.

Buying a genuinely top notch AV separates system (complete with DVD player, preamp/processor and up to seven power amps and speakers) is still costs tens of thousands of pounds. However, there are now several ‘premium’ Japanese designs - such as Pioneer’s brand new £2,500 VSA-AX10 - which attempt to bridge the gap between real hi-fi and home cinema. By using traditional audiophile practices including massive power supplies and high quality passive componentry, they’re claimed to do ‘two-channel’ very well indeed. This then raises the question - why have a hi-fi anymore?

Right now, there’s a lot of this sort of thing going on. The classifieds are full of folk selling their expensive CD players - often bought around a decade ago - because they’ve replaced them with DVD machines. Presumably, Pioneer hopes to cash in when it’s time to ‘go surround-sound’ and the trusty hi-fi amplifier gets the boot. After all, why stay with stereo if you can go multi-channel and lose practically no quality? This is the proverbial sixty four thousand dollar question.

The allure of a home cinema system is obvious. DVD movies cost no more than music CDs did ten years ago - and from Spinal Tap to Steely Dan, there are some great music titles around, although sometimes the mixing leaves a lot to be desired. Even cheapo DVD players play movies quite well and it’s fantastic to watch your favourite flick in Dolby Surround with a glass of vino (or a bag of oven chips) in your hand. Then there’s the novelty factor - precisely what sparked CD player sales in the mid eighties - isn’t it cool to have ‘latest thing’? Finally, it’s even harder to resist if your other half shows a sudden interest in home cinema and sanctions ‘substantial expenditure’ forthwith!

So you want to spend some serious moolah on something that will give you the best of both worlds - all your favourite music at its best, and the full on AV experience to boot? Enter Pioneer’s VSA-AX10 high end AV amplifier. Suitably set up with a brace of decent loudspeakers - using Mission 782s as fronts - it’s fantastic in surround mode. You get an incredibly big, barrel-chested, feisty performance with any half decent movie soundtrack. Fed by Pioneer’s own DVD-747A DVD/SACD player, its National grid-sized power amp section goes extremely loud without any undue signs of stress. It goes down lower, tighter and harder than practically any other AV amp around, and runs all serious hi-fi designs, apart from the likes of Musical Fidelity’s XA-200 power amps, very close.

Again, in surround mode the midband is very clean and open, if rather brightly etched. Treble is
PIONEER VSA-AX10

Sold under the 'Elite' brand name in Japan, this is a truly massive 'statement' product, designed for use in high resolution systems where money is not the major constraint. As you'd expect, it gets a dizzying array of features, some of which are relevant to two channel and some aren't. Movie freaks will love its THX Ultra2 certification (it's the first amplifier in the world to be thus approved), Dobly Pro Logic II and DTS-ES Extended Surround formats, DTS 96/24 (another first), six 'Advanced Cinema' digital signal processing modes, and video transcoding which enables all video inputs to be output as component video. Make no mistake, it meets the video side of the equation brilliantly.

One 'AV feature' that's interesting to audiophiles is its Multi-Channel Acoustic Calibration System (MCACC), co-developed with AIR Studios. One of the most advanced auto set-up packages around, it uses a microphone (supplied) and a series of test tones to gauge your listening room's acoustic deficiencies, and then apply DSP (digital signal processing) to compensate for them. This is powerful and effective, and without it setting up all eight speakers (including centre channel and subwoofers) would be a task and a half.

If you've started thinking this is just another av amp packed full of gimmicks with no substance, then the Pioneer's built quality tends to suggest otherwise. Much of its 20.3kg weight seems to be down to its power supplies and power amplifiers. It follows the best audiophile practice in its use of a sturdy two-part, copper plated chassis into which the industrial strength power amplifier section, using high performance MOSFETs (giving 7x170W) is bolted. serious attention to detail has been paid to the power supplies, with a massive audio-quality 650VA frame transformer and vast electrolytic smoothing capacitors serving up the juice. Hand-select ed Burr-Brown PCM1704 DACs give 192kHz/24-bit conversion on all channels. Careful attention has been paid to shielding, even down to the use of copper screws on the outer casing. Chunky speaker binding posts and gold plated RCA phono socketry continue the quality theme round the back.

Using this amp is relatively straightforward, providing you take time to read the 103 page instruction book! You get access to all the major functions from under the flap set into the chunky brushed aluminium front panel. All setting up is handled by clear On Screen Displays and a large remote complete with a backlit LC touch sensitive display. The MCACC calibration process is easy enough - simply plug in the supplied microphone, dial up the OBD and wait for a few minutes while the amp's brain measures the room acoustics using special test tones. Compenses for your room's deficiencies, and configures your speakers.

Pioneer VSA-AX10 £2,499.95
Pioneer GB 01753 789789
www.pioneer.co.uk

BECOME ONE?

Cyrus nevertheless gets you closer together in a far more natural and musical fashion. Possibly less of the Cyrus 7 integrated amp lack its sonic frankness, but its solid-state amp yet devised by man, in toto, is statistically superior. As argued, the Cyrus comes close, its midband falls way, way behind. The "Sledgehammer" this amp is capable of on that vast input when you dial up the 'Stereo' mode, is the ' Party Fears Two' is an exceptionally tricky recording to reproduce accurately. The Cyrus comes close, its essence, essentially essential, soft demeanour and decent tonal colouring really helping things along. The VSA-AX10 doesn't - at heart it's a very old-style multi-channel will be trading in (Audiolab 8000s, Pioneer A400s NAD3020s) are far more musically satisfying. So don't kid yourself - home cinema is absolutely brilliant if you like movies, but hi-fi is still for the love of music. If you want both, then spend ten grand on top of the range British made AV separates system - or better still just buy separate hi-fi and AV systems!

Pioneer VSA-AX10

The rear of well-equipped VSA-AX10 is a veritable socket fest

SOUND AFFECTS

The latest tricks to tempt you from two channel, THX ULTRA 2, the first THX variant, was developed for digital home cinema. It has both cinema and music modes and gives full eight-channel playback of any multi-channel movie soundtrack or music, using seven channels of amplification to play through a single fixed seven-speaker/s one subwoofer layout. All program material with 5.1 channels or more is auto-detected and proprietary processing is applied that blends the directional and ambient surround information prior to replay through four surround speakers (two at the side and two at the back). Surround Boundary Clean Compensation (SBC) alleviates boith in and out of bounds issues.

Another benedit is that motion video for features, newsreels and trailers can be placed in the video sections of OVO-Audio discs. A word of caution: the optical data on OVO-Audio discs is not the same as on OVO-Audio players. The data on OVO-Audio discs can be placed in the video sections of DVD-Audio discs, so that people without DTS-Audio players can only watch things and not hear things. The optical data on DVD-Audio discs can be placed in the video sections of standard DVD discs, so that people with DTS-Audio players can only watch things and not hear things. This is an OVO-Audio disc

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NEW DEMONSTRATION ROOM NOW OPEN AT 12A SPRING GARDENS, NEWPORT PAGNELL

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 5v6ta 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 with dimensions 390mm(w) x 330mm(d) x 190mm(h).

K184 VALVE INTEGRATED AMPLIFIER KIT

This is our brand new, low cost, beginner level amplifier kit. It features a pair of EL84 valves per channel in push-pull configuration. They give 15 watts into an 8 ohm load - plenty for medium sensitivity loudspeakers. The output transformers are Ultra Linear, keeping distortion down to a minimum. Up front the ECP80 input/phase splitter valve has an extremely smooth sound.

The K184 has very low hum, to solid-state standards. For simplicity the kit is built on a printed circuit board. A strong steel chassis is fronted by a 3mm anodised front panel and attractive chromed custom made knobs. There are five line level inputs, plus one monitor input, with a tape output included, all controlled from the front panel. The phono input sockets and 4mm banana socket speaker terminals are gold plated.

At rear is a mains switch, an IEC power input and an earth post.

This kit is aimed at beginners. The instructions include pictures as well as diagrams, making them very easy to follow. At a UK price of £278.00 all inclusive you cannot ignore K184. Simon Pope says, "The quality that can be gleaned from this amp is a fine introduction to the joys of the valve sound. The K184 will highlight all the intricacies and depth of detail in your favourite recordings whilst retaining a warmth and fullness that is almost exclusive to pure valve amps and is rare at this price point."

K184 weighs 10kg. External dimensions with valves are 300mm(w) x 270mm(d) x 150mm(h).

KAT88 VALVE POWER AMPLIFIER KIT

Here is the amazing KAT88. The circuit is similar to that of our popular KEL34 with a few changes to incorporate the Tesla JJ branded KT88 power tetrode. This is a pure Class A push-pull design providing 36 watts into an 8ohm load. Andy Grove has come up with a gem of an output transformer (E/I). With the KT88 it offers a virtually unmatchable result for a valve amplifier. Frequency response measures 11Hz to 75kHz, separation 71dB, noise 98dB, sensitivity 400mV and distortion 0.03%. "As valve amplifiers go, the KAT88 is one of the best measured performances I have ever come across", said Noel Keywood. Jon Marks said, "The KAT88 pulled a series of surprisingly fast, meaty basslines out of its trickbag when dealing with Suzanne Vega’s Nine Objects Of Desire album. As if this wasn’t enough, the mid and treble were nice too - cymbals had a deliciously natural, golden shimmer without sounding soft, and vocals were extremely transparent and crisply defined. KAT88 didn’t hang around when it came to exploiting the virtues of its four output valves on numbers such as ‘Leaves’ and ‘Suspect Sustain’ from Cirrus’ Land’s End Jazz CD. Saxophone had a wonderfully smooth, realistic character, and acoustic guitar mixed speed with harmonic richness to very impressive effect. Asian Dub Foundation and Moloko showed no sign at all of the sluggish, woolly bottom-end and poorly-delined bass beats that most valve amps are to blame for. Which makes the KAT88 an all-round, high-end bargain."

Weight 16kg, external dimensions with valves are 330mm(w) x 300mm(d) x 190mm(h).

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BEST

KR T6550 VALVE INTEGRATED AMP URFER KIT & KAT6550 VALVE POWER AMPLIFIER KIT

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."
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.

Power Supply Unit (PSU-II)  £195.00
Pre-amplifier (PRE-II)  £195.00
Phono Stage (PHONO-II)  £110.00
Moving coil step-up transformer  £77.00
Passive pre-amplifier (PAS-II)  £215.00

NEW!

KAT34 VALVE POWER AMPLIFIER KIT & KIT34 VALVE INTEGRATED AMPLIFIER KIT

KAT34 is a 32 watt stereo valve integrated amplifier, featuring a pair of EL84s 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 1% 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.

300B PSE 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. Each monobloc weighs 23kgs., external dimensions with valves: 25cm(w) x 38cm(h) x 22cm(d) per monobloc.

KEL80 MONOBLOC AMPLIFIER KIT

Following the success of our budget KEL34 40watt kit amplifier, we have come up with a ‘big brother’ design. The output stage uses two pairs of TESLA EL34 pentodes in parallel-push-pull mode, allowing KEL80 to turn out 80 watts into an 8ohm load. Headlining up the input stage we have the wonderfully linear Russian 6AU6 working into an American 5687 phase-splitter. KEL80’s output transformers are 4ohm and 8ohm tapped. With an input sensitivity at around 380mV for full output, it will happily partner both passive and active pre-amplifiers. It is easy to assemble. Simon Pope says, “The proof of the pudding is in the eating and the KEL80 is a feast for the ears, with solid bass attack, lightning fast reactions, that emphasises musicality as well as power. At £649.00 a pair, a definite valve winner. Each monobloc weighs 12kgs., external dimensions with valves: 14cm(w) x 8cm(h) x 43.5cm(d).

HD83 VALVE HEADPHONE AMPLIFIER KIT

The HD83 headphone amplifier is a beautifully simple design using Mullard ECC83 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) x30cm(h) x 8cm (h) weight 4kgs.
KLS10 HIGH TECHNOLOGY COMPACT MONITOR

Our mini-marvel uses an Audax carbon fibre bass/midrange unit, married to the world’s most advanced tweeter, the piezo-electric gold dome HDP3 from Audax. KLS10 offers high performance from a small package. The main speakers are designed to work alone, or with a dedicated subwoofer to extend their bass.

Alone, they are suited to near-wall mounting and can be tuned by port adjustment to suit personal taste and location. They are easy to drive and need just 30-60 watts.

KLS10 GOLD SUBWOOFER

Designed to complement KLS10 Gold stand mounters by providing deep and open bass. The subwoofer is inexpensive, easy to build, comprising a simple crossover network with a high quality 8 inch Aerogel dual voice coil unit. A must for all KLS10 Gold customers. Sens. 89dB, volume 25 litres, external dimensions 28cm(w) x 34cm(h) x 23cm(d).

Drive Unit & Crossover kit £164.00
Drive Unit only £78.00

KLS3 GOLD MK II ADVANCED TECHNOLOGY 3 WAY LOUDSPEAKER

KLS3 Gold uses the latest version of Audax’s innovative oval gold dome piezo electric tweeter. Giving it the sweetest and most extended treble. Married to a 4.5 inch carbon fibre cone midrange driver for neutral and clear reproduction, and a powerful 8in. bass driver for superb depth, this is our top-of-the-line reference speaker. Sensitivity 89dB at 1W/1m, 25mm MDF, internal volume 60 litres, external dimensions 26cm(w) x 100cm(h) x 35cm(d).

Drive Unit & Crossover kit £633.00
Drive Unit Pack £495.00

Mains transformers & Chokes

KITY650/KAT650 mains transformers
2 inch stack. 120mm(h)x 115mm(w)x 205mm(d) drop through fitting w/zinc cap. Secondaries: 0V-120V, 150mA/150VA. 15V-5VA, 6A, 3.15%7.

KELB4 mains transformer
1.25 inch stack, 99.9mm(h)x 90mm(w)x 133mm(d) drop through fitting w/zinc cap. Suitable for 120/240vac operation.

KITY88/KAT88 mains toroidal transformer
130mm dia. x 60mm(h). Secondaries: 195Vx50VA/70Vx15VA/50Vx15VA. 15V-15VA. 4.5A/3.15%7. Suitable for 120/240V operation.

KITY4/KAT4 mains toroidal transformer
130mm dia. x 60mm(h). Secondaries: 15Vx25VA/12Vx15VA/5Vx15VA. 15V-15VA. 3A/3.15%7. Suitable for 120/240V operation.

KITY4/KAT4 E/I mains toroidal transformer
130mm dia. x 60mm(h). Secondaries: 15Vx25VA/12Vx15VA/5Vx15VA. 15V-15VA. 3A/3.15%7. Suitable for 120/240V operation.

KITY88/KAT88 E/I mains toroidal transformer
130mm dia. x 60mm(h). Secondaries: 195Vx50VA/70Vx15VA/50Vx15VA. 15V-15VA. 4.5A/3.15%7. Suitable for 120/240V operation.

KITY4/KAT4 E/I push-pull output transformer
1.25 inch stack, 99.9mm(h)x 90mm(w)x 133mm(d) drop through fitting w/zinc cap. Suitable for 120/240V operation.

KITY4/KAT4 E/I push-pull output transformer
1.25 inch stack, 99.9mm(h)x 90mm(w)x 133mm(d) drop through fitting w/zinc cap. Suitable for 120/240V operation.

KITY4/KAT4 E/I push-pull output transformer
1.25 inch stack, 99.9mm(h)x 90mm(w)x 133mm(d) drop through fitting w/zinc cap. Suitable for 120/240V operation.

Output transformers

KITY650/KAT650 E/I 165 TAPED UL push-pull output transformer
2 inch stack. 80cm(w) x 95cm(h) x 135cm(d) drop through fitting w/zinc cap. Primary-secondary 4.5K, 16 UL taped. Secondary 4 or 8 ohm, pls specify on order. Max output 45 watts, max current 180mA, valves KT66, 6550 etc.

KELB4 E/I Ultra Linear pushpull output transformer
1.25 inch stack, 99.9mm(h)x 90mm(w)x 133mm(d) drop through fitting with zinc cap. Primary-secondary 4.5K, 16 UL tapped. Secondary 4 or 8 ohm, max o/p-15 watts, max current 150mA valves EL34 EL84 etc.

KITY650/KAT650 E/I push-pull output transformer
2 inch stack. 80cm(w) x 95cm(h) x 135cm(d) drop through fitting with zinc cap. Primary-secondary 4.5K, 16 UL tapped. Secondary 4 or 8 ohm, max o/p-15 watts, max current 150mA valves EL34 EL84 etc.

Printed circuit boards

KITY84 Printed Circuit Board (a pair) 120mm(w) x 80mm(h) x 8mm(d) drop through fitting with zinc cap. Suitable for 120/240V operation.

KITY84 Printed Circuit Board (a pair) 120mm(w) x 80mm(h) x 8mm(d) drop through fitting with zinc cap. Suitable for 120/240V operation.

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It isn’t going to be easy to persuade people to change from CD to DVD-A or SACD. Ignoring the jump in disc cost, I’m not altogether certain that the average man on the street will be easily persuaded that replacing CD with CD — that is, something that looks identical but just costs more — is any form of bargain.

A senior Philips executive once admitted to me in Eindhoven that they rued the day they used the slogan “perfect sound, forever” to promote CD. Claiming something is perfect is a little dangerous commercially, since it doesn’t admit any need for replacement. Why ever replace your 1985 CD player if it is perfect? Most of us take such claims with a pinch of salt of course, but not everybody. There are still people out there, often ‘experts’ who believed these claims and continue to do so.

I was reminded of this the other day whilst talking to a couple of local sound engineers who still thought that because we can hear to 18kHz or so that’s all the bandwidth we need.

Experience shows otherwise. The new high bandwidth, high linearity coding formats of SACD and DVD-A do offer better sound quality. Real problems lie elsewhere, namely in finding recordings of appropriately high quality for them and replay equipment able to reveal the improvements. And then there is the small matter of cost. The waters are muddied slightly by the fact that both SACD and DVD-A also offer surround-sound which the engineers I spoke to felt was the real benefit of these new mediums.

When the world was given digital audio back in 1983 ‘experts’ by and large felt it was a great step forward. Here I’m talking about engineers in studios, the BBC and of course hi-fi companies. At that time, although the bandwidth of CD looked adequate the quoted distortion specification was clearly misleading. Always an impressively low figure of around 0.005% this was the best CD could do, not the worst. The worst case figure I have measured from CD is over 100%, which takes some thinking about! In this case a player’s convertor is actually producing as much distortion as music, a technically bizarre situation that never existed with analogue. With performances like this from budget 1980s and early 90s players it was hardly surprising that good analogue should sound a lot smoother and more natural than digital.

Both SACD and DVD-A offer a 24-bit (or equivalent) description of amplitude, which provides an enormous improvement in linearity. Whilst I never felt 16-bit was either technically or subjectively perfect, I would be surprised if 24-bit gave us inadequate performance, distortion wise. To me SACD and DVD-A both look perfectly adequate for music, unlike traditional CD, since they will produce almost no distortion over their usable dynamic range.

On this matter of dynamic range there’s a lot of huffing and puffing. Although it amounts to 144db we cannot use such range in practice, nor were we ever meant to. The point is simply that 24-bit will give us distortion free audio without argument, unlike 16-bit. In practice analogue stages that such converters must feed barely manage better than 90-100dB, so that’s going to be the true range of 24-bit products. It isn’t something to worry about, however, since noise will be inaudible and this is plenty good enough. We can all be thankful that grunche digital distortion should be a thing of the past.

The argument about bandwidth is more difficult to counter. Steady tone tests show the human ear cannot hear above 18kHz or so, so the 44.1kHz sampling rate of traditional CD should have been adequate. Yet CD has always sounded shut in and curtailed against a quality LP playing system, even though pickup cartridges reach up little higher than 20kHz themselves. It’s more difficult to argue here that the human ear can somehow perceive the limited audio bandwidth (21kHz) of CD that comes from using a 44.1kHz sampling rate. Perhaps it is down to changes in the envelope of the signal; perhaps we hear in-band phase shifts. Whatever, the fact that wider bandwidth systems do sound more open and less curtailed to all who hear them, except perhaps a few, is justification enough for moving to a wider bandwidth scheme. Both DVD-A and SACD reach up to 96kHz, so there’s plenty of reserve here, I would have thought, to accommodate the sensitivities of the human ear.

To capture audio from an analogue world without the taint of digital we need a very high performance digital system and this is what DVD-A and SACD offer. Whilst the music biz decides to re-release Deep Purple on DVD-A I’m not sure its full abilities are going to be appreciated. But as studios gear up to 24/192 recordings I hope we’ll at last be able to enjoy the better sound quality digital was always meant to provide.
INTEGRITY

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About five years ago, many manufacturers realised that something needed to be done to deflect a serious criticism of hi-fi separates, namely that they were a style-free zone. Audiophiles may be happy to have a collection of "black boxes", but there was increasing resistance from a world of co-ordinated and clutter-free living environments.

And not only style - or its absence was a problem, size often proved something of an issue. Hi-fi components are the size they are today largely because of the LP record. Around 43cm was about the width needed to physically accommodate a 12in turntable platter with a tonearm comfortably mounted alongside. The rest of the separates followed suit, even if their casing was largely full of air. As the vinyl market shrank during the 1990s, this became less of an issue. Then some marketing genius came up with the idea of "lifestyle" hi-fi components. Exactly who dreamt up this description is unclear, but it gave the industry a new angle with which to tackle a traditional stumbling block.

Several manufacturers developed a new approach to the styling of their hi-fi separates. Denon, Yamaha, Sony and Teac, amongst others, produced mini-separates systems that were both smaller and, well, less black than more conventional fare. Along with these reasonably conservative changes came a few more bizarre offerings such as Audio Innovations Alto "flying saucers" amps and CD players. Of course, there wasn't really anything new here. As far back as 1980, the Japanese were turning against the tide with examples such as the Aurex System 15 and Aiwa 22 system (see World Dec. 2001), proving that hi-fi could still sound good even when presented in small, shiny packages. Yet these were expensive for their time and deliberately marketed as a niche product. Furthermore, the term "lifestyle" had yet to be used, in relation to hi-fi at least, but this was to change.

In the mid-nineties there was a far more concerted push to improve styling and make hi-fi more visually attractive. I remember at the time writing about this new wave of products and, for the most part, wishing them every success. Who could possibly object to hi-fi that was a third of the usual size and sounded just as good? But would it sound as good, or was this style without substance?

At the time I remember thinking that for these new components to really succeed, several of them would have to be outstanding and be given top magazine plaudits for the industry to really move on. In the event, it never really happened. Granted the Teac and Denon ranges, in particular, have sold consistently well since then, but always as systems. It's interesting to note that Denon's and indeed, the country's best selling tuner is still the TU-260 - a tuner which is both full size and glossy black. It is not a mini-sized Denon, even though such tuners have been marketed individually. The point is that stylised hi-fi only really sell as a full system. Even Teac's excellent "Reference" system, which is available separately, only really sells as a whole.

Fast forward to the present day, and it's clear to see the term "lifestyle" is once again in vogue. This time, however, manufacturers appear to have cotonned on to the fact that this sort of hi-fi really does need to be sold as a package. Packages like this are a one-off that do not seek to change the way that all hi-fi separates will look from now on. So last year we were offered new systems from Linn, Marantz and even TAG McLaren that each provided an interesting divergence from the norm. They all sounded decent too, but rather like their distant 1980 brothers, are premium priced products that offer an alternative to the manufacturer's own separate range.

So where does this leave the status quo regarding mainstream hi-fi? Well, things are improving, but at a snail's pace in some respects and with influence from unlikely quarters in others. Hi-fi components are generally slicker in design these days and a little less brutal or even crude in appearance. Arcam's Diva range is an example of this. Yet it's only a refinement. Separates are still too big and chunky and there are very few signs that anything's going to change over the next decade or so at least.

We have escaped from black though. The silver movement has gathered real momentum in the past six months, led to a large degree by the number of DVD players that are exclusively available with this finish. Black hi-fi separates could soon be shunned as "dated" and old hat just as silver equipment was in the late eighties. It's all rather confusing, but be it black or silver, hi-fi aesthetics really don't look like progressing a great deal over the next few years, despite the best efforts of the lifestyle brigade. Yet, perhaps we shouldn't be too despondent. The new Range Rover, and its dashboard in particular, has just received critical acclaim. Where did the designer get his inspiration for the chunky control design from? Why from quality hi-fi equipment of course!
A selection of our ever changing offers for sale (all fully guaranteed)

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It's a well-worn cliche, I know, but to my ears at least, things ain't what they used to be. Simply put, is hi-fi really getting any better? Or conversely, can we be sure it isn't actually getting worse? As you'd imagine, I get to hear countless systems, but am rarely stirred by the experience these days. Aside from my own system (which is a proof of nothing other than my skills at getting a sound I like), I couldn't count on the fingers of two hands the ones that have really moved me. Paul Stephenson's Naim, Max Townsend's Townsend Quortrop's AudioNote systems are all memorably brilliant, plus those of a few close friends, but that's it!

What they all share is the ability to go very loud (to really get physical) and possess tremendous clarity, speed and dynamics. This magic formula is what got me into hi-fi in the first place. Picture the scene - Laskys, Oxford on the day of the FA Cup Final in 1978. As you'd expect, that august retail outlet was unusually empty, providing yours truly - a mere slip of a lad - with an ideal chance to 'earwig' on a demonstration.

I remember it well. Standing in front of a top-of-the-range Pioneer amplifier and a Denon DP2000 turntable was a man after a 'stereo'. The salesman, spotting his potential purchaser's desirable sartorial qualities (skinny fit tan leather jacket, beige shirt with vast collar, corduroy flares, cowboy boots, extensive jewellery), sensed he was onto an earner. The big guns where wheeled out, in the shape of the maddest speakers in the shop, a pair of Wharfedale E7Os. Displaying copious amounts of cunning, he steered away from the wide selection of Laskys 'hi-fi demonstration discs' (Herb Albert, James Galway and His Magic Flute, etc.) and went straight for his own shiny new vinyl purchase - the 'Original Soundtrack' to Saturday Night Fever. Cueing up no less than Walter Murphy's 'A Fifth of Beethoven' (a 'distinctive' disco reworking of the seminal original 'tune', natch), I was amazed by what sprung from the 'speakers - an incredibly loud, powerful and punchy noise (erm, sound).

Anyone familiar with Wharfedale's madcap E7Os will know that they're amazingly efficient (and as a result display brilliant transient attack). The combination of this, the boom-tizz of the big Japanese muscle amp and the firecracker dynamics of the Denon's Shure V15IV cartridge made for a stunningly engaging and feisty sound. This must have stuck in my psyche as a paradigm for how I expect hi-fi to sound, and the rest - as they say - is history.

Years of Linn Naim systems followed (complete with the original boogie boxes themselves, Linn Kans) and then it was a move to Yamaha NS1000Ms. These make the E7Os look like Kans - and sound like it too. Things haven't all been rosy in the garden though. While the Yams, partnered with my 'tweaked' World Audio K588I power amp, sound sublime, there's been a certain lack of the 'Laskys factor'. While the poor amp goes outrageously loud - amazing considering the neck-bending load the NS1000Ms exert - my need for speed has meant forsaking a modicum of plain old fashioned grunt. With their industrial strength twelve inch (hey, forget millimetres, this is the seventies!) woofers (likewise 'bass drivers') the Yams are easily 'man enough' to get next door's windows rattling if suitably aspirated - introducing a pair of Musical Fidelity XA-200s to the equation was proof of that. It's just that I rather loved the liquidity and transparency of the tubes - but if only they had more welly.

The answer has come in the shape of a Velodyne subwoofer. As the NS1000Ms are only -3dB down at 32Hz, you'd think there wouldn't be much call for it, but suitably fettled it adds just a dash of 'sound reinforcement'.

The whole bottom end of my system has gained tremendous solidity, thanks in no small part to the extra helping hand of the sub's beefy solid-state amp. Thinking about it now, it was such an obvious synergy - tubes for the sensitive bits and trannys for the insensitive where a bit of wallop is required. In this way you get the best of both worlds, and suddenly that formative Laskys moment is rekindled every time I cue up my turntable - it's disco without tears.

David Price
Editor Simon Pope reports from this year's Sound and Vision jamboree in the fair city of Bristol.

The Bristol Sound And Vision show has been growing rapidly since its inception and is now recognised as perhaps the premier show in the UK. Attendance of both exhibitors and public was up on last year, as were sales. This year's show was as exciting as we've now come to expect. Over 250 exhibitors were to be found on six floors of the Marriot Hotel in Castle Street as the Sound And Vision 2002 kicked off on Friday morning. We've seen the pendulum swing the way of AV over the last couple of years in the industry as a whole, so it was no surprise to find most exhibitors harbouring a plasma screen in their demonstration rooms. However, there was still plenty to entice the dedicated audiophile as well as the home cinema enthusiast.

Firstly it's important to point out that it is indeed possible to have an AV set up that is totally dedicated to the art of fine musical reproduction. No other manufacturer is so committed to this cause as Meridian Audio. And they literally produced miracles to get their system sounding top hole. On the morning before the show Des Ford, the company's technical sales engineer arrived bright and early to collect the van containing the show equipment only to find it absent from the factory compound - along with £180,000 worth of gear inside - thanks to a bunch of presumably very fussy thieves! The chaps at Meridian pulled off a miraculous feat, however, and with the spirit of the Blitz managed to manufacture - mainly from scratch - a complete package to take to the show in less than four hours. This consisted of no less than two 800 Series DVD-Audio players, an 8861 Surround Sound Controller, three DSP5500 loudspeakers and all the necessary ancillary electronics required! After all this Bob Stuart still managed to give the best demonstration of DVD-A surround sound encountered anywhere and in true Meridian style, with the best choice of music - a thoughtfully
Arcam's Steve Reichert keeps the troops entertained

The soon to be launched, new look budget CD player from Creek

selected set of mainly classical pieces.

Also displaying a fine DVD-A set up was Pioneer's John Bamford, who had a running demonstration of the breakthrough DVD-747A player which plays both DVD-A and SACD in surround-mode (as well as two channel). At £900, this product promises to be a major breakthrough in high resolution audio and truly amalgamates high-end audiophile delivery with home cinema.

SACD itself had a fairly low key appearance at the show, with Sony displaying their range of players in a 'static display' next to the bar (so at least they didn't go unnoticed!). Arcam, as per usual, had a fantastic display that ensured their room was full to bursting point throughout the show's entirety. Arcam stalwart and demonstrator par excellence, Steve Reichert was on hand giving his all in entertaining A/V demos that concentrated on music as well as movies.

On the purist audio front there was lots of new gear to tickle the audiophiles fancy. Highly impressive and very exciting was the new version of the Icon NXT loudspeaker from Cyrus. This now utilises four NXT transducers on the panel and the crossover has been changed to allow for a tighter bass response. Being driven by the company's top amplification, the new Icons gave a smooth and refreshingly different sound to that usually expected at such events, ie. enjoyable.

Another oasis of musical calm was the Sugden room, shared with ART loudspeakers (owned by Derek & Ramsay Dunlop of Systemdek fame). Here Sugden were demonstrating their Masterclass range with the new stunning looking integrated amplifier being the centre of attention. The Masterclass Integrated will deliver 34W of typical Sugden pure Class A power for around £3000 and looks the business to boot. More two-channel delights were to be found in the Creek Audio room, where Mike Creek was demonstrating his new line up including working prototypes of the new 53 series pre and power amps and the new entry level range CD player which will replace the current 43 series. It looked resplendent with its brushed aluminium fascia. All of these products also include extensive
One of the Eclipse team with some unique headgear!

Quad's latest baby, the midprice III 'speaker in three finishes - the new 99 series CD player sits in the stack to the right.

And finally ... that World Audio Design bunch!

internal upgrading and the use of new technology devised by Creek.

Elsewhere, the crowds could seek out Quad's new loudspeaker, the I I L. Not this time a high end electrostatic but a midpriced two way bookshelf available in three smart looking finishes. Also on show was the company's long awaited new CD player expected to retail around the £1000 mark and featuring 24-bit/96kHz upsampling.

For something decidedly different one could pop into the Eclipse TD room where the company's bizarre yet highly impressive egg shaped monitor was on demonstration. But you had to queue - due to the directional nature of these beauties there was only one seat available to appreciate them at their best!

Sugden had their smart new Masterclass integrated to hand.

Last but not least was a company known as World Audio Design who went down a storm with their wide range of valve amplifier kits. Indeed many commented on the fact that this very room produced the best sound of the show when it came to good old fashioned music making. Sounds just up Hi-Fi World's street. If any readers out there know anything of this company, let us know!
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GOING FOR THE ONE

At last - a 24/96 soundcard we can all afford! David Price checks out TerraTec's AudioSystem EWX 24/96, and the partnering Phono PreAmp Studio.

High spec soundcards aren't a new thing - they've been around for years. The trouble is that if you wanted anything truly 'better' than ye olde 16/44 PCM until now, you'd have to dip into expensive semi-pro waters. To wit, TerraTec's new 24/96 card should be greeted with open arms - if it's any good - because it's from an established German manufacturer and better still, costs a mere £149!

The AudioSystem EWX 24/96 is based on the EWS88 audiocard, featured in CAW back in Summer 1999, but boasts the latest 24bit, 96kHz oversampling chipset for which a signal-to-noise ratio of over 100dB (A-D) and 110dB (D-A) is quoted. Importantly, it doesn't use any unnecessary sample rate conversion. Many soundcards either work at a nominal 48kHz sampling rate (being the traditional 'pro audio' frequency, thanks to DAT!), or route all digital signals via their built in sample rate converter whether or not it's required. For example, if you're inputting 44.1kHz CD audio, and then outputting it, the audiostream still gets converted to 48kHz and back first. Frankly, this isn't good news for sound quality - first because the conversion is unnecessary, and second because the sample rate conversion algorithms...
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are often less than perfect. This is typical of the design philosophy of the EWX 24/96 - it's not about gaming, surround sound, millions of Euros' worth of bundled software, etc. Rather, it's a focused product designed to get in, and feed out, two channel audio with the best possible quality at the price. To wit, you don't exactly get the full-on Creative Labs 'LiveDrive' experience - there are analogue stereo ins and outs (the former switchable between +4dBu and -10dBV), plus an optical digital in and out working at up to 24bit and 96kHz resolution, and that's yer lot. Simultaneous recording and playback of all channels with up to 24/96 resolution is possible. The hardware mixer has 36 bit internal resolution, and offers a handy VU meter (complete with peak 'LED') in the control panel for every channel.

Drivers for Windows 95/98/NT4/2000 and Windows Millennium are included. This relatively modest set of connections to the outside world still makes the card a powerful audio processing tool. You can, for example, direct-digital record from the audio output of your Pioneer DVD player and get it straight onto your hard drive without sample rate conversion, or feed out 24/96 audio from your DVD-rom drive. DTS and AC3 streams can also be fed out through the digital-out from a software DVD player to an external Dolby-Digital-receiver. The card will even perform more mundane tasks, such as outputting 16/44 audio from a computer CD-ROM drive!

To TerraTec's credit, the package includes a handy 2m optical cable to connect it to your CD, DAT, DVD or MD player. The card also has an optional MIDI adapter kit, plus an interface for TerraTec's optional phono PreAmp. Usefully, TerraTec has avoided all the froth and bundled a proper piece of audio recording and editing software, Steinberg's WaveLab Lite. There's also Musicmatch Jukebox, which rips top quality MP3s using the excellent Fraunhofer codec.

Installation holds no surprises - it's a standard PCI card which goes in a slot in the back of your PC. The CD-ROM contains all you'll need to get going, including the TerraTec Control Panel Software and WaveLab Lite. The control panel is brilliant because it packages the card's various inputs and outputs in one, user-friendly box (it should be noted, however, that it disables Windows' Volume Control, making it inaccessible from the Start bar).

You can switch between analogue and digital ins and outs, specify the use of the card's own master clock or sync it to an external one, and choose the sampling frequency. I didn't use WaveLab Lite for the review, choosing instead to stick with my usual Cool Edit Pro - this detected the TerraTec card and worked faultlessly with it.

The drivers included analogue and digital recording and playback, all of which appeared in CEP's SETTINGS/DEVICES menu.

First, the digital ins and outs. I compared the TerraTec's prowess at shuffling the digits against my reference Zefiro ZA2 digital interface card, which gives extremely stable, low jitter direct digital ins and outs. Feeding a Cambridge Audio DACMagic 3, there was no detectable difference in sound between WAV files playing through CEP via the TerraTec or Zefiro. I then fed a low jitter signal from a Trichord Clock 3 modded Sony CDP-X303ES CD player into both the ZA2 and EWX 24/96 - and again there was no discernible difference in sound. This alone is a great result - because the Zefiro is a serious bit of digital kit.

Next I compared the A-D and D-A converters of the TerraTec with my reference Cambridge Audio DACMagic. In fact, the 16/44 CD replay performance (using my Pioneer DVD-ROM drive as the source) was - if anything - better than the DACMagic, so I ended up A-B'ing it with the still better sounding Sony ES CD player. I was struck by the TerraTec's extremely strong and full sound - with a very powerful and bouncy bass, clean midband and smooth treble. Soundstaging, dynamics and musicality were all close to the high standards set by this CD player, with just a touch of flattening to the depth perspective and a very slight softening/smearing of treble. Overall though, it came usefully close - no mean achievement. The quality of the A-D converters was equally fine - running at 16/44 they came very close to those in my reference Sony TCD-3 DAT portable. Tight, open, detailed and smooth - they were probably the best I've heard in any realistically priced soundcard.

Of course, the best bit was 24bit, 96kHz recording through the card's analogue ins. I hooked it up to my turntable and was delighted to hear a vast, wide, expansive soundstage with precious little 'digititis'. Gone was the precious little 'digititis'. Gone was the flattened stereo perspective, upper midband emphasis, upper treble tizz of 16/44, and in its place a smooth natural soundstage that came very close to the sound of the source. It sounded dramatically less hi-fi than any of my digital hi-fi equipment.
which is kind of strange coming from your PC hard drive!

Thumbs firmly aloft then for this product. Not only does it offer fine 'real hi-fi' sound quality at bog standard 16/44 resolution, but it goes all the way to 24/96, where it sounds superb through its built in analogue-to-digital, and digital-to-analogue converters. The bundled software isn't prodigious, but does its job brilliantly. The card is totally stable, and suffered not one glitch over the review period. If you want a real high resolution soundcard, right now I can't think of anything better.

PHONO PREAMP STUDIO

The phono PreAmp Studio option is for users of what TerraTec charmingly (and mistakenly) calls 'good old shellac' (shouldn't that be vinyl?). You simply connect your turntable via the two high quality RCA phono sockets to the preamp, connect the preamp to any soundcard's gameport, and plug in the captive 3.5mm minijack plug to its 3.5mm line level input jack. No need to plug in a power supply - the preamp is phantom-powered from the host computer.

It offers a variety of different input capacitances (100pF, 250pF, 425pF), with a fixed 6mV input sensitivity. While this isn't the most sensitive around, it should be just about right for most modern moving magnet cartridges, such as Goldring's G1042. TerraTec says the preamp uses a shielded housing, with high quality components giving precise RIAA equalisation and a quoted signal-to-noise ratio of better than 86dB.

The package includes Algorithmix's (curiously named) Sound Laundry, which works in a similar way to Steinberg's Clean, offering powerful DSP routines for declicking, descratching and denoising. It's claimed to have the world's fastest off-line processing, with real-time previewing while fine-tuning the parameters, and a unique difference function for monitoring the noise being removed.

The curious thing about this preamp is the fact that it outputs its signal via a captive lead terminated in a 3.5mm plug - whereas its partnering EWX 24/96 soundcard has no 3.5mm line input; two RCA phono sockets are used instead. The point is that you can't easily connect one to another - you need an adapter, which is not supplied!

Once these connection problems had been surmounted, the preamp worked fine. Sound isn't the best in the world, but neither was it bad. Not a million miles from a QED Discsaver running off its own PP9 DC battery, you get a relatively lightweight but very musical performance with bags of life and bounce. The frequency extremes are a little curtailed, and depth perspective a little flat, but it's still well worthy of the label 'hi-fi'.

It's an interesting little product then, but my thoughts were, 'why not just buy a Discsaver and spend the extra on some vinyl?'. Still, the TerraTec is certainly easier to use (thanks to its phantom power via the gameport), and would be an ideal companion to any notebook PC - just imagine, you could record your friends' LPs next time you call round!  •

Terratec EWX 24/96 £149
Terratec Phono Pre-amp Studio £69
www.terratec.net/uk/default.htm
The arrival of affordable broadband will finally take Britain into the fast lane of the information super-highway. David Price looks at how this could transform computer audio.

Right now, people use computers for a variety of audio tasks. The most common is probably CD copying, with MP3 downloads a close second and audio recording and restoration a fast growing third. Amazingly though, thanks to the arcane politics of Britain's telecommunications industry, one of the most impressive aspects has been sadly overlooked - in this country, at least. Streamed media - the fancy name for getting audio and video down your phone line direct into your PC or Mac - is the future of home entertainment. So big in fact, that it should transform the way we consume music (and video) in future. Instead of having to build up your own music collection by slavishly going into a CD shop and buying albums, imagine being able to simply click a button on your PC and hear it - anytime, anywhere, anywhere!

Right now, this is a mere pipe dream for us Brits, because of our risible telecommunications infrastructure. The problem is the data delivery system we use to access the internet - what's called 'dial-up networking'. The ritual clicking, buzzing and bleeping of a 56kbps 'dial-up' modem - as it slavishly finds a phone line, calls up the ISP and negociates for half an hour about faintest the possibility of making the connection to cyberspace - is everyday proof that Britain is hopelessly behind the times. You see, 'dial up' modems are the last surviving relic from the computing equivalent of the Stone Age.

Think on this - ten years ago, when there were only three long-haired computer geeks and someone
MI6 actually on the internet, folk were using exactly the same type of modems, only fractionally slower. Back then, the web had no text or graphics - or even traffic for that matter. The result was that - shock, horror - it was faster. Like the denizens of London travelling from west to east at the time of Queen Victoria, going places was far quicker then than now. So much for progress?

Well, that's not strictly fair - because it is possible to press a button on your computer and go online in an instant. For several years now, 'broadband' connections (so called because you can 'gulp' large amounts of information down your phone line in one go) have been available to those willing to pay for them. The problem has been the thorny issue of cost. BT controls much of Britain's telephone infrastructure, and in particular the bits between your house and your exchange, called 'the local loop'. Until recently however, the government and OFTEL (our telecommunications regulator) hasn't been able to convince it of the need to offer easy-to-use, affordable broadband to domestic punters like you and I.

The sad fact is that only 1 in 32 British households (that's a paltry 3.1 percent) have high speed web access. Contrast that to countries in the Far East and it's all the more visible. No less than half of all Korean online families are spared the ignominy of 'dial-up' (according to NetValue). Even France, our nearest neighbour, has twice our level of broadband access. How so? Well, the £150 financial contribution, it could be 2022 before some parts of the UK get the chance to sign up for ADSL. BT's chairman Sir Christopher Bland has told the parliamentary select committee for Culture, Media and Sport that rural areas could be forced to wait between ten and twenty years before they are offered high-speed Internet services. He says it simply is not economically viable for BT to roll out ADSL to parts of Britain that are sparsely populated, blaming the fact that relatively few people are signing up for broadband in areas where it is available. For example, in Birmingham's Bromsgrove area, only one out of the six local exchanges are broadband-enabled. This means that around 18,000 people could sign up for ADSL but only 160 or thereabouts have done so. This low take-up means that BT isn't prepared to install ADSL eventually.

BT reckons this will be a major boost to Britain's broadband market, and hopes it can attract one million new customers by 2003. BT's new chief executive Ben Verwaayen promised radical changes in the company's approach. "Broadband is the future for Britain and we're putting it at the heart of BT's plans for growth in the UK mass market. This will drive the whole market forward by making broadband affordable, attractive and accessible".

With speeds of 576kbps, approximately ten times that of dial-up, this is great news to anyone who uses their computer to listen to internet radio, watch online TV or download MP3s, but unfortunately it's not unqualified. The problem is that the infrastructure used to squirt data into your computer at high speeds simply isn't available in many parts of the country.

There are several ways you can get high speed internet access. A few companies like NTL and Telewest offer cable access in certain parts of the country while Tele2 provides wireless broadband in some areas. More universally applicable is ADSL (Asynchronous Digital Subscriber Line), which turns standard phone lines into high-speed digital connections. Unfortunately though, this is still only supported by 1,010 local telephone exchanges, mostly in urban areas. The result is that a great many people, some forty percent of the population, can't get ADSL.

Worryingly, BT says that unless the government makes a significant
Previously, if you wanted fast internet access you’d have to pay for a costly engineer’s visit, but this ‘DIY kit’ obviates the need. Instead, it’s a case of either registering online (at www.freeserve.com/plus), or dialing 0870 0102462 and speaking to an operator. When you get through, you have to give your name, address and phone number, along with your Freeserve user name, password and e-mail address (if you don’t already have these, you’ll have to go online and register with Freeserve’s internet service first). Your line is then checked for its suitability for broadband, which involves ensuring that the distance between your house and the local exchange is less than 5.5km, that your line can handle ADSL (broadband) data, and that it doesn’t have any undue electrical noise.

Assuming it passes the test, you’re in business - kind of. It’s now a case of sorting out the billing details, and waiting up to ten working days for Parcelforce to deliver your ‘manta ray’ - what Freeserve folk affectionately term the bizarre looking green modem that you get with the package. Along with this, you get two ‘filters’ which must be plugged into all the phone sockets in your house (it’s assumed you won’t need more than two, but if you do, you’ll have to buy them). These split the signal between the phone line and your computer, making the whole thing possible.

Also included in the package is a CD-ROM which comes with the drivers for the modem and the latest Microsoft Internet Explorer 6 software. Installation is a breeze - the drivers install by themselves and your old ‘dial up’ modem settings won’t be lost, should you wish to ever go back. An icon for ‘Alcatel Speed Touch Connection’ duly appears on your desktop, which you click on to get online, and enter your username and password. You’re suddenly transported to a better place, where you can move around the net like you’re channel-hopping on TV thanks to your blistering new connection speed.

**SPEED THRILLS**

For anyone who’s only ever used dial-up before, broadband is a revelation. The first thing you notice is how effortlessly websites load up. Previously impenetrable pages, bristling with banners, buttons and boxes, become living, breathing works of cyber art. Flash sites appear as quickly as their name suggests.
Everything becomes so much easier to navigate. Click the wrong bit and no longer do you have to wait ten seconds to hit the back button on your browser.

More impressive still is streamed media. Internet radio moves from gimmick to reality - trying to catch jazz music from Japan’s J-Wave (http://www.j-wave.co.jp/), from the other side of the world via dial-up is a virtual impossibility, as RealPlayer keeps freezing as it rebuffers the audiostream. Not so with broadband - it almost sounds smoother than FM radio.

Video clips from CNN (www.cnn.com) suddenly become amazingly glitch-free, as the latest US news appears to beam down to my PC direct from the very satellite itself. MP3.com (www.mp3.com) has become the largest CD collection in the world, offering a vast wealth of tunes to stream down to the world, offering a vast wealth of amazingy glitch-free, as the latest US news appears to beam down to my PC direct from the very satellite itself. MP3.com (www.mp3.com) has become the largest CD collection in the world, offering a vast wealth of tunes to stream down to the computer or buy at leisure.

Then there’s file downloading. Tragically Napster isn’t free anymore, but there are still vast numbers of legal - and not so legal - sites to try.

Vitaminic (www.vitaminic.co.uk) is one of the best, offering fuss-free downloads at no cost from a variety of top artists. Via broadband, music files positively sprint down the phone line onto the hard drive. For example, a free 128kbpas copy of The Stereophonics’ ‘Have a Nice Day’ took just over a minute to download - normally this 4.41MB file would take nearly fifteen. And there’s more - thanks to those sizzling speeds you can download serious bits of free software, such as the latest Windows Media Player 7.1. Its 9.94MB size would make it a lengthy chore via dial-up, but it’s a couple of minutes via broadband.

Better still, thanks to its permanent, twenty four hour, seven-days-a-week nature, you can stay online all the time, downloading media content and free programs to your heart’s delight. Whenever you come across sites that require extra plug-ins to use, no longer do you have to sit patiently as they trickle into your computer - click on the ‘Download Now’ and you’re up and running in an instant.

Of course, it’s not all life in the fast lane. Just as buying a sports car doesn’t guarantee high speeds along the M6 at rush hour. broadband users can only go as fast as the slowest link in the chain. If the site that you’re accessing doesn’t have speedy servers, then you find things slowing down to a pace depressingly close to ‘dial up’. Another catch is that you have to remember that most other users don’t have it. It’s a breeze to email friends your favourite MP3s, but they won’t thank you for the time their ‘dial up’ modems take to receive them.

If, like me, you seem to live half your life online, then you’ll adore broadband and find it very hard to go back - you really get a sense of what the internet is capable of as a broadcast medium like radio or TV. Kit yourself out with a high speed connection and you’ll be amazed at how your computer suddenly becomes an incredible source of new ‘content’. Broadband is brilliant, but if only we hadn’t had to wait this long to get into the information superhighway’s fast lane.
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.

**COMPACT DISC**

**ARCAM FMJ CD23** £1100
This British-built player is extremely versatile. Controlled and detailed with a musical insight that few match. (Jul 2000)

**CAMBRIDGE CD45SE*** £200
A touch soft in the treble but outstanding in every other respect. (Feb 98)

**KENWOOD DP-3080Hi** £180
Has great clarity and presence for the price. Not as naturally expressive as the CD45SE though. (Feb 98)

**LINN KARIK III*** £1775
Under rated and overlooked, the final KariK was a gem. Superb transport; gives a brilliantly tight, grippy dynamic sound, albeit tonally rather dry. (Feb 98)

**MARANTZ CD-17 KI-S** £1100
The Marantz excels in all areas. Without doubt this is one of the most involving CD players on the planet. Build quality is also exemplary (Sep 97)

**MARANTZ CD-63**

**MKII KI-S*** £400
Similar to the CD-63SE but more powerful bass and an all-round smoother sound. The famous KI tweak pays off again. Whether or not it is still pre-eminent against the vastly improved competition is a matter of opinion. (May 95)

**MERIDIAN S50 20-BIT*** £1100
Very detailed and revealing player. More cerebral than visceral sounding, however. (May 95)

**MUSICAL FIDELITY X-RAY** £800
Commeonsenscously stylish CD player of exceptional ability. Clear and detailed with high quality internal processing system. The X-Ray is inclined to show up poor recordings, but it's only doing its job! (Feb 99)

**NAD S500** £1000
This dynamic top of the range Silverline spinner delights with any type of music. Exciting, sophisticated sounding and highly recommended (Jun 2000)

**ROKSAN CASPIAN** £895
The Caspian has a smooth, slightly bright sound with some of the cleanest treble in the business. Very engaging, dynamic character. (Aug 97)

**ROTEL RCD 951** £300
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)

**SONIC FRONTIERS TRANSPORT** £6999
Cutting-edge design and technology combine to make this one very desirable product. The only problem is the fantasy hi-fi price. (Sep 98)

**TEAC P-30** £2500
Cheap it isn't, but then it sounds like a million digital dollars. Nothing short of superb. (Jun 97)

**TEAC VRDS-T1** £600
Excellent mid-price silver disc spinner with a powerful, expansive and warm sound. Easily beats most sub-£1000 designs. A good choice for the budget conscious who want the best (Feb 99)

**DACs**

**CAMBRIDGE AUDIO DACMAGIC 3** £99
Superb value for money with extensive facilities and solid, detailed sound. Priced too high for a £300 player. (May 97)

**DCS ELGAR** £8500
Future-proof converter which will handle 24/96 and 24/192. Extremely open and natural performer. (Nov 97)

**DPA LITTLE BIT 3P** £299
A taste of the high end on a budget. Rich, clean, punchy sound transforms budget CD players.

**MIDIMAN FLYING COW** £299
A stylish looking deck with infinitely variable speed 16-90 rpm, DC belt drive and built-in MM phono stage. Good value, with plenty of chassis room for alternative arms, if required. (Sep 99)

**MICHELL GYRODEC SE** £775
Exquisitely built, infinitely upgradeable deck that gives true high end sound at mid-fi prices.

**MICHELL ORBE** £2000
Fantastically capable all rounder with commanding, powerful, detailed sound that gets the best from almost any arm and cartridge. Supreme build, brilliant value. (Apr 95)

**ORIGIN LIVE STANDARD (KIT)** £145
Good in standard form with AC motor; frighteningly good with a DC motor and battery PSU.

**PINK TRIANGLE TARANTELLA £800**
Not only does the Tarantella have more style than a catwalk full of models, it also combines PT's usual clarity with real authority. (Dec 97)

**REGEN PLANAR 2** £214
Brilliant starter deck with extremely polished manner. Better built £274 Planar 3 is a great all-in-one package that eats mid-price CD players for breakfast.

**ROKSAN XERXES X** £1295
DSU or XPS 3.5 power supply £150/170 extra. Excellent pitch stability from a new Swiss motor and onboard power supply. Very tight bass, fine dynamics and revealing clarity. (Jan 97)

**SYSTEMDEK IIX900/RB350** £330
A fine all-rounder and easy to upgrade too. More depth and breadth than Rega Planar 2. (Sep 94)

**VESTAX BD52000** £225
A stylish looking deck with infinitely variable speed 16-90 rpm, DC belt drive and built-in MM phono stage. Good value, with plenty of chassis room for alternative arms, if required. (Sep 99)

**TONEARMS**

**HADCOCK 242 SE** £649
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 2000)

**NAIM AROO*** £975
Truly endearing and charismatic performer - wonderfully engaging mid-band makes up for softened frequency extremes

**REGA RB300** £180
Some may prefer the simpler RB250 as £130. Detailed, tight, rhythmic sound but tonally rather grey and cold-sounding. Still excellent value, though.

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### AERIAL ACOUSTICS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Description</th>
<th>Pre-owned</th>
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<td>Loudspeakers in Santos Rosewood incl. Special plinths</td>
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<td>£5750</td>
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<td>7B</td>
<td>Loudspeakers in Natural Cherry incl. Special plinths - 5 Star Best Buy - Home Cinema Choice</td>
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<td>£3150</td>
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<td>Loudspeakers in Natural Maple incl. Special plinths</td>
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<td>CC3B</td>
<td>Centre Speaker in Natural Cherry with special adj. Floor stand - 5 Star Best Buy - Home Cinema Choice</td>
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<tr>
<td>SW12</td>
<td>400W Active Remote Control Subwoofer with Parametric Equalizer finished in Rose Walnut - 5 Star Best Buy - Home Cinema Choice</td>
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<td>£3025</td>
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<tr>
<td>ACURUS RL II</td>
<td>Remote Control Preamplifier (Black)</td>
<td>£800</td>
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<td>CLASSE CAV-I50</td>
<td>Multi-Channel Switchable Power Amplifier 3, 4, 5, or 6 Channels (6 x 150w to 3 x 300w) SE Inputs</td>
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<td>Aria Integrated Amplifier with 2 x 40w and Preamplifier Output with Remote (Silver)</td>
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<td>4808</td>
<td>Face Nord: 2 x 100w Integrated Amplifiers with Gold Plated Circuit Balanced Inputs and Remote Control (Silver)</td>
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<td>Face Nord: Preamplifier with 2 Analog Channels, Dual Mono, 3 Transformers, Balanced Inputs and Outputs</td>
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<td>K5.5</td>
<td>Multi-Channel Power Amplifier (Silver) 6 Transformers - 5 Star Best Buy - Home Entertainment</td>
<td>£1500</td>
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</table>

### MIRAGE

- **BPSS-210**: 250W Active Bipolar Subwoofer (Piano Black) with LFE 3 - 3 Channel Active Fully Adjustable Crossover (Limited Edition) - 5 Star Best Buy - Home Cinema Choice £995
- **OM-7**: Omnipolar Radiators (Piano Black Gloss) £2000

---

**BUY WITH CONFIDENCE WITH A FULLY INVAILED WARRANTY!!!**

---

**ALL MAJOR CREDIT CARDS ACCEPTED!!!**
**CARTRIDGES**

**MUSIC MAKER** £575

When mated with a good quality arm, this hand finished high-output pick-up gives an ear-boggling account of itself. Very high compliance makes for maximum information retrieval. An absolute (grip on and go!) gem. (Feb '99)

**ORTOFON MC 7500** £2000

Conclusive proof that there's hope for the world. It's a long time ago now but this high-priced favourite still earns its niche. CD lovers would die if they heard it. (May '94)

**ORTOFON MC 15**

SUPER II £140

Not quite as good as the dearer Supremes but the Super II is a splendid introduction to the joys of moving-coil cartridges.

**GOLDRING 1042** £130

One of the best Moving Magnet cartridges going, with beautiful treble and muscular bass. New low price makes it a bargain.

**ORTOFON ROHMANN** £1000

In a way it's MC 2000 meets MC 7500 with great tonal strengths and a dynamo sound. (Apr '96)

**INTEGRATED AMPLIFIERS**

**AUDIO ANALOGUE**

**PUCCINI SE** £595

This superbly-built Italian integrated has a lucidity and control which leaves others nowhere. Sound stage a wow. (Dec '97)

**AUDIOLAB 8000a** £495

Well rounded integrated with smooth and detailed sound plus a huge feature count. Great build makes later versions a top used buy.

**DENON PMA-250SE** £160

It might not have bags of grunt but the Denon can sound exceedingly musical and detail makes this a great budget audiophile product.

**MICHELL DELPHINI**

**MONOBLOCS** £1995

Analogue tour-de-force gives supremely clean, detailed and finely resolved sound with breathtaking dynamics. Great value, even at this price.

**MUSICAL FIDELITY X-LP** £135

One of the best amplifiers to introduce to all that vinyl has to offer. MM & MC provision plus choice of two impedances.

**ROKSAN ARTAXERXES X** £950

Builds on the strengths of the Campion with ample control, colour and drive. (Oct '97)

**PROJECT PHONO BOX** £39

Not the last word in many respects but a thoroughly honest piece of work. An introduction to all that vinyl has to offer. MM & MC provision plus choice of two impedances.

**ROKSAN ARTAXERXES X** £950

With the Atessa PSU the Artaxerxes X MM/MC stage still shines. Great stage depth, neutrality and tonal cologne. (Oct '97)

**MUSICAL FIDELITY**

**X-CANS2** £160

Warm, sumptuous, sweet sound with fantastic get-up-and-go. High output version works a treat. (Feb '98)

**NAIM NAIT 3** £575

Superb rhythms and dynamics make for great mincing making, but tonally monochromatic. Super optional phono stage makes it ideal for vinyl junkies.

**SONNTEER ALABASTER** £995

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**PHONO STAGES**

**CREEK OBH-9 SE** £180

Punchy, rhythmic character with oodles of detail makes this a great budget audible product.

**LFD MISTRAL PHONO STAGE** £300

The Mistral has a warmth and involvement that make many pricier stages sound overpiced.

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With the Atessa PSU the Artaxerxes X MM/MC stage still shines. Great stage depth, neutrality and tonal cologne. (Oct '97)
There's a sense of effortless power to the 9P. With 70W on tap, the 9P will drive most loudspeakers with a spacious and detailed sound. Good bass welly too. (Dec 96)

ARCAM 9 * £400
A modestly priced valve pre-amp with excellent rhythmic ability. (May 98)

CHORD CPA1800 £1800
Clarity, insight and control are second to none - an addictive mixture. (Mar 98)

CROFT VITALE £550
A modestly priced valve pre-amp with an extremely good value piece of kit. Partners with excellent rhythmic ability. (May 98)

MICHEL ALECTO £1989
Crisp, clean and beautifully controlled with gorgeous styling. Partnered with the £1650 Aerogel mid/bass and silk-dome tweeter. (Oct 98)

SONETTEER SEDLEY £399
Combines transparency and fine dynamics with excellent rhythmic ability. (May 98)

MUSICAL FIDELITY X-A200 £1000/pair
200W of high-end monobloc power in a grooved tube. (Aug 98)

NAIM NAP180 £1060
Partnered with a NAC82, this has classic Naim control, and a superbly rhythmic presentation.

TUNERS
CAMBRIDGE T500 £180
An extremely engaging tuner with a performance at odds with its low price. Not exactly a Troughline, but you may not notice... (Feb 99)

CREEK T43 £399
Excellent detail, separation and dynamics. A great little tuner and unbeatable at this price. (May 98)

MARANTZ ST17 £600
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)

MISSION CYRUS FM7* £300
Clear and lucid sound puts it up with the best. Superb build too. (Apr 94)

NAIM NAT03 £595
The NAT03’s warm, atmospheric sound is further proof of Naim’s proficiency with tuners. (Sep 93)

SONY STSA3ES* £250
Beguiling RDS tuner for the sonically articulate midrange and sparkling treble. (Nov 96)

CASTLE EDEN £469
Impressively vice-free ‘speakers that offer great transparency and involvement. One of a select band that simply makes music regardless. (Mar 97)

EPOS ES12 * £495
Strong, punchy bass is allied to finely detailed, articulate midrange and sparkling treble. (Oct 96)

Kef Cresta I loudspeakers
A very musical sound

248 Lee High Rd, London SE13 5PL (Mon - Sat 10am to 6.30pm Closed Thurs & Sun)
You can’t touch it but you sure can feel it You can’t see it but you really can hear it Call 020 8318 5755 & join us for true -

What is true hi-fi performance?
Here’s a simple truth. You can believe what you read but you will never really know how good something is until you listen. A demonstration is worth a thousand words and our hi-fi systems all have one thing in common, we guarantee you will get more from your music! When you hear what we mean, you will never look back. Honest!
**MINIDISC PLAYERS**

**KENWOOD DMF-9020** £500
One of the best MD players yet. ATRAC 4.5 gives clean and very musical recordings from this Kenwood. (Jan 98)

**SONY MDS-JB939Q** £250
Great mid-price machine. This makes better build and facilities to the '530's already excellent sonic.

**SONY MDS-JA50ES** £1300
This Sony can put the wind up Nakamichi cassette decks when used with better blank MDs. (Apr 98)

**SONY MDS-JES55ES** £520
The best sounding MD deck made so far. Thanks to awesome build and heroic ATRAC-DSP Type R coding.

**DIGITAL RECORDERS**

**ALEXIS MASTERDISK** £1400
A groundbreaking hard disc recorder with a built-in CD drive. An amazing bit of kit, and a glimpse of the future. (July 2000)

**HEADPHONES**

**JECKLIN FLOAT MODEL TWO** £99
Wonderful panel-like and open sound from these esoteric-looking headdamps. Do not wear in public unless you like being made a spectacle of yourself. (May 97)

**ATTENTION**

A glimpse of the future. (July 2000)

**Alesis Masterdisk**

**VISION 42" Plasma Screen** £2595

**ROTEL RCD 971 CD Player** £269

**NAIM CDX CD Player** £1890

**NAIM INTRO SPKRS - BEECH** £579

**NORDOST BLUE HEAVEN** £50/m
Carbon interconnects that help you forget about the electronics and concentrate on the music. Miraculous transparency.

**LOW PASS FILTERS**

**VAN DEN HUL** £260/0.6m
Carbon interconnects that help you forget about the electronics and concentrate on the music. Miraculous transparency.

**NEW YEAR DISPLAY CLEARANCE BARGAINS**

**CALLED TO SELL:(020) 8318 5755 or 8852 1321**

**NEW YEAR DISPLAY CLEARANCE BARGAINS**

**Arcam A65 Amplifier** £259

**Arcam A75 Amplifier** £279

**Arcam FMJ T21 Tuner** £895

**Elac CL82 Speakers** £199

**Linn Kailk/2 CD Player/S/H** £895

**Linn KG8 Power Amp** £359

**Linn Kan Kapeakers** £239

**Linn Ninka Cherry Spiks** £725

**Linn 5150 Subwoofer-Cherry** £1995

**Linn Kaim Line Pragamp** £799

**Linn LP12/Lingo/Akito S/H** £1250

**Linn Keilidh Bk S/H** £395

**Linn Keltik Speakers Wal** £3950

**SENHEISSEUR HD-490** £50

**Vision 42" Plasma Screen** £2595

**属Nordost Blue Heaven**

**A simple and effective upgrade**

**INTERCONNECTS**

**CHORD COMPANY**

**CHAMELEON 3** £90/m
One of our favourite favourites, the Chameleons are musical performers with a smooth yet open sound.

**NORDOST**

**BLUE HEAVEN** £150/m
Some of the fastest and most transparent cable around. A simple and effective upgrade.

**DV PLAYERS**

**DENON DVD-5000** £1600
Monster build as you'd expect at this price. Facilities and gadgets galore and drop-dead gorgeous high-end looks. A very smooth and sophisticated sound, although not as good as similarly-priced CD players. (Sept 99)

**PIONEER DV-717** £700
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Super clean and detailed sound makes this an amazing portable. Not as robust as it should be though.

**SONY MDS-JE555ES** £520
This Sony can put the wind up Nakamichi cassette decks when used with better blank MDs. (Apr 98)

**SONY MDS-JES55ES** £520
The best sounding MD deck made so far. Thanks to awesome build and heroic ATRAC-DSP Type R coding.

**DENON DVD-5000** £1600
Monster build as you'd expect at this price. Facilities and gadgets galore and drop-dead gorgeous high-end looks. A very smooth and sophisticated sound, although not as good as similarly-priced CD players. (Sept 99)

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**DIGITAL RECORDERS**

**ALEXIS MASTERDISK** £1400
A groundbreaking hard disc recorder with a built-in CD drive. An amazing bit of kit, and a glimpse of the future. (July 2000)

**HEADPHONES**

**JECKLIN FLOAT MODEL TWO** £99
Wonderful panel-like and open sound from these esoteric-looking headdamps. Do not wear in public unless you like being made a spectacle of yourself. (May 97)

**ATTENTION**

A glimpse of the future. (July 2000)
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.

CD PLAYERS

MERIDIAN 207
Beautifully-built two-box with pre-amp stage. Very musical although not as refined as modern Bitstream gear. No digital output.

PIONEER PD-91
Built-to-last player with easy upgrade routes for modifiers. Not knockout as it stands but get one cheap and have a go!

CAMBRIDGE CD1
The first two-box player with weighted mechanics and even an optional Dropout/ERROR counter. Radical and effective at the time - a classic.

AMPLIFIERS

LEAK POINT ONE, TL12 & TL10
Ancestors of hi-fi, consequently expensive nowadays. As with all vintage valve stuff, overheating is the bugbear before use, using original parts if possible.

LEAK PRE-AMPS
Line of 'good for their time' pre-amps. Use of EF86 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 integrated gave thousands their first taste of hi-fi and remains great value.

QUAD 33/303 PRE/POWER
Great style and construction, also bullet proof. Warm and wooly sound, but easy going. A good introduction to early transistor audio classics.

QUAD 33/303 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!

Lumley
LAMPROS

Designed for the purist, the music lover and the rest of the family
Any colour and any wood finish

Distributed by: Metropolis Music, 6 London Road, Tunbridge Wells, Kent, TN1 1DQ
Tel: 01892 539245 Fax: 01892 616383

Distributors for Boulder, Passlabs, B.A.T. Advantage, Hovland, Burmester, SAT, VTL, Sound Lab, Kharma, Meadowlark, Copulare, Acoustic Zen
LEAK SANDWICH
Rather warm sounding big infinite baffle but
cheap with it. With a reasonably powerful
amp can sound quite satisfying.

LOWTHER PHA
High quality full-range driver; still
manufactured. High sensitivity, as fitted to
many classic horn designs.

MAGNEPLANAR SMGa
Touch dry in the bass but a technological
loudspeaker with genuinely musical abilities.

TANNOY YORK, LANCASTER
Ideal experimenters' driver. High sensitivity
and a kind load to amplifiers.

WHAIRDLE SUPER 8 RS DD
Uncomplicated, lower-price version of the
famous Sondek. Less expensive than some of
its stablemates.

GARRARD 301 & 401
Legendary turntables, once fairly plentiful.
Excellent back-up available; many different
custom plinths available. High quality.

GOLDRING Lenco 88 & 99
Great deck for the kitchen table enthusiast.

LEAK TROUFLINE II & III MONO
Arguably the best-sounding tuners ever
Adaptation for stereo easy via phono
multiple socket.

Marantz ST-8
Arguably the ultimate Tardis console, including
an oscilloscope for checking the strength of
signal. Expensive even now.

The best sounding tuners ever.
Choice hi-fi: your choice

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

You choose

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- Totem
- Transfiguration
- Trichord
- Trilogy
- Van den Hul
- VPI
- Wilson Audio
- Wilson Research

Hi-Fi: home cinema: multiroom: install: buy/sell

New this month

Power Amplifiers

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Quarterly sale

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Audio Systems

choice hi-fi: your choose

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Choice hi-fi: your choose
DIY NEWS

CHOOSING A 300B
Clive Meakins guides you through the minefield of choices available to the prospective purchaser of the venerable 300B tube.

DIRECT DRIVE TO BELT DRIVE
Neville Walker gets out his toolkit and transforms a Technics direct drive turntable into an Origin Live belt drive model. Crazy but true!
**DIY DANISH STYLE**

Those DIYers wishing for more integration with mainland Europe can log on to the website of Danish Audio Connect for a range of components, information and links for all things audio and DIY. The site offers a range of stepped attenuators, input selector switches, balance controls and active preamplifier modules for both line and phono inputs all available to order online. It's a highly comprehensive website that also offers reviews of components and products, a list of good DIY links and a forum for diehards to swap ideas. A range of PDFs can also be downloaded on the products giving specifications and application advice.

www.dact.com

**SCHEMING DEVILS**

Triode Electronics have a fine range of schematics and circuit diagrams for valve amplifiers that has recently been posted on their website. There's a great range of downloadable schematics ranging from guitar tube amps up to the like of Marantz's high end valve gear, via Michaelson Austin and Leak. The diagrams are in the form of either jpegs and gifs, or in some cases, PDF form. Triode Electronics's website also has a large range of interesting audio products, such as valves and capacitors, available for sale online. Another UK website dedicated to collecting valve amp schematics can be found at www.circuitarchive.co.uk where a large range of diagrams can be found.

www.tridoeel.com

www.circuitarchive.co.uk

**PROCESS OF ELIMINATION**

Surtech Interconnection have announced details of a new audiosignal processing system for filtering and conditioning audio bandwidth signals. The Signal Wizard allows designers to produce a high performance filter in seconds without complicating matter by getting involved in head scratching mathematics. The Signal Wizard uses a DSP chip to filter out unwanted signals from analogue inputs to create transfer functions. The system then converts these conditioned signals back to the original analogue form and then out into the real world, all in real time. Up to 16 different filters can be downloaded into Signal Wizard hardware and anti-aliasing and reconstruction filters are incorporated.

Surtech Interconnection Ltd.
Stroudely Road
Danehill East
Basingstoke
Hants
RG24 88NL
Tel: 01256 351221
www.surtech-ltd.co.uk
CHOOSING A 300B

Clive Meakins listens to a brace of 300B triode output valves, from standard to esoteric - with prices to match.

Back in the days before transistors big amplifiers were needed for cinemas, public address and such like. Western Electric produced the 300B power triode specifically for low distortion audio amplification in such situations. Possessing a smooth, civil sound, it is more linear than a transistor and is used in high quality valve amplifiers. Demand is such that Western Electric have restarted production.

There are a good number of 300Bs on the market today, with prices ranging from low up to scary. I recently tried out eight different types to see just how big the differences are, as well as discover their nature. As a testbed I used the Billie 300B single-ended triode monoblocks from www.diyhifisupply.com, reviewed in the February DIY Supplement of Hi-Fi World. The front-end was CD, ‘speakers floorstanders with a pair of subtly setup subwoofers. Listening was performed over several weeks.

By changing individual components within the Billies I could easily change their sound and some changes were just as significant as changing 300Bs. Other changes alter the tonal balance but result in little musical or lasting difference. Keep in perspective that the best 300B for you could become the worst with a simple internal circuit change that puts everything out of balance.

The prices given are approximate. Some valves were sourced abroad and are subject to exchange rate fluctuations. Service was prompt and packaging excellent in all cases. Let me say up front, there was not a poor 300B in the test; it’s more a matter of picking one that suits your requirements.

**JJ 300B**
Watford Valves
+44 (0)1923 893270 £136

The JJs produced a relatively balanced sound that was just a tad biased towards treble, with a hint of emphasis on sibilance. Soundstaging is fine, around average for the group. The box was the most colourful but arrived too late for the photo shoot. Here is a good sounding and well priced valve that might be most at home in a neutral to marginally dark sounding system.

**Valve Arts 300B**
www.diyhifisupply.com £84 + duty

This Chinese valve has a powerful mid to upper bass, rather like a small speaker faking...
deep bass with a response peak. Deep bass does seem to be lacking but the bass that exists is tight and punchy. Soundstaging is respectable, but inner detail a little lacking. Overall the Valve Arts gives music an enthusiastic and lively interpretation. Good at the low price.

Electro-Harmonix 300B
www.newsensor.com
Standard version £98 + shipping & duty

The EHX valves are made by Sovtek in Russia. Their bass is deep and solid, providing music with a good foundation. The top end is gentle and a little recessed. This is not a super detailed valve and a lack of treble only increases this perception. Soundstaging is fine. Overall they provide a pleasant sound that is easy to get on with.

Electro-Harmonix 300B
Gold Grids £142 + shipping & duty

This is the same valve as the EHX but with gold grids. It has the same excellent bass but also much greater treble extension, giving extra detail and air. Soundstaging is much the same, although vocals are far more refined. It’s rather like going from a 4 to a 6 cylinder engine, overall a much more refined experience. Sibilance sounds very natural and this valve was amongst the best tested. I feel this is a very well balanced valve with no extremes that might push a system over an awkward sonic threshold.

Western Electric 300B
PM Components
+44 (0)1634 848500 £650

This is the new production version of the classic valve that is the mother of all 300Bs. The WEs produce a warm and cuddly sound, not in the extreme but they definitely make all music that bit more rounded. They paper over the cracks on CDs that are challenging. Their bass is a touch slow and soundstage is big. Sibilance is well controlled and very natural. Treble is just a fraction restrained, but mid range is great, vocals are just “there”. Detail is good in the mid, just a little air lacking at the top end. These are expensive but a great experience. Their laser etched cherry wood box is really quite over the top!
For the first 2 hours the Svetlanas were terrible but don’t panic, persevere. Definitely easy to listen to, not quite the last word in detail but almost. Bass is good, treble well extended. Soundstaging is on the generous side of average for the group. Overall they are one of the “safe” valves but ones that make the music flow in a very appealing way.

Golden Dragon 300BM
PM Components
+44 (0)1634 848500 £300

These mesh-anode 300Bs are also sometimes seen as Full Music and TJ. The two mesh-anode valves tested set themselves significantly apart from the rest. The Golden Dragons have good weight in the bass with quite a meaty mid too. Their treble is very extended and soundstaging big. There is simply more of everything. They are expressive and detailed, allowing you to hear deep into the mix.

TJ Premium 300B
www.diyhifisupply.com
£245 + duty

The TJ Premiums are a more expensively made mesh-anode, with reinforced anodes, plus a ceramic base and gold pins. Their sound is similar to the Golden Dragons but more extreme. It delivers a big soundstage and extended treble. Bass is just a little shy. This seems at times to extend to the mid with brass and vocals sometimes a little “white” sounding. They are the most open valve in the test, with lots of air and detail, but could become ruthless with unnatural, poorly recorded sibilance. These valves are not warm and cuddly like the WEs, being more of a cerebral experience. I have the feeling that some amplifier tweaking, possibly reverting to PIO coupling capacitors, would allow the TJ Premiums to really excel.
A lot has been written about the contribution a turntable makes to sound quality from LP. Whilst it is obvious that a high quality arm and cartridge are essential, it is perhaps less obvious that the parts supporting and rotating the record are also important. After all, a record has two sides! If you want the undulations in the upper groove faithfully reproduced, the support offered to the underside of the record has to be spot-on.

Although I was very happy with my Dynavector Ruby Karat moving coil cartridge mounted in a Mayware Formula 4 unipivot arm, I felt that my turntable which employed a 'best in its day' Technics direct drive system was not up to the quality of the rest of my system. Belt drive seems to be the favoured method of spinning the vinyl in top quality equipment.

Enter the Origin Live turntable upgrade kit!

Origin Live (http://www.originlive.com) have earned an enviable reputation as manufacturers of high-end turntables. They also offer various kits and individual items of the same parts that go into their turntables for the DIY enthusiast. This provided me with a unique opportunity to test out the potential benefits of a belt drive system by upgrading only the platter, bearing and motor and keeping the existing plinth, arm and cartridge. Would it really make a difference?

I decided to purchase the 'standard' kit of parts as being most suitable for the project. This kit has the same key components as used in all their turntables - a high quality DC 'cogless' motor, a highly tolerated bearing machined from a large engineering bolt and a 4mm ball bearing resting at the bottom of the hole. A syringe of high grade, military specification Arctic oil is supplied that lubricates the case-hardened ground steel shaft, which in turn supports the PVC sub-platter. A beautifully made translucent acrylic platter will ultimately rest on the sub-platter. This material was chosen to have the right mechanical properties for supporting a vinyl record. In addition, an external DC power supply is supplied, along with a voltage regulator circuit and switch to select two preset speeds - 33 and 45rpm. The preset speeds are set via two 2kohm multi-turn potentiometers which will allow any desired speed between 0 and 78rpm for each switch position - not that I intend to get a 78 anywhere near my cartridge!

The motor is a particularly important component of the system. It must rotate the platter at a constant speed and not transmit any vibrations. The motor supplied with the kit is cogless, which imparts a huge advantage over the inexpensive AC motors used in many turntables. Cogging refers to the flick that occurs as straight rotor windings pass between the magnetic poles. The power transfer goes up and down as the coils rotate from one magnetic pole to the next. On more expensive motors, the manufacturers have skewed the coils to ensure a smoother power transfer as the rotor rotates between the magnetic poles. The DC motor supplied with this kit is not only cogless but also ironless which means that the flux residue that takes place in the cheaper iron motors is vastly reduced, resulting in smoother and more efficient operation. Consequently, motor-produced vibration in the turntable is greatly reduced which should result in significant benefits to overall sound quality.

The kit has been designed for constructors with little electronics knowledge. For example, they have sensibly fitted a different type of connector to the positive and negative outputs from the external power supply to eliminate the risk of reversing the connections to the regulator board. These connectors, of course, can be easily replaced if desired by the more experienced constructor.

The biggest challenge with the project was to replace the existing direct-drive motor with a bearing assembly and also provide a suitable mount for the new belt-drive motor. When the kit of parts arrived, I was pleased to find both the motor and the bearing were supplied with suitable brackets. The comprehensive set of instructions included drawings to ensure the correct alignment of the motor, bearing and...
I put my trusty jigsaw to good use to fashion a circular piece of MDF to fit neatly inside the recess that housed the direct drive motor and drilled a hole in the centre to house the new bearing. Using the supplied dimensions, I then drilled a slot to accommodate the motor, together with a recess for the mounting bracket. The distance from the motor to the bearing is critical and requires an element of adjustment to allow the belt to be correctly tensioned. In my case, the plinth has a black metal cover that would conceal the recess. The only other requirement was to drill a suitable hole in the metal cover to allow the motor spindle to protrude through.

As far as the electronics were concerned, I wanted to make use of the existing switch and speed control potentiometers that allowed for fine adjustment of the speed from the outside. This was simply a matter of removing components from the existing circuit board and wiring the Technics potentiometers in series with the multi-turn presets on the Origin regulator board. After completion of the wiring, it was time to assemble the turntable and set up the bearing and arm.

The bearing height was set so that the sub-platter just cleared the metal cover when the ball bearing was fitted. The appropriate number of drops of oil were applied and the sub-platter finally installed. The sub-platter takes a while to settle onto the ball bearing in the shaft due to the tight tolerances - a good sign.

With the belt tension carefully set, having first cleaned it with methylated spirit, all that remained was to set up the arm. It is always a good idea to completely reset the arm and cartridge alignment, but adjustment of the arm height is the most obvious requirement as the new platter was much higher than the old direct drive motor platter.

I cannot over-emphasise the importance of careful adjustment of the Vertical Tracking Angle (VTA), which sets the Stylus Rake Angle (SRA) of the cartridge. The VTA is the angle of the cantilever to the record surface and is somewhere in the region of 20 degrees. This in itself is not that critical. However, the SRA, which is the angle of the stylus in the groove, is very critical and has a major impact on sound quality.

The VTA is adjusted by altering the height of the arm and this is best done by ear. A good starting point is to set the arm height so that the arm is parallel to the record when it is playing and go from there. If the arm is too high (VTA too great), the sound will be harsh and thin with poor imaging. If set too low, the sound will be dull with 'boomy' bass, lacking detail and again with poor imaging. The correct point is unmistakable: where the instruments snap into focus and everything sounds clear.

With the upgrade and all adjustments completed, it was time to see if it had all been worthwhile. Aware that the only change to my system was the platter and drive of my record deck, I was hoping to be able to detect subtle improvements in imaging and detail. I placed one of my 'reference' recordings on the turntable - Stravinsky's The Firebird Suite (The Atlanta Symphony Orchestra - Telarc digital recording DG-10039) - and sat back to listen.

I was not at all prepared for what was, quite frankly, the startling difference with the

At left is the Standard Origin Live kit of parts, with power supply, bearing, sub-platter, platter, belt, etc. The plinth above is the old Technics item, stripped down.
Above are the new components after they have been fitted.

sound that I was now hearing! The bass drum in the introduction, which previously sounded like an earthquake in the distance, now sounded like a proper drum roll at the back of the orchestra. There was a greater depth to the sound. The instruments had moved away from the confines of the speakers to take up their rightful place in the room. The bass was more extended and tighter. The top end was noticeably clearer with a greater sense of realism.

At the other end of the music spectrum, the owner of the record described the bass on the track Computer Bank from Roger Sanchez's album First Contact as "excellent!". He had previously considered the bass to be a little muddy on my system. All this from a new turntable and motor! Listening to further records confirmed these improvements.

The standard kit of parts includes a regulator board that controls the speed of the motor (which affects pitch) to an accuracy of 0.3%. 2% is common for most turntables.

Here's the completed turntable, with acrylic platter. To the right is a Mayware unipivot arm, and to the left the speed controls that were retained.

The new sub-platter showing belt drive at last!

However, Origin can supply an advanced regulator board that controls the speed to within 0.1% by incorporating feedback circuitry that compensates for increased stylus drag (and hence increased load on the motor) when tracking loud passages of music. I decided to acquire one of these boards and, with the use of a stroboscopic disc, I checked the effect of a small increase in load by applying slight pressure with a finger to the spindle. Although not very scientific, it was possible to tell that there was a noticeable slowing of the speed with the standard board. Applying a similar pressure with the advanced board installed showed no noticeable slowing, which is rather impressive!

I had heard that the way the belt is fitted could also have an effect on the overall sound quality. I tried the belt fitted as manufactured and the other way round, i.e. inside out. The easiest way of checking this is to allow the belt to hang freely from a finger. When it is the manufactured way round, it hangs in an oval shape. When inside out, it tends towards a pear shape being wider at the bottom of the loop. Surprisingly, there was a discernable difference and all who listened agreed that inside-out was the best configuration, which resulted in tightening the bass still further and increased definition. I subsequently found out that other turntable manufacturers also recommend this configuration.

In conclusion, this is probably one of the best value for money improvements you are likely to make. Depending on the quality of your existing plinth, the standard kit of parts will be all you need. However, ready made plinths can be supplied if required, along with a suspended sub-chassis system which supports the arm as well. Using their pre-drilled fully finished plinths is considerably quicker and easier than modifying an existing plinth like I did. Thanks to the high quality components supplied and the clear instructions provided, this is a rewarding project that will certainly not be beyond the capabilities of most DIY enthusiasts. Take it from me - you will rediscover your entire record collection!

PARTS LIST

Bearing house, sub-platter & spindle, 24mm thick acrylic platter and syringe of very high-grade oil. High quality DC motor with pulley and belt DC power supply, standard regulator board and speed control switch & knob for 33 & 45rpm. Screws and other hardware, full instructions & detailed drawings. Cost from Origin Live is £282.

If someone doesn't have a suitable plinth, pre-cut ones are available starting from under £350. If you want to upgrade to the advanced regulator board as I mentioned in the article, then this board costs an additional £315. All available from: www.originlive.com
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<td>Conrad Johnson Premier 11 Power Amplifier (New&amp;Boxed)</td>
<td>3695</td>
<td>2799</td>
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<tr>
<td>Densen Beat 300 power Amplifier x-demo</td>
<td>795</td>
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<td>DNM 3C Power amplifier x-demo</td>
<td>1900</td>
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<tr>
<td>Electrocompaniet AN160 (New&amp;Boxed)</td>
<td>999</td>
<td>699</td>
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<tr>
<td>Electrocompaniet ECI-1 Amplifier S/H</td>
<td>3250</td>
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<td>Gamut D200 Power Amplifier S/H</td>
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<td>2299</td>
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<tr>
<td>Graaf GM20 OTL Stereo Valve Amplifier S/H</td>
<td>3295</td>
<td>1995</td>
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<td>Mark Levinson No334 Power amplifier x-demo</td>
<td>5495</td>
<td>4499</td>
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<tr>
<td>Roksan Rok S1.5 Power Amplifier S/H</td>
<td>1499</td>
<td>945</td>
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### Loudspeakers

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<tr>
<td>Audio Physic Virgo 2 Birds eye maple x-Demo</td>
<td>3250</td>
<td>2499</td>
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<tr>
<td>Boston Acoustic Lyndfield monics inc Stands S/H</td>
<td>2000</td>
<td>995</td>
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<tr>
<td>Boston Acoustics VR 10 Centre Channel (New&amp;Boxed)</td>
<td>250</td>
<td>175</td>
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<tr>
<td>Opera Operetta Mahogany x-demo</td>
<td>795</td>
<td>599</td>
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<tr>
<td>ProAc Response 2 Mahogany S/H</td>
<td>1705</td>
<td>795</td>
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<tr>
<td>ProAc Response 1.5 Ebony x-Demo</td>
<td>2140</td>
<td>1499</td>
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### Cables & Accessories

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<tr>
<th>Device</th>
<th>Was</th>
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<tr>
<td>Audio Note AN-V 1m Silver interconnect S/H</td>
<td>420</td>
<td>199</td>
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<tr>
<td>Audiofile Systems BASE Platform S/H</td>
<td>70</td>
<td>25</td>
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<tr>
<td>Bow Technologies Wand Remote (New&amp;Boxed)</td>
<td>345</td>
<td>149</td>
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<tr>
<td>Cardas Quadlink SC 1m RCA S/H</td>
<td>240</td>
<td>150</td>
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<tr>
<td>Goertz Mi-2 2x6m Copper Ribbon Speaker S/H</td>
<td>650</td>
<td>399</td>
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<tr>
<td>Kimber Select 1020 0.5m S/H</td>
<td>1098</td>
<td>499</td>
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<tr>
<td>Kimber Select 1130 0.5m Balanced S/H</td>
<td>850</td>
<td>499</td>
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<tr>
<td>Naim Audio2x5m Speaker cables white</td>
<td>N/A</td>
<td>45</td>
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<tr>
<td>Opera LuX 3 Tier Table Clear/Stainless x-Demo</td>
<td>350</td>
<td>499</td>
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<td>QED Genesis Silver Spiral 2X3 M S/H</td>
<td>395</td>
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<td>Roksan HA01 1M Interconnect S/H</td>
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<td>Roksan HA01D 0.5m Digital Interconnect S/H</td>
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<td>25</td>
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<tr>
<td>Siltech Amsterdam 2x4m Speaker Cable</td>
<td>295</td>
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<tr>
<td>Sound Style 4 Tier in Green S/H</td>
<td>325</td>
<td>159</td>
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<tr>
<td>Stax Classic System II Electrostatic Headphones S/H</td>
<td>730</td>
<td>499</td>
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<tr>
<td>Tara Labs &quot;Floating GroundStation&quot; New</td>
<td>775</td>
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<td>Tara Labs RSC Prime Balanced 1m Balanced</td>
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<td>Tara Labs &quot;The One&quot; 1m Balanced</td>
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<td>Tara Labs RSC Air 1m AES/EBU 110 ohm Digital New</td>
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<td>Tara Labs RSC Air 1m RCA 75 ohm Digital New</td>
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<td>Transparent Music Link Balanced 1m S/H</td>
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<tr>
<td>Transparent The Wave 2X7m S/H</td>
<td>599</td>
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### Tuners & Tape Decks

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<tr>
<th>Device</th>
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<tr>
<td>Magnum Dynalab FT-R Remote Switcher for FT101A/Elute (New&amp;Boxed)</td>
<td>450</td>
<td>299</td>
</tr>
<tr>
<td>Nakamichi DR10 Cassette deck x-demo</td>
<td>699</td>
<td>399</td>
</tr>
<tr>
<td>Nakamichi DR8 Cassette deck (New&amp;Boxed)</td>
<td>499</td>
<td>299</td>
</tr>
<tr>
<td>Teac T-BX10 Tuner S/H</td>
<td>399</td>
<td>179</td>
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</table>

Midland Audio X-change are looking for Audio Research, Krell, Martin Logan, Naim Audio, Theta, Wadia, cash paid call John Roberts on 01562 822236 now!

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S/hand and ex-demo clearance items - May 2002

<table>
<thead>
<tr>
<th>S/hand and ex-demo clearance items - May 2002</th>
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</thead>
<tbody>
<tr>
<td>Midland Audio X-change is looking for good used British &amp; American Hi-Fi</td>
</tr>
<tr>
<td>cash paid call John Roberts on 01562 822236</td>
</tr>
</tbody>
</table>

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Exposure 2010 integrated £1,099 £899
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Myryad PS50/10 phono £999 £790
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<table>
<thead>
<tr>
<th>Item Description</th>
<th>Price</th>
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<tbody>
<tr>
<td>Nakamichi CA4 TWIN DECK MINT</td>
<td>£60 325</td>
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<td>Alpha Pric Airbus 2 Speaker Stands Edition</td>
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<tr>
<td>Atacama 24 STEEL STANDS NEW</td>
<td>£75 65</td>
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<tr>
<td>Linn 1010 INTEGRATED AMP NEW</td>
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<tr>
<td>U-TA HELICON SL CARTRIDGE NEW</td>
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<td>EAR HEADPHONE AMP ANA AS NEW</td>
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<td>AV1 52000 MM MONOBLOCKS NEW</td>
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<td>AV1 52603 MM/FEA REFERENCE TUNER NEW</td>
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<td>Nakamichi CR4 TAPE DECK MINT</td>
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<td>Alphason AKROS 2 SPEAKER STANDS BOXED</td>
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<td>Atacama SE 24 SPEAKER STANDS NEW</td>
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<td>Audiophony OTO INT AMP LINE LEVEL AS NEW</td>
<td>£1099 1075</td>
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<td>Lorica Helikon MC CARTRIDGE NEW</td>
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<td>Ear Headphone AMP HP4 AS NEW</td>
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<td>A51 S2003 MC REFERENCE CD PLAYER 2</td>
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<td>Verdiian 63</td>
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<td>Nioso Euf6 Speaker Cables</td>
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<td>A5 24 KT 0,430/UMW 1103 525</td>
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<td>A5 24 KT 0,430/UMW 1103 525</td>
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<td>Eg 29 Integrated AEMAIN AMP ES 2296 PGA</td>
<td>£1299 1275</td>
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MARANTZ CD90 1500

KYOKO TAPE DECK with remote 2000

MICROBREND  A1 1100

MICROBREND DUO 3 TRANSPORT/CD 270

NAC M 600 DAC/CDPLAYER 400 200

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WASHINGTON STATE PHONOstage 600 300

TECHNICS SL-P1200 1000 350 200

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REVOX A77 2 TRACK A BIT SCRUFFY BUT SERVICED 150

PROCEED 2 CHANNEL AMP 1500

YRA 2 PREamp. Years old, very clean and detailed, and truly

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SONY CD 1050 WITH 6000 OF AUDIO SYNTHESIS MODS.

MICRO V1000 275

TECHNICS ST-1200 VALVE AMPS

AURISONIC 610 preamp  $1500 700

AUDIONOTE M2 PHONO full prep

AUDIONOTE QUEST monoblocks...single ended 300b

AUDIONOTE AE 1800LE lead feet prewired front end and

AUDIONOTE AE 1400 lead feet 275

AUDIONOTE AE 1350 lead feet 225

MICRO V1000 275

TECHNICS ST-1200 VALVE AMPS

AURISONIC 610 preamp  $1500 700

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AUDIONOTE QUEST monoblocks...single ended 300b

AUDIONOTE AE 1800LE lead feet prewired front end and

AUDIONOTE AE 1400 lead feet 275

AUDIONOTE AE 1350 lead feet 225

MICRO V1000 275

TECHNICS ST-1200 VALVE AMPS
# PHONE FOR LATEST LIST

<table>
<thead>
<tr>
<th>NEW, EX-DEM AND CLEARANCE ITEMS</th>
<th>RRP</th>
<th>SALE</th>
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<tr>
<td>Acoustic Energy AE1 MKII</td>
<td>£995.00</td>
<td>£695.00</td>
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<tr>
<td>Arcam Alpha 10</td>
<td>£799.00</td>
<td>£549.00</td>
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<tr>
<td>Arcam Alpha 8R Amp.</td>
<td>£350.00</td>
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<tr>
<td>Arcam Alpha 7R Amp.</td>
<td>£280.00</td>
<td>£229.00</td>
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<tr>
<td>Copeland CDA277</td>
<td>£1,649.00</td>
<td>£795.00</td>
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<td>Copeland CDA289</td>
<td>£1,985.00</td>
<td>£1,295.00</td>
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<td>Cyrus SL Amp</td>
<td>£400.00</td>
<td>£250.00</td>
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<tr>
<td>Cyrus AV Master Processor</td>
<td>-</td>
<td>£200.00</td>
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<tr>
<td>Krell KAV 300i</td>
<td>£2,545.00</td>
<td>1,395.00</td>
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<tr>
<td>Krell KAV 500i Int. Amp.</td>
<td>£5,498.00</td>
<td>£3,495.00</td>
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<td>Linn Kabel</td>
<td>£1,995.00</td>
<td>£695.00</td>
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<tr>
<td>Linn Kessa</td>
<td>£499.00</td>
<td>£369.00</td>
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<tr>
<td>Meridian 500 Transport (mint)</td>
<td>£1,350.00</td>
<td>£849.00</td>
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<tr>
<td>Meridian M33 Active speakers</td>
<td>£1,495.00</td>
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<tr>
<td>Mission 701 speakers</td>
<td>£160.00</td>
<td>£119.00</td>
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<td>Musical Fidelity XP100</td>
<td>£799.00</td>
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<tr>
<td>Musical Fidelity XA200R</td>
<td>£699.00</td>
<td>£559.00</td>
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<tr>
<td>Musical Fidelity XA50 mono amps (1 pair)</td>
<td>-</td>
<td>£299.00</td>
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<tr>
<td>Neat Mystique</td>
<td>£735.00</td>
<td>£499.00</td>
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<tr>
<td>ProAc 3.8</td>
<td>£3,990.00</td>
<td>£2,990.00</td>
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<tr>
<td>Rotel RX965RDS A/V receiver</td>
<td>£950.00</td>
<td>£695.00</td>
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</tbody>
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D = EX DEMONSTRATION, N = NEW, S/H = SECOND HAND

Hi-Fi Multiroom and home cinema

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# Forthcoming Releases

<table>
<thead>
<tr>
<th>Forthcoming Releases</th>
<th>Price</th>
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<tbody>
<tr>
<td>Alfie A Word In Your Ear</td>
<td>£10.90</td>
</tr>
<tr>
<td>Badly Drawn Boy About A Boy (soundtrack)</td>
<td>£10.90</td>
</tr>
<tr>
<td>Chimera Chimera (Tenth Planet)</td>
<td>£15.90</td>
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<tr>
<td>Cinematic Orchestra TBC (released 15th April)</td>
<td>£13.90</td>
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<tr>
<td>Gomez In Our Gun</td>
<td>£18.90</td>
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<tr>
<td>Giant Sand A Cover Magazine (Thril Jockey)</td>
<td>£12.90</td>
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<tr>
<td>Harry Nilsson Nilsson Schmilsson (Simply Vinyl)</td>
<td>£18.90</td>
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<tr>
<td>Jewel This Way (US import)</td>
<td>£13.90</td>
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<tr>
<td>Led Zeppelin Coda / In Through The Out Door</td>
<td>£26.90</td>
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<tr>
<td>Sergio Mendes &amp; Brasil 66 Equinox(Speakers Cnr)</td>
<td>£13.90</td>
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<tr>
<td>Tom Waits Alice/Blood Money (Eptaph)</td>
<td>£13.90</td>
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</tbody>
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# New Stock And Recent Releases

The first release on DIVERSE RECORDS ALISON KRAUSS & UNION STATION - NEW FAVORITE
the multi grammy winning winners - £16.90 plus postage CAN REISSUES ON MUTE - (£12/14.90) titles are:
Tago Mago, Ege Bam Yasi, Cannibalism Monster Movie

| Aim Hinterland | £13.90 |
| Angie Stone Mahogany Stone | £12.90 |
| B.R.M.C. Black Rebel Motorcycle Club | £12.90 |
| Clinic Walking With Thee | £13.90 |
| Cornellus Point (Matador) | £13.90 |
| Gong Carnembert Electrique | £10.90 |
| Earl Zinger Put Your Phazers On Stun | £11.90 |
| Electric Soft Parade Holes In The Wall double 45rpm | £14.90 |
| Hives Your New Favourite Band | £10.90 |
| Jim O Rourke Insignificance (Domino) | £12.90 |
| John Coltrane A Love Supreme | £19.90 |
| John Lee Hooker Serves You Right To Suffer | £13.90 |
| Lambchop Is A Woman 2LP (City Slang) | £13.90 |
| Lift To Experience Texas Jerusalem Crossroads Ltd | £15.90 |
| Love Love/ Da Capo/Forever/Revisited | £15.90 |
| Masters Of Reality Deep In The Hole | £14.90 |
| Morcheeba Back To Mine - 3LP | £16.90 |
| Patto Patto/ Hold Your Fire (Akarma) | £14.90 |
| Pink Floyd Echoes - The Best Of - 4LPset | £33.00 |
| Ray Barretto Hard Hands | £10.90 |
| Six By Seven The Way I Feel Today | £10.90 |
| Stan Getz Big Band Bossa Nova | £19.90 |
| Teenage Fanclub & Jad Fair - Words Of Wisdom | £11.90 |
| Zero 7 Another Late Night | £13.90 |

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# Hi-Fi World May 2002 Page 121
ERGO ago-go

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THIEL CS 3.6 speakers high end US audio, regarded as one of the world's finest dynamic systems. Boxed in mint condition £2800 ono, (SK new). Tel: 01903 507489 or 07881 550627 (May(I).

TACT MILLIENIUM Mark 2 amplifier, as new, was £7,500 retail. Only £1500. Call 07774 703030. Tannoy Kingdom, top of range speakers. £25,000 new, approx 1.5 years old, £7,000. Tel: 07774 703 030 (May(I).

ATC SCM 20 'SL' rosewood with 21st slate stands, mint condition, boxed, can demo, new £2500, now £1200 ono. Tel: 02380 470107 (Southampton) (May(I).

KRK PROFESSIONAL Active near field V6 studio reference monitor speaker £400 (£999). KEF KMS2002 speaker system new £250. VRR EL34 monoblocks amplifier £300. Wilslow Audio Vouge speakers £350. Tel: 0208 531 5979 (May(I).


TOTEM Arro Mk2 speakers, brand new, cherry finish, (£1095) £795. Horning 'Zeus' horn speakers, mint, 2 months old (£1000) £150. Mission 775 SE turntable, Basik arm, £350. £1600 (£850) £350. Tel: 0208 531 5979 (May(I).


PAIR LEAK Sandwich speakers £100. Garrard 401 turntable (on plinth) with Ortofon arm £150. Tel: 0797 119 2766. (May(I).

CYRUS STRAIGHTLINE amplifier £160. Quad 99 pre-amp £480. Henley MC50 moving coil amplifier £70. Stax SR30 headphones £80. Rogers Studio 1A speakers £175. Tel: Les 01241 872 131 (May(I).

PRIMEAR 30.1 integrated amplifier, recon, latest model, with pre-out, £1,100. Acuphase C280 pre-amp £795 and $300 power amp £150 wpc £695. Monovolt Short: MS20i: Pearl speakers £65. Sonic Link Silver Aereo S1 30sm pair bi-wire speaker cables £75. Tel: 0202 767 873 (Poole) (May(I).

ATC50. ASL. Finished in premium yew - beautiful finish! Two years old. Four year guarantee remaining. Seik £3500 (last £7900). Mana four tier £350. Illuminati D60. VdH Second balanced £80. Tel: 0131 225 9002 or Email: S.Hussain@ed.sac.ac.uk (May(I).

KEF REFERENCE 2.2 (unused) £1100. NHT Model VT-1.2 (piano black) £350. Sonus Faber 'Musical' amplifier £1350. Arcam FMJ A22 amplifier + D.A.VE. module fitted, as new, £950. Tel: 01952 502 097 (Telford) (May(I).

NAIM NAC 102 pre-amp £700. Naim Nap 180 power-amp £700, Hi-Cap (new style) £350, Hi-Cap (old style) £300. Tel: Matthew 01452 610 466 (Gloucester) (Jun(I).

AUDIO RESEARCH LS2B pre-amp, balanced (cost £3400) £1095. Goertz M12 speaker cable 2x5m pair £195. Musical Fidelity M.V.X. preamp with phono stage, cost £2500, accept £695. Tel: 01634 268 660 (May(I).

WANTED: MICROMEGA DUO. Michell Syncro or Focus One, Neat Petites, Meridian Component amplifier, Meridian 207. Good prices paid. Tel: Alex 020 8985 4452 or 079 391 6779 or Email: alexkirkham@yahoo.com (May(I).

LINN ISOBARIKS, early pair, mint, 2 months old £750. Sold £1750. Tel: 01992 207. Good prices paid. Tel: Alex 0787 906 6221 (May(I).

ROKSAN XERXES XPS III Artemiz Dynavector D10X4 MKII irammarate box £695. Art Audio Quintet triode 25w power amplifier, feedback black chrome £495. Concordant Exhallrant valve preamp hard-wood case mint £395. Moth Active preamp mint boxed £125 ono. Tel: 020 8444 8591 (May(I).


GARRAD 31 turntable grease bearing custom made plinth and cover SME 3009 fixed head Shure V15 MKIII £250. Tel: 01993 883 253 (Oxon) (May(I).

CONRAD JOHNSON Sonagraphe SA250 power amplifier £125 wpc boxed as new (£1200) £695. Rega Planet CD player with remote mint/boxed (£500) £250. Tannoy R2 speakers mint boxes £150. Tel: 01243 863 371 (W. Sussex) (May(I).

MARK LEVINSON monaural reference power amps No. 20, fully balanced, true class A amplifiers. Mint, rare bargain £3395 (£8000 new). Tel: 07905 336 232 any-time (May(I).


CLASSIFIEDS

Linn Kremlin £1800. Karik £750. Numerik £550. Kain Pro £700 (all these black, sparkly, 'Brilliant' SMPS). LK100 (black, sparkly) £325. Keilidhs (black inc stands) £350. All boxed cw accessories and manuals. Can demonstrate. Tel: Mike 01625 429 088 (Cheshire) Email: mmeldayates@hotmail.com (May)!

WANTED: Arcam Alpha 8P power amplifier. Sell Alpha 7 CD £100. Tel: 0192 851094 evenings or 02476 206981 daytime (May)!

MYRYAD MCD600 CD player £799 (£1300). Myryad MT240 amplifier £899 (£1500). Myryad MT100 tuner £349 (£600). Cyrus Quatro CD/tuner/pre and Smart Power £894 (£1400). VCH First IIC £80 (£160) 0.6mtr Cable Talk Broadcast 3 IIC £50 (£1000). Tel: 023 808 72620.

Cable Talk Broadcast 3 IIC £50. EMT turntables, fully serviced. Excellent condition. Tel: 0131 356 9636 (May)!

Audio Note P4 monoblock amp excellent condition £1600 ono. Audio Innovations 800 Mk3 excellent condition £400 ono all with original boxes and instructions. Tel: 01642 482393 (Jun)!

Copland CSA28 integrated amplifier excellent condition £500 ono. Rega P2 turntable mint £150 ono Tel: Richard 01774 8457 422 (West Sussex) (Jun)!

Two Pairs Quad 57's one bronze one black excellent condition recently serviced £650. Pair stacking frame also available. Art Audio Symphony 3008 dual mono single ended amp mint condition £1695 will demonstrate. Tel: Paul Allen 0115 981 7814 work. Mobile: 07967 863166 or Email: paulal@lineone.net (May)!

Linn CD12 12 months old £8500 ono. Naim NBL's 15 months old beech £5000 ono. Naim 135S 15 months old £2800 ono. Tel: 01306 864131 or 07790 692736 (May)!

Rotel 965BX CD player excellent £100. F.A.L. Phase 25 1970's class A amp din sockets £20. Tel: 01284 750686 (May)!

Linn Sondek early 80's SME III London Decca Gold plus spare SME III with Shure V15 MR £450. Teac 25000 master cassette deck £150. Please leave a message. Tel: 01442 874680 (May)!

Quad ESL63 (pair). Quad 34. Quad 606. Quad 405. Rel Storm 100 watt subwoofer, Linn Sondek LP12 with SME arm. Offers. Will sell separately. Tel: 01443 813522 (May)!

Ear HP4 headphone amplifier mint condition cost £1695. wanted £1000. Tel: 01745 383282 (May)!

WANTED: Linn LK280 power amplifier and active crossover for Linn Isobariks would consider both Linn and Naïm. Tel: 01432 582247 after 6pm (May)!

Speaker Wall mounts Target £25. Ely power £155. Troubleshoot 3 studio 6 £12.130. Thorens 126 SME 3009 Shure V15I £180. Creek A42 amp £80. Dynatron Record player offers. Tel: 01606 784 676 (May)!

RDC Cones. Set of four RDC4 (£150) £35. 3 sets of four RDC £11 per set. 2001 Hi-Fi+ £55. 3 sets of four RDC £150) £55. Also various cables and accessories, publicity, nostalgia, etc £60. Marantz PM66SE £50. Thorens TDI50 Mk1 £200. damit condition playback ok, perfectly mint and boxed but will consider all. Please call with details. Tel: 01455 613489. Check your loft! (May)!

Turntables and tonearms wanted from LP I 2's to Gale, RB250's, to Airtangent, budget to esotemic. Preferably mint and boxed. Tel: 01283 820818 (May)!

WANTED: Any Griffin loudspeakers (active or passive). Oxford Acoustics. Mistral amplifier, TDL reference monitors, Sim Audio Moon Eclipse CD player with grey front. All preferred in excellent condition please. Tel: 01455 613489 (May)!

L.A.T. AC2 power lead 6ft HiFi Choice two stars! Cost £99 accept £65. Also 1 metre Kimber PBJ. CD interconnect XLR to XLR cost £96. Accept £45. Tel: 02828 277129 Mobile: 07713 882489 (May)!

Thorens TD150 MkII turntable (some attention needed) with Linn Basik plus arm £30. Tel: 01869 340613 (Oxfordshire) (May)!

Origin Live Rega RB250 arm. All possible modifications and upgrades. Six months old. Cost £350 will accept £200. Tel: 01296 23573 (May)!

WANTED: Any Griffin loudspeakers (active or passive). Oxford Acoustics. Mistral amplifier, TDL reference monitors, Sim Audio Moon Eclipse CD player with grey front. All preferred in excellent condition please. Tel: 01455 613489 (May)!

Turntables and tonearms wanted from LP I 2's to Gale, RB250's, to Airtangent, budget to esotemic. Preferably mint and boxed but will consider all. Please call with details. Tel: 01455 613489. Check your loft! (May)!

WANTED: Full or part Quad II 2 pair LS3/5's loudspeakers or old Tannoy monitors and Oxford Crystal Reference Linn fitting armboard. Also any vinyl related accessories, publicity, nostalgia, etc. Tel: 01455 613489 (May)!

Mark Levinson No39 CD player c/w remote £2300 ono. Balanced Audio Technology VK3, preamp £2500 c/w remote and spare valves £900 ono. All equipment boxed with instructions. Tel: Steve 07774 809410 (Herts) (May)!

Linn Sondek Lingo Ekos Trio black mint condition £1249. Linn Sondek Valhalla Ittok excellent condition £449. Ruark Talisman floorstanders beautiful walnut finish boxed £200. Tel: 01777 700606 (Notts) (May)!

CASTLE ACOUSTICS. Original Howard I's loudspeakers. Integral stands. Teak cases. Excellent condition £500 ono. Tel: 0121 745 9587 or Email: paul@jmbailey.co.uk (May)!

Nordost Blue Heaven 3m pair bi-wire (£500) £265. Nordost Blue Heaven interconnect (£150) 2 x pairs £175. Nordost Red Dawn balanced interconnect (£330) £180. Transparent balanced Music Link, Plus (£469). 2 x £500 ono Tel: 07984 508390 (Jun)!

NAIM CDX NAC 82 HiCaps 135S Ruark Crusaders Mark II, removal forces sale. Will split. £8800. Tel: 07751 620741 (Hereford area) (May)!

Lowther Delphic loudspeakers fitted with very latest specification EX4 drive unit (with folded tweeter cone), finished in American walnut, excellent condition £2250. Very reluctant sale. Tel: Mike 01758 741026 (May)!

Valve amps for sale from private collection. Including Leak, Quad, Williamson, Luxman, Art Audio etc. Also Troughline tuner and Gamma Rhythm 21 1SE. Please ring for details. Tel: 01283 820818 (May)!

Lowther Drive units and cabinets for sale, also some Kef drivers and LS3/5A type cabinets. Systemdek IXE900 with external PSU and SME Series Three. Please ring for details 01283 820818 (May)!

Rega P3 turntable RB300 tonearm. Black. 6 months old. As new condition. All packaging and manuals. 30 months warranty remaining, £240 ono. Tel: Richard 01639 641043 (Oct)!

Musical Fidelity X-DAC XPSU X-100 £160. Will not split. Marantz CD676 Schotky rectified etc £60. Marantz PM6655 £50. Sonicklek Violet 0.5m £15. All original packing, Vgc. Collection only. Tel: 0151 608 4481 (Wirral) (May)!

WANTED. Linn Ittok LVIII or late model Ittok LVII with armboard and rest. Email: Pih_mk@lineone.net or phone 01327 352240 (May)!

SD Acoustics SD1 speakers black immaculate £500 ono. Tel: 020 7625 5526 (May)!
Upgrade your turntable

“its 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 internet magazine April 2000.

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 provides vast improvements to all versions of Linn turntables, as well as Ariston, 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 consists of a high grade dc motor, soldered regulator board and power supply at 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 made transformer is also available as an optional extra at £175.

New breakthrough design - Laminar flow interconnect

A high end sound with a sensible look and price tag
HI-FI WORLD July 2001

The Ultra’s are a deeply satisfying musical product and a supreme bargain
STEREO TIMES Aug 2001

“The reference interconnects are a must listen...highly recommended and another winner ..”
STEREO TIMES Feb 2002

The new Laminar flow range of interconnects embody an all new ground-breaking design. The “Ultra” version is guaranteed to outperform all other interconnects up to 4 times it’s price and the “Reference” is a cable that reviewers use to judge other cables due to it’s incredible transparency and musicality.

Don’t purchase a more expensive interconnect until you have heard new laminar flow cable. With a full 3 week, cast iron money back guarantee if not satisfied, arrange an audition with your local Origin Live dealer or place an order with us directly.

Origin live turntables

In self assembly form

“this Vinyl front end had my jaw heading towards the floor with the solidity and transparency of the music it was making”...the standard came up with crystal clear images set in a broad sound stage...”with all these goodies in place the Standard would give turntables at the £1200 - £1400 mark a hard time”

HI FI WORLD SUPPLEMENT

“Overall a deeply impressive deck. Brilliant value for money ...component quality is superb and the build process is a dodble”
HI FI WORLD March 2002

“the best sounding deck here...sounds fantastic”
(5 stars symbols) WHAT HI-FI MAGAZINE group comparison test of 8 leading turntables

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. The complete standard kit offered with a non-suspended pre-drilled & finished plinth at £349.
2. The complete ultra kit offering a truly high end suspended sub-chassis turntable with beautifully finished solid cherry-wood plinth at £538
3. A standard kit of parts for a plinth of your own design at £282.

All kits are supplied with well illustrated instructions and are easier to assemble than many of today's pre-built turntables.

Optional parts are also offered to allow flexibility and upgrading.

Turbocharging your Rega arm

“Nothing less than total dynamite ” HI-FI WORLD

If you are the proud owner of any rega tonerarm, you are now in the enviable position to catapult it’s performance into the league of super arms with modifications offered by Origin Live - the 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 SUPPLEMENT NOV 97
(structural modification to an RB250)

WHAT HI-FI MAGAZINE gave this modification a 5 star rating.

For arm modifications we normally return your arm in 2 - 3 days

FOR FULL INFORMATION SEE WEB SITE OR CONTACT
Origin live, Unit 5, 362b Spring Road, Sholing, Southampton SO19 2PB
Tel: 023 80578777 / 80363249 Fax: 023 80398905 E MAIL: originlive@originlive.com
WEB SITE: http://www.originlive.com
MUSICAL FIDELITY A1000, professionally upgraded by MF engineer. Dac stepped attenuator, black gate capacitors throughout Nordost internal cabling. Very rare very special mint condition £850. Tel: 07973 128355 (London) (May(I)

WANTED: LEAK TL One Point one monoblock, Pyle Mozart, quality speakers. Tannoy's Red, Silver, Black, Gold, good quality transcription deck, SME arm, Thorens TD224, multichanger, anything unusual or interesting. Tel: 01726 812966 (St Austell) (Jul(I)

P+M COMPONENTS MPM211SE monoblocks immaculate £995. Audio Innovations Series 700, immaculate £450. All amplifiers re-visited with receipts. (Wanted) Albarry M1008-II monoblocks must be unmarked £400 waiting. Tel: 01796 615375 anytime (York) (May(I)

MUSICAL FIDELITY XA50s mint boxed with manuals £300. Proac Tabletto 2000 mint £400. Tel: 01992 765751 (Essex) (May(I)

MONITOR AUDIO Studio 50 floor standing speakers in rosewood. Excellent condition. Boxed. Move to France forces sale £1200 ono. Tel: Mike 01799 503893 anytime. Mobile: 07710 526277 (May(I)

TOTEM MODEL 1 Signature speakers £850. Transparent Musicwave plus bi-wire speaker cable 7.5m £650. Bryston power amp 4N/42 £1350. Bryston B2 25 preamp (inc. phono boards) £800. Serious saving, all boxed as new. Tel: 01636 830944 or 07979 536753 (May(I)

QED VECTOR Reference passive pre-amp wanted. Tel: 01275 845816 (May(I)

AUDIONOTE AN-CD3 CD player excellent condition (£1600) £750. Rega Radio (£300) £100. Interconnects DHX D102 MkII £40. Passion Passive pre-amp (all Vishay) £300. Tel: 0207 594 2903 daytime or Email: q.sattentau@c.ac.uk (May(I)

ARCAM XETA 1 surround sound amplifier (£1000) £250. REL Subwoofer (£500) £200. Mission 751 rosewood speakers (£800) £350. KEF 100 centre speaker (£350) £175. All immaculate will accept ono. Tel: 01245 224024 (May(I)

WANTED SME 3009 improved, or 3012 arm in good condition. Tel: 07712 761742 Mobile: 01775 761880 (Jul(I)

EAR 509 MkII 100wpc mono power amplifiers. Chrome chassis and transformers. Upgraded by Croft. Beautiful condition. £1350. Quicksilver mono blocks also upgraded by Croft £950. Tel: 0115 938 3814 (May(I)

NAKAMICHI CR7 boxed with remote £800. 'Wadia 12 DAC fine machine boxed £400. Tel: 07973 405916 (London) (May(I)

PROAC SUPER Tablette (black) immaculate condition £225. B & W passive subwoofer c/w tuning tubes mint condition £85. Tel: 07774 696222 (anytime) (May(I)

WANTED SANSUI S-M77 speakers part of 1980's M77 Hi-Fi system. Might consider taking part of M777 system. Must be S-M77. Tel: Mr Ian 01463 791449 (Jul(I)

ROTEL RB1090 power amp mint condition amazing power and dynamics £900 including delivery. Tel: 01237 350589 (May(I)

KEF CONCERTO II speakers in black ash virtually as new £300. Tel: 01526 320513 anytime (Lincs) (May(I)


MUSICAL FIDELITY XLP perfect condition boxed £80. Shure V15/ XMR almost unused boxed £150. XLO half metre XLR terminated digital interconnect slight casing crack £50. Tel: Peter Smith 0208 291 1084 or Email: Petersmith03@btopenworld.com (May(I)

QUAD ESL57 speakers, FM3 tuner, 303 power amplifier, 33 preamp, £740. Also Technics SL150 turntable, plus power supply, £2000. Posselt Albatross speakers, rosewood. £1000. Leak Stereo 20's monoblocks, modified. £400. Decca Blue cartridge, new, £300. Shure V15 VMR cartridge, new, £100. Tel: 0204 7632794 (May(I)

ALPHASON SYMPHONY turntable, excellent condition £525. DNM Reca cartridge £125 or free with above. Chord Solid interconnect, Neutrik plugs £50. Shure Ultra 500 cartridge £250. Tel: 01273 727476 (May(I)

NAIM ARO £600. Armageddon £350. CD: £650. All mint, manuals etc. Tel: 01638 668299 (May(I)

CYRUS PSX power unit. Excellent order and little used. Only £120. Contact Stuart Kingston, Tel: 07522 837240 or Email: stewart@kingston.fsnet.co.uk (Plymouth/Southwest) (May(I)

MERIDIAN 508.24 £1300. 502 £400. 501 £200. M56 £600. 590 £900. All very good condition. Nordost two pairs Red Dawn interconnects £160 each. Tel: 01784 886215 or 07967 653729 (May(I)


VALVE QUAD set up, £750 Valve set, boxed, for one TL-12.1 Monoblock. £250. Nakamichi BX300E 3 head machine, £200. SME 9 boxed, £120. Quad stacking stands, £100. Pair Quad 57's serviced 1990, £800. Tel: 01323 736575 or Email: TheTrifidNebula@aol.com (May(I)
SIEA 3D-LABS CDP, DAC, TRANSPORT AND DVD’s 24/192 with SRC sampling rate and bit converter translates 16,18 and 20 bit inputs to 24 bits format. All 32, 44.1 and 48kHz frequency is re-sampled to 192kHz. This is known as upsampling. The SRC is comparable with that used by DCS in the Purcell unit. Prices start from £1110 for a CDP with SRC.

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