14 PAGE VINYL SECTION SEE PAGE 98

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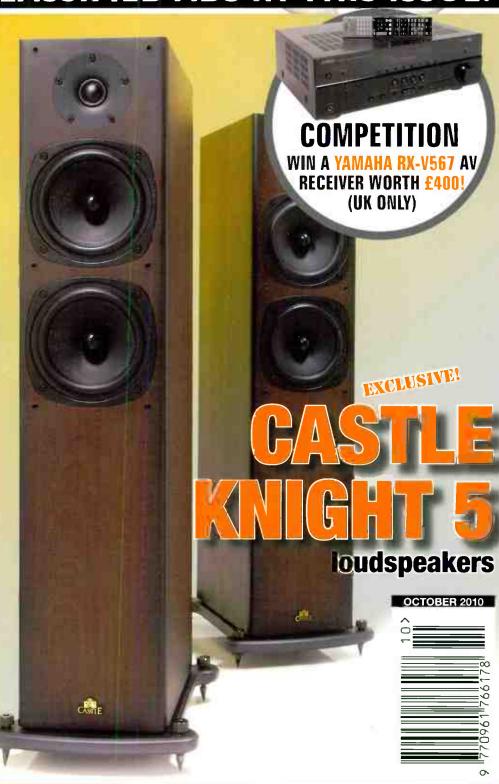
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12 PAGES OF LETTERS - THE BEST WINS A PAIR OF KEF 1Q30 LOUDSPEAKERS! (UK ONLY)

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"Wonderfully articulate speakers" Sonus Faber Liuto Monitor - BBC Music (September 2009)

"There is a graceful musicality about this speaker that marks it out as special"

Sonus Faber Liuto Monitor - Hi-Fi Choice (August 2009)

For such bijou speakers, the Toy's audio performance is immense"

Sonus Faber Toy – BBC Music, Best Loudspeaker of 2008

Sonus Faber has always believed that owning a pair of speakers should be a total aesthetic experience. Technology honed over decades to turn every place of music into a special auditory occasion is part of the story. But equally important is the meticulous styling and natural materals chosen for the cabinets which house the drivers. Inspired by the craftsmanship of the original makers of classical instruments such as the lute and the violin, Sonus Faber's blend of fine woods and eather adds up to the last word in aspirational Italian elegance.

And yet, thanks to Sonus Faber's fatest creations, such luxury costs less than you might think. The new Liuto loudspeaker collection reflects the smooth contours and classic joinery of the lute, delivering a sprightly musicality, as sensitive, rich and graceful to listen to as it is to look at. The lute shape is not just visually pleasing; its curves serve to stiffen the cabinet and dampen unwanted resonance, whilst the leather cladding stretched across the front baffle enhances dispersion. The result is a soaring, soulful sound.

Sitting alongside the Liuto range, Sonus Faber's Toy series sets out to destroy the notion that small speakers can't deliver wonderfully engaging sound. The warmth and responsiveness of their performance would challenge speakers three times their size, whilst never losing the sense of the fun and joy that the name evokes. Clad from head to toe in barred leather, these lovingly designed speakers are set to become style icons for the musical fashionista whilst simultaneously satisfying the audiophile.

Both collections have been specially selected for you by Absolute Sounds, the UK's leading importer and distributor of the finest, most desirable audio equipment the world has to offer.



The Liuto collection



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58 Durham Road, London SW20 0TW
T: +44 (0)20 89 71 39 09 F: +44 (0)20 88 79 79 62
www.absolutesounds.com info@absolutesounds.com





EDITOR

David Price

tel/fax e-mail

+44(0) 1672 811882 editorial@hi-fiworld.co.uk

DESIGN EDITOR

Faiza Chunara

+44 (0) 20 7625 3129 e-mail adproduction@hi-fiworld.co.uk

PRODUCTION EDITOR

David Noble

+44 (0) 20 7625 3134 tel: e-mail classifieds@hi-fiworld.co.uk

ADVERTISING EXECUTIVE

Debi Silve

+ 44 (0) 1723 500 435 + 44 (0) 7966 84 35 36 mob debisilver@hi-fiworld.co.uk e-mail:

ADVERTISING EXECUTIVE

Brad Francis

01923 677 256 tel: 07715 421 569 mob email: brad.francis@sky.com brad.francis.media skype:

ACCOUNTS

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

PUBLISHER

Noel Keywood

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

FREE READERS CLASSIFIEDS

+44 (0) 20 7625 3134 e-mail: classifieds@hi-fiworld.co.uk

SUBSCRIPTIONS

+ 44 (0) 1442 879097 tel: + 44 (0) 1442 872279 fax: e-mail: hifiworld@webscribe.co.uk

PHOTOGRAPHY

David Noble

+44 (0) 20 7625 3134

WRITERS

Haden Boardman, Tony Bolton, Steven Green, Paul Rigby, Adam Smith, Rafael Todes

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verdicts



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Back in vinyl's heyday, pretty much all music on sale arrived on that format. Then Compact Disc surfaced, and within a decade, sure enough almost everything came this way instead...

But then something in the cycle broke. The big manufacturers, who'd for so long assumed that whatever they deigned to give us, we would gratefully receive, got a rocket up their corporate

derrieres. The moment came, some time in the nineties, when the music buying and listening public

said, "hang on, we'll decide how we buy music, not you"...

And so it was that Digital Compact Cassette came crashing down, despite mega marketing from mighty consumer electronics giant Philips. And then Sony's MiniDisc followed, and then DVD-Audio and even Sony's loveable and practical SACD. "No thanks", we said, "just for now, we'll settle for MP3 instead"...

Ever since then, the boot's been on the other foot. Manufacturers still keep coming up with machines that play all number of formats, some of which actually sound superb, but the public seems to just shrug and say, "next"! It's almost as if we've become drunk on our indifference to the music industry's best efforts to fiddle with our formats.

I suspect we all know that in the end, the writing is on the wall. Surely, all our precious songs will eventually migrate to computer hard drives, solid state memory or 'clouds', stored in formats of our choice, and no one else's?

To reflect this, October's Hi-Fi World runs the gamut of formats; we've a group test of Blu-ray players [see p | 7], which play all number of file types. Then we've got an amazing CD player in the shape of the Wadia W381 [p54], which also plays 24/96 FLAC tunes, off ROM discs. There's a mad nineteen eighties-style MP3/WAV/FLAC portable from hiSound [p80] and a do-it-all DAC/iPod dock/ amplifier from Peachtree Audio [p30], too.

Don't despair though, if you're a fan of the 'original and best' format of them all (in my book), as our extensive vinyl section showcases Nottingham Analogue's Hyperspace [p100]. Ultimately, just forget the format and enjoy the music, say !!

David Price, editor

testing

To ensure the upmost accuracy in our product reviews, Hi-Fi World has extremely comprehensive in-house test facilities, and our test equipment - from big names like Rohde & Schwarz and Hewlett Packard - is amongst the most advanced in the world

Loudspeakers are measured using a calibrated Bruel & Kjaer microphone feeding a Clio-based computer

analyser, using pulsed and gated sinewaves, in a large room to eliminate the room's influence. Pickup arm vibration is measured with a Bruel & Kjaer accelerometer.

No other UK hi-fi magazine has in-house testing, and none has access to such advanced tests across all types of equipment. That's why you can depend on Hi-Fi World





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66 Elac's super new BS243 standmount loudspeakers.











Nottingham Analogue
Hyperspace turntable; lovely!



hi-fi world

OCTOBER 2010

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PHOENIX RISING

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The Fenice is vast: over 170cm tall and weighing in at 305kg it makes a B&W 801D look like an iPod accessory. As you'd expect from the company, the woodwork is exceptional, as is the leather, but there are also aluminium top and bottom assemblies, machined from solid material and linked by an internal shaft for maximum rigidity. The concept is described as a "silent case", where the drivers are held securely to do their job. The multiple drive units are bespoke, the tweeter being a 25mm ring-type, using a neodymium/samarium-cobalt motor, and mounted compliantly with a dedicated mass-damper. The 16.5cm midrange unit has a cone made from cellulose, papyrus and other natural fibres, and a substantial motor, while the twin woofers use 25cm cones constructed from a sandwich of syntactic foam and cellulose pulp. The side-firing 38cm infra-bass unit has its sandwich enclosed in nano carbon fibre. The 11cm voice coil has progressive damping built-in, and you can also tweak the sound pressure level of the infra-bass section to suit the room. Only 30 pairs will be made, all of which have already found a home. For more details on Sonus Faber, call Absolute Soundson +44(0) 208 971 3909 or click on www.sonusfaber.com.

ALPHA SALE

Furutech has a new sister brand, Alpha Design Labs, and the first product to hail from it is the ADL GT40 24/96 USB DAC/Phono Stage. Said to "bring harmony to computer files and analogue inputs", it is built for enthusiasts with growing music collections on computer hard drive; "when converting LPs or other analogue sources to digital, the GT40 will give excellent results with every album archived". The heavily-shielded audiophile-grade design features a low-latency USB 2.0 audio driver that plays and records at 96kHz, and there's a low-noise MM/MC phono preamp built in, It sports switchable line or phono inputs and is wired internally with Furutech's GT2 USB cable. Price is £395; for more information call +44 (0) 1276 501 392 or click on www.soundfowndations.co.uk.



DEPECHE (V) MODE!

V-Moda's new Crossfade LP headphones are said to feature a "lightweight metal design, revolutionary dual-diaphragm HD drivers and ultimate ergonomics", no less! The world's most fashion-forward headphone, as they're described, was developed over the span of four years "in collaboration with the world's top musicians, DJs and producers". The design features patent-pending 50mm dual-diaphragm drivers said to deliver multiple driver sound with the efficiency of a single driver. Available in a choice of White Pearl. Phantom Chrome and Gunmetal Black, it's said to be incredibly lightweight and offers a comfortable fit tailored by ergonomic experts.

Price is £229.9 from www.v-moda.com.



ISOL-8's new £369 PowerLine 1080 power conditioner is "purpose designed as a simple effective way to upgrade the performance of a complete system", the maker says. Handmade in the UK and with a five year guarantee, it sports four filtered power outlets specified by function (Display power; video filtered; Source power x 2; audio/video filtered; High power; "non-invasive filtration to preserve dynamics"). It uses silver-plated copper wiring with PTFE insulation, and its chassis anodised 6mm thick

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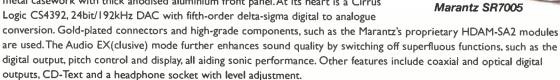
www.isol-8.co.uk.



BOX SET

Marantz isn't one to abandon budget separates, as its new CD5004 Compact Disc player and PM5004 stereo amplifier show. The £219.90 and £249.90 (respectively) designs are said to "offer a taste of high-end audio at an incredibly competitive price point". The remote-controlled CD5004 employs a highly stable CD transport mechanism that delivers excellent data retrieval. This sits on a specially

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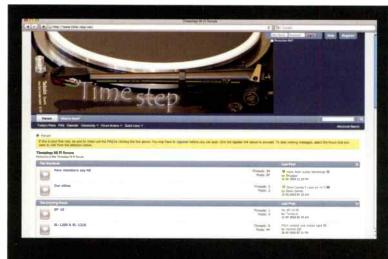
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LIVE AND DIRECT

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designed low-resonance, acoustically damped, rigid chassis inside the allmetal casework with thick anodised aluminium front panel. At its heart is a Cirrus Logic CS4392, 24bit/192kHz DAC with fifth-order delta-sigma digital to analogue

conversion. Gold-plated connectors and high-grade components, such as the Marantz's proprietary HDAM-SA2 modules are used. The Audio EX(clusive) mode further enhances sound quality by switching off superfluous functions, such as the digital output, pitch control and display, all aiding sonic performance. Other features include coaxial and optical digital outputs, CD-Text and a headphone socket with level adjustment.

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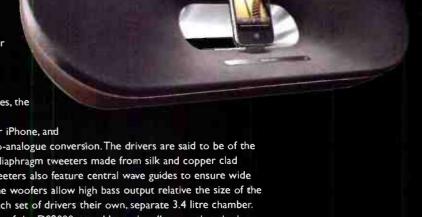
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FLOAT ON

The high end iPod dock/loudspeaker sector, as defined by the B&W Zeppelin, has a new combatant in the shape of Philips' new £399 Fidelio DS9000. Said to "guarantee pure, audiophile sound", Philips says it employs "the highest quality natural materials and top-grade components together in an acoustically designed and striking cabinet". The cabinet has been constructed using Veneer Lamination technology normally reserved for high-end furniture. The process involves gluing together multiple layers of lacquered ply wood to a depth of 12mm and then forming or bending them into a specific curved shape. The natural stiffness and shape of the

construction reduces unwanted vibrations to a minimum while minimising the creation of internal reflections and standing waves, the company says.

The DS9000 takes the digital output direct from an iPod or iPhone, and the processing is then followed by "audiophile quality" digital-to-analogue conversion. The drivers are said to be of the highest quality with two lin. low distortion, dual ring-radiator diaphragm tweeters made from silk and copper clad aiuwire to give light weight and fast, accurate response. The tweeters also feature central wave guides to ensure wide and consistent dispersion. Two high efficiency, 4in. inverted dome woofers allow high bass output relative the size of the cabinet which is physically divided to add rigidity and to give each set of drivers their own, separate 3.4 litre chamber. An "audiophile grade" passive crossover is used, and at the rear of the DS9000, tuned bass pipes "ensure that the bass is deep whilst tight". The sound can be tweaked and adapted with the free Fidelio+ app for iPhone and iPod touch. For more details, click on www.philips.co.uk or call 0906 1010 016.



RECEIVING LOUD AND CLEAR

Denon, which is celebrating no less than one hundred years of life this year, has released two new "advanced" audio/video receivers. Both the £1,199.99 AVR-3311 [pictured] and the £799.99 AVR-2311 are said to improve upon their award-winning predecessors with a wide variety of enhancements. They feature full 3D video connectivity, come with high-class Anchor Bay Technologies video processing, USB ports with "Works with iPhone" certification and multi-zone support. For more information, click on www.denon.co.uk.







ABSOLUTE CLASSICS

Roberts has two new analogue radios, the Classic 996 and Classic 997 out now. Both radios offer LW, MW and FM wavebands, and are said to be "lightweight, portable and easy to use". Priced at just £19.99 and £29.99 respectively, the Classic 996 offers an intuitive dial tuning system. The Classic 997 is based on the same design but is a bigger model with a larger loudspeaker. Both radios are available in black or white finishes. For stockist details call 01709 571 722 or visit www.robertsradio.co.uk

ON THE SLATE

The late, lamented Slate Audio have returned to the industry!

The newly resurrected company has recently launched their "first of many" products via their website. The New Glassmat is a rejuvenated version of one of the company's original products for vinyl enthusiasts. These come in three colour ranges, 301 Cream, 401 Brown

products for vinyl enthusiasts. These come in three colour ranges, 301 Cream, 401 B and Glassmat 100 in black. For more information, click on www.slate-audio.co.uk.





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THE ITALIAN JOB

It took Andrea Pivetta no less than six years to conceive, design and build this unique Opera One cylindrical power amplifier. Offering 12x600W RMS of Class A/B power (6x 3200 RMS when bridged), it sports balanced XLR and RCA phono inputs, and measures a vast 800x1100x800mm. The weight is a backbreaking 500kg. In typically self-effacing Italian manner, it is described as "a work of art". If you're interested, expect to find around half a million dollars. For more details, click on

www.higherfi.com/audio_amps/1

FOUR ON THE FLOOR

- 41 6

QUAD Musikwiedergabe of Germany invites you to join the next QUADfest on the 4th and 5th of September, 2010, at the headquarters of Quad Musikwiedergabe in Gering (Eifel). Jürg Jecklin (Jecklin Float) will speak about the benefits of multichannel recordings, while Peter Mühlmeyer (Ortofon, Germany) will be there to answer all questions

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latest pickups
and tonearms.
Henk Hompert
will demonstrate
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electrostatics, and a
professional Studer
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alongside a modern
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more information, click on www.QUAD-Musik.com.

PHONEY SKIN

For those iPhone users ashamed to be seen slavishly following current fashion, they can now upgrade the look of their pride and joy with the iPhone Cassette Skin and Stand, Just £12.99 buys you this cute little cover that oozes retro cool; it also comes complete with a cassette case for you to keep it in and also prop it up with! A lovely little piece to be sure, but we'd like it even more if it made iPods sound as good as cassette portables, rather than just look like them!

See www.iwantoneofthose.com.





GLASS CLASS

In last month's review of the Waterfall Victoria EVO loudspeaker, we said that its cabinet was made of glass which was not of the 'safety' type as it says on the website FAQ. We can confirm that it is heat treated toughened glass. For more information on this excellent loudspeaker, click on www.waterfallaudio.com.

CRYSTAL MAZE

Crystal Acoustics has a new, full bipolar surround sound speaker system. The Greek-designed £600 system comprises "sleek, compact, 105cm high tower speakers finished in a luxurious high gloss black" boasting "state-of-the-art engineering", including a bipolar speaker configuration. This arrangement, a pair of 7.5cm drivers pointing in different directions and wired in-phase, features a rear firing mid/bass driver. The magnetically shielded tower speakers mid/bass drivers are partnered by a 2.5cm tweeter with neodymium magnet. The narrow front baffle of these designs delivers reduced diffractions and better dispersion for a more precise sonic image, the company says. A timbre matched centre channel handles dialogue, while the THX Select-certified THX-10SUBt offers the low-end power.

The subwoofer features a flat anechoic response from 35Hz to 200Hz and accurate inroom response from 19Hz to 350Hz for the very clearest low-end frequencies, it's claimed. The 120 Watt amplifier drives a ten-inch long throw driver, sporting a light but rigid treated paper cone, backed by "serious" magnets. The cabinet is heavily braced at critical points to offer as acoustically dead an enclosure as possible. Matching this system are Crystal Acoustics's BPS 2.0 speakers, ultra compact, £119 per pair, bipolar satellite designs that deliver unequalled sound dispersion. Their small size makes them ideal for wall mounting, the company says, and they can be placed either horizontally or vertically. They comprise two 7.5cm mid/bass drivers and a 2.5cm tweeter. The magnetically shielded BPS 2.0 speakers can be used as either surrounds, centre or even front channels. For more details, call +44 (0)20 8133 7066 or click on www.crystalaudiovideo.com.





Oval Teeny

In the big scheme of high end loudspeakers, Vivid's V1.5s are small fry, in physical size at least. But in somic terms, they're an altogether different cup of cocoa, says David Price.

ow would you imagine a £6,000 loudspeaker? Most people's view would be something like an Epos Encore 50, a tower of power asserting itself on your listening room in physical as well as sonic terms. By contrast to the sharp, bold edges of the Creek and its ilk, the Vivid VI.5 is but a mere babe in the woods. In some ways, it is very nineteen nineties in its delicately rounded swoopiness and sculpted stands; it's certainly no thumping great sharp-edged in-your-face behemoth as is becoming the fashion again now...

The baby Vivid is a smallish (by class standards) 22 litre two-way design, although with its integral stainless steel reinforced resin pedestal stands this adds up to dimensions of 1,130x255x240mm and a 23kg weight. The cabinetry (such as it is) is completely different to your average wooden box; rather injected carbon fibre reinforced polyester is used to make it as acoustically inert as possible. This was decided by designer Laurence Dickie, who has considerable prior experience of exotic sculpted speaker forms, what with him being the designer of the B&W Nautilus and all!

3D solid modelling CAD software was used to give him complete freedom to

design a shape that best suited the job in hand of removing the vibes from a hollow, intrinsically resonant box. Doubly curved surfaces also increase the stiffness of the shell, and this rigidity is further enhanced by lateral braces. This is all done inhouse, so Vivid have complete control over every stage of manufacture. Tap the VI.5 and it is indeed a pretty dead structure, and interestingly seems to 'decay' very quickly; it's not as if energy is stored in the cabinet.

The other key difference between this and rival designs is the choice of drive units, being 'material matched' in a magnesium/aluminium alloy. Laurence told me he chose 5052 aluminium/magnesium alloy specifically after hearing reports from the pro field that titanium never sounds so sweet. The mid/bass unit sports an extremely open chassis that's said to minimise interference with the rear cone output, and the use of a radial magnet to keep the area to a minimum also helps in this respect. At 3kHz this crosses over to the 26mm dome tweeter, which is sitting within a waveguide which controls directivity. Both drivers are the very same ones found in the company's higher end products, including the BI we reviewed in September 2009. Van den Hul cabling is used inside, terminating in four high quality WBT terminals discreetly recessed into the heavy cast resin base. Overall construction quality is excellent, and the speaker is available in a number of painted, lacquered

rather contradictory in the look of the speaker, which is all soft curves and smooth lines (it doesn't bravely assert its muscular physical presence) and its sound, which is massively wide, open and oozing confidence. It's an odd sensation, but you just don't expect a speaker that looks this genteel and inoffensive to be so unremittingly fast, powerful and punchy. In the world of high end speakers, this is actually rather an unusual phenomenon; normally boxes at this price are styled to look the part, even if many of them don't sound it!

In truth then, the V1.5 (and indeed the B1), is far more muscular to listen to than look at. But that's muscle as in lithe short distance sprinters, not bulbous body builders; the Vivid's sound is very light, fast and agile. It lacks physical bulk; there's no sense it's carrying any unnecessary weight at all; every last sinew is just as strong as it needs to be, and just heavy enough so as not to slow it down.

Cue up Fourplay's 'Dream Come True', an immaculate slice of superbly crafted mid-nineties jazz fusion, and the VI.5s are utterly in their element. The basic sonic signature is light and bright (but forward, you understand), the Vivids dissolving into the background like James Bond's Aston Martin Vanquish in the Ice Palace. In this respect, they're utterly exceptional; I've heard panel speakers that don't integrate into rooms as well as these. The sound is vast, and expands out the more you turn

"I've heard panel speakers that don't integrate into rooms as well as these; the sound is vast, and expands out the more you turn the volume up..."

SOUND QUALITY

It's now well over a year since I heard the BI, so it was fascinating to set ears upon this, its smaller brother. And I have to say the family resemblance is *striking*; it was like being transported right back to the time and place the BI was first powered up in my front room. There is absolutely no mistaking this is a Vivid loudspeaker, and I mean that in the most complimentary way possible...

If you've not heard one, let me explain. First, there's something

the volume up, and it's also three dimensional too, the Vivids making a bold stab at pushing instruments out at you, or hanging them back, as appropriate. In this respect, the song's machine-gun electric guitar runs were stunning; the sound seemingly etching itself between my eyes without sounding in the least bit acerbic. Behind this sat the rhythm section, the Vivids relaying with relish every pan roll the drummer made; the dynamic accents on the snare were immense, almost as if the recording had found an extra 3dB of headroom from nowhere. Cymbals sparkled

with a delicacy the like of which I've not heard for many a month, and had a wonderful sheen that you just can't get with an electrostatic panel or cloth dome; only ribbons can do better, and even then rarely manage this

Given that the VI.5s are so wonderfully dextrous. I suspected that they'd be quite an enjoyable listen with electronic music, and so it proved. Crystal Waters' 'Gypsy Woman' came through as never before, the Vivids providing electrostatic levels of detail and speed but with all the thump of a top cone loudspeaker. The clarity to the opening keyboard refrain was a joy, every last nuance of the instrument's timbre carried brilliantly, and then her voice kicked in. Despite the obvious processing it had undergone, I still got the eerie feeling of being right there in the vocal booth with her. It's the 'hear through' clarity of the Vivids that mark them out from almost any other moving coil loudspeaker system I've ever heard. As the bass drum and bass guitar lines kicked in, the VI.5s showed their incredible speed; it's true that they're not exactly over-endowed in the bass department but the sheer speed makes up for this, these loudspeakers proving a wonderfully tuneful experience.

'Far Out' by Sonz of A Loop Da Loop Era was pure pleasure; glorious chiming Casio FZ-I piano sounds abounded from the VI.5s, sparkling with harmonics and showing a delicious tonal richness. So light and responsive are this speaker's drivers, and so well integrated, that the natural flavour of the instruments is beautifully rendered; you're not listening to cheap cones breaking up all over the place, and/or getting in a flap trying to keep pace with music. As such, unlikely as it may seem given their reasonably compact dimensions, these are one of the best loudspeakers I've heard for dance music; better even than BIs I'd venture. You get

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a fraction less bass, and a touch less maximum sound pressure level, but the VI.5s are even faster and better integrated. It's true that the VI.5s don't do deep bass, neither do they sound especially fulsome, but listening to fast, pounding dance beats is unalloyed joy all the same.

It's this same core set of abilities that made Kate Bush's 'This Woman's Work' such a memorable moment; listening to Kate Bush on most speakers is essentially a case of listening to them do their best to disguise their deficiencies; a cabinet or port bump here, a phase problem there, a crossover spike or drive unit ring elsewhere. Not so with the Vivids; Kate's unerringly beautiful yet icily cold and unforgiving voice was given a chance to resound in all its beauty. At the same time, those backing piano chords rang out with bell-like clarity, presenting themselves with a good deal more weight and body than expected given the modest physical dimensions. And all this was framed in a recorded acoustic so secure that it felt like I could have walked in and started hanging pictures inside it; vague, phasey, flaccid imaging isn't a criticism anyone could ever level at the Vivids!

Lush's 'For Love', a densely layered, heavily compressed and scratchy early nineties indiepop song is packed full of crashing, processed guitars which can descend into an unedifying mush on lesser loudspeakers. The same can't be said for singer Miki Benrenyi's vocals, which grate horribly if given half the chance, making for a listening experience that's testing to say the least. I'm pleased to say the Vivids gave a most atypical rendition of this track however, gently picking through the swathes of strummed guitars to reveal a smooth but breathy vocal sound beneath. At the same time, the VI.5s threw out quite a combative bass guitar sound, underpinning the track beautifully and giving the song a real sense of propulsion where so often it can be a dirge.

Moving to a classic
Deutsche Grammophon
imprint of Vivaldi's 'Four
Seasons', and the first part of
'Autumn' was no less enjoyable
than I'd expected. Cue some
timbrally rich violins and
cellos, satisfyingly natural and
unprocessed in their sound,
playing with thrilling gusto and
verve. It was almost as if the
Vivids were marking out the
accents on the sheet music

in bold marker pens, making the musicians push harder to convey a sense of drama. Whereas so often there is a fairly dispassionate, albeit clean and powerful rendition of this music via high end loudspeakers, instead I got a true seat-of-thepants white knuckle ride through the music, as if I was right at the 'coal face', so to speak. Once again, this combination of speed and dynamics allied to breathtaking incision and tonal accuracy proved a heady combination; the Vivids were magnificent.

CONCLUSION

Best small loudspeaker in the world, then? Well come on, you know I couldn't credibly say that, not least because the Vivid V1.5 is simply not all things to all men and women. Lovers of reggae and drum and bass will delight at the speed of these loudspeakers, but will go off in search of the bottom octave. Despite the bass being good by medium sized standmounter standards, they're nowhere near the extension offered by similarly priced floorstanders; it's simply no contest.



However, if you're not troubled by this, I can honestly say they're very much at the top table of loudspeakers I've heard in terms of musicality and insight into recordings. And what I love is that they're not forensic in a negative sense, despite their ability to shine a brilliant white halogen light at the recording. They simply get down and groove with whatever they're asked to play, from the cheesiest disco to the most prim and proper classical. I loved them, and you can't say fairer than that.

MEASURED PERFORMANCE

The V1.5 has been carefully balanced in its frequency response so as to have smooth treble that is unaccentuated, unlike so many modern loudspeakers. A small midrange crossover dip from 3kHz-7kHz will help toward keeping the delivery easy and free of 'hard' upper midband information. A lift in lower midrange/ upper bass output below 500Hz should add a little body to the sound as well. Overall, frequency response looks carefully judged and engineered to give a smooth yet very accurate sound.

Bass rolls down slowly below 120Hz and reaches down to 55Hz (-6dB). The port is tuned to 38Hz and will add to low bass, although port output was quite restrained at +1dB at 80Hz relative to the bass unit, where most loudspeakers register +6dB or so, so the V1.5 will not have particularly heavy bass, but it looks reasonably well controlled. Near wall placement looks as if it would be best to support lower bass. The loudspeaker cuts off below 40Hz so will have clean and quite fast bass, but little in the way of subsonics.

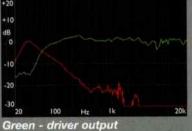
Impedance measured a very high 12 Ohms, with DCR a high 7 Ohms, meaning the loudspeaker uses a 8 Ohm bass driver rather than the usual 4 Ohm. This means current draw is low, but it also lowers voltage sensitivity. Considering the loudspeaker's very high impedance a sensitivity value of 87dB was good, so around 60 Watts will do for most purposes.

The decay spectrum was clean enough across the midband but a little hot around 180Hz and 75Hz, but whether this will be audible is difficult to determine, except by listening. Distortion across the midband was steady at 0.3%, a normal enough figure, but bass distortion was relatively low at above 50Hz, 1% from the bass unit and 4% for port.

The V1.5 has been engineered to

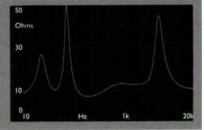
The V1.5 has been engineered to offer a very accurate and clean sound free from artifice, with tuneful but not heavy bass. NK

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Green - driver output Red - port output

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u Fun Dav

Noel Keywood orders six new Blu-ray players, in a bid to discover the most talented machine for music...

lu-ray hasn't caught the public imagination. It's seen as DVD with better picture quality - but only a little better. That's down to a lousy launch, narrow marketing and players from Apple Computer that make spinning silver discs look like Fred Flintstone's spare wheel. Pity really, because Blu-ray does a great job and is able to deliver fantastic sound quality. As an audio medium it delivers better digital sound than CD. This is a group test of Blu-ray players in their role as hi-fi players, even if most people don't see them that way.

Blu-ray is narrowly marketed as an AV product, yet it wasn't conceived exclusively as such. Blu-ray audio discs, without video, were part of the original specification and they exist today; go to the 2L website (www.2l.no) where you'll find super high definition digital audio discs all the players here will play. And Amazon UK list 456 Blu-ray 'Music' category discs of concerts old and new, as well as audio-only discs. These include Rock greats like the Who and Led Zeppelin, Hendrix, et al, as well

as modern albums and a wide range of Classical music too.

Modern Rock concerts recorded in 24/96 digital on Biu-ray sound cleaner and snappier than CDs, and classical recordings from 2L in top resolution 24/192 digital code, and surround-sound are sparklingly clear and life-like. Where CD and DVD were 'challenged' in what they could carry, Blu-ray has plenty enough capacity and data rate to handle the most advanced digital audio going - and you can get spectacular sound quality.

At present Blu-ray is marketed as offering an "exciting home theatre experience" and little is said about its audio qualities, other than allusions to Dolby TrueHD and DTS HD Master Audio. The inference is that if a player has them, it's good. Which isn't true. It's better if decoding of these (losslessly) compressed sound track formats takes place in the receiver. It only need happen in the player if the receiver can't handle them, but all good modern receivers can. This illustrates the need for a good, modern AV surround-sound receiver to accompany these players

if high quality audio is the aim. Such a system will bring high quality sound reproduction to movies of course, and Blu-ray players also play video DVDs and audio CDs.

And finally to a distinguishing feature of some Blu-ray players that may or may not be important to you; the ability to play SACD and DVD-A. If you have a collection of these discs or want to buy specialist SACDs,

because SACD offers superb sound quality, then a Blu-ray player is the answer. Few players can handle these discs but we have oneand-a-half in this group. Sony have finally decided they will support SACD, which is their technology, but not DVD-A. Cambridge Audio's

SONY BDP-S370

£120 p18 p19 PANASONIC DMP-BD45 **SAMSUNG BD-C6900** p21 YAMAHA BD-S667 P23 CAMBRIDGE AUDIO 650BD 399.95 p24 **NAD T557** £580 p25

REFERENCE SYSTEM

MARANTZ SR8002 AV RECEIVER WAD KLS9 & USHER S520 LOUDSPEAKERS

player will spin both and can play any silver disc - quite a feat! If you enjoy music then Blu-ray has a lot to offer; read on to find out why...

SONY BDP-S370 £120

ony have re-discovered their own technology and include full (i.e. high res. DSD layer) SACD replay in the BDP-S370, a feature that will delight those who love SACD's smooth sound. It also distinguishes this Sony from most competitors. DVD-A discs are played, but not their high resolution PCM code, only Dolby Digital surroundsound. Also handled are USB music files MP3, WMA, WAV and surprisingly, AAC. Also playable are AVCHD camcorder format as well as the MPEGs and DivX. So the small Sony handles most audio formats, a big plus point.

Its audio set up menus are extensive, if opaquely worded in places, but the player can be set to output Bitstream (native) digital via HDMI, acting as a transport. It can also be set to onboard convert DTS HD Master Audio, Dolby True HD and SACD (DSD multichannel layer) to PCM output via HDMI, our tests showed. All formats were played properly, including 24/192 DTS HD Master Audio in surround-sound from our 2L discs, as well Dolby TrueHD from a Dolby test disc. Onboard loudspeaker setup is not provided; analogue outputs are basic stereo only.

The player connected automatically to the internet using DHCP without difficulty via ethernet cable, and was updated to MO3.R.623 software. It declares its MAC address, shows all router address values and can accept LAN settings entered manually. Sony include You Tube and BBC iPlayer software, and Gracenote album data, and YouTube brings in a vast amount of music. As always, YT search is tedious via remote control text entry without YT's prediction available on-screen, but entries can be stored.

Our BD-R and RE test discs played without a hitch.

Load times were fast with Java

menus, John Meyer's 'Where the Light Is' loading in 22 seconds (30 secs is common) but our BDMV menu test discs took 14 secs against the usual 10 secs. Track number entry from the remote control keypad is not available but is available onscreen. Video quality was surprisingly mediocre in HQV tests, with some jaggies, slight breakup with 24Hz film loss test. Horizontal resolution was just average too, but our test BDMV HD videos looked good, being nicely balanced in saturation, low noise and unaccentuated sharpness.

SOUND QUALITY

The analogue outputs were excellent, clear, crisp and dynamic, but in stereo of course; they did a good job with CD.

Digital audio via an optical S/ PDIF link was full bodied, smooth and easy going but hardly better than the analogue outputs, switching between them when playing CD showed.

HDMI was a little harder in tonal character, most apparent with Rock music, The Eagles' 'Long Road Out of Eden' CD sounding a tad punchier, for example, but not cleaner until HDMI video was switched off at the Marantz SR8002 receiver in Pure Direct mode.

SACD sounded as easy going and luxurious as usual and was always an alternative to 24/192 with our many 2L discs where both are provided. Percy Grainger's piano and the orchestra sounded clearer and harder etched with Grieg's piano concerto, from the 24/192 DTS HD Master Audio track, SACD sounding less dramatic. The Sony gave a fine sound from 24/96 PCM Blu-ray music concerts too.

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VERDICT ••• £

Plays all discs, gives great SACD quality and sports YouTube too; this

Sony does it all, for peanuts!

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FOR

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- YouTube & BBC iPlayer
- low price

AGAINST

- mediocre picture quality
- lightweight build
- stereo analogue only

MEASURED PERFORMANCE

Frequency response from CD through the analogue outputs was flat to 21.6kHz, our analysis shows. Frequency response with 96kHz sample rate digital reached 48kHz and with DSD code from SACD a high 65kHz.

Distortion levels were low with CD (i.e. 16bit), measuring 0.22% at -60dB, resulting in an EIAJ Dynamic Range value of 99dB. As usual distortion dropped with 24bit, the player returning a low 0.1% at -60dB and 0.12% from DSD code. This is a relatively good performance for a budget player, showing Sony has put some effort into the analogue performance.

Jitter levels from S/PDIF were respectable, a 1kHz, -60dB tone producing 80pS of signal related jitter, whilst random jitter hovered around 10pS across the audio band, but hum induced jitter hit 400pS. Output was a normal 2.05V.

The player's internal conversion of digital audio to analogue reached a high standard, so CD and both SACD and 24/96 PCM digital will give very good sound quality from these outputs. NK

Frequency response (-1dB) CD,24/96,DSD 2Hz -21.6/48/65kHz

Distortion (%)	DSD	24/96	CD
0dB	0.004	0.004	0.004
-6dB			0.006
-60dB (16,24bit	0.12	0.1	0.22
-80dB			4.3

Separation (1kHz)	110dB
Noise (IEC A)	-99dB
Dynamic range	99dB
Output	2.05V

FREQUENCY RESPONSE



PANASONIC DMP-BD45 £150

rikey, this basic player doesn't even have an internet connection, so it must be aimed at residents of Tierra Del Fuego!

If BD-Live and Vieracast are not a concern, then it does not matter. YouTube and BBC iPlayer are also unavailable without the 'net, and software update is performed by downloading to a computer, burning to CD-R then uploading from this. Tedious...

The Panasonic doesn't play high resolution audio from SACD or DVD-A discs, but does of course play their low res. tracks, so at least they play. It also plays CD, DVD and Blu-ray discs, and span our test BD-R and BD-RE discs without difficulty. USB memory sticks and SD memory cards are also read, but not AAC compression.

The rear panel is a picture of simplicity, having stereo audio outputs to accompany a Composite video output. an HDMI output and an optical S/PDIF digital audio output, but oddly not a simpler electrical option via an RCA socket.

A frustrating weakness of this player was its archaically slow load times, no less than 25 secs for a simple BDMV menu that normally loads in 10 secs, and 50 secs for a Java menu that usually takes 30 secs. Dreadful!

Balancing this was absolutely fabulous basic picture quality, very low noise bringing a silky, lustrous quality to colours, superb colour balance making grass and trees looking richly natural. Detail was good, but normal; highest SMPTE test card horizontal resolution was not resolved. Jaggies were minimal except in Pause, when they were higher than the other players.

The DMP-BD45 played 24/192 music in PCM form our tests confirmed, and losslessly

compressed DTS HD Master Audio and Dolby TrueHD form. The player can be set to output PCM via HDMI, to receivers unable to decode these formats.

The set up menus were poorly structured and the remote control a bit clunky, but there were plenty of options.

SOUND QUALITY

Sound quality from CD via the analogue outputs was fair, with strong bass but a touch of midband muddle. Drums and bass from the Eagles' 'Long Road Out of Eden' CD had plenty of heft to them, so the Panasonic came over as solid here. Via S/PDIF bass became a bit bloated and heavy, with less definition, but the midband was clearer and easier. It was good

but far from perfect. HDMI had less midband glare and hardness than many of the players and, with video switched off using Pure Direct at the Marantz receiver the Panasonic's HDMI link was one of the cleanest sounding of the group with CD, but differences are subtle here.

John Meyer's 'Where the Light Is' in Dolby TrueHD at 24/96 code, was firm and clear, and the video excellent, making for a great performance. The Who 'Live at Kilburn' looked lustrous and sounded wonderfully energetic. Our 2L discs with 24/192 DTS HD Master Audio all played very well, Percy Grainger's stunning playing of Grieg's 'Piano Concerto' resounding around the room in 24/192 surround-sound, a great experience.

MEASURED PERFORMANCE

Frequency response from CD
through the analogue outputs was
flat to 20.8kHz, our analysis shows.
Frequency response with 96kHz
sample rate digital reached 46kHz
from the analogue output so the
benefit of high res. is available here.
Distortion levels were low with

Distortion levels were low with 16bit code from CD, measuring 0.22% at -60dB, and this contributed to an EIAJ Dynamic Range value of 99dB. Distortion dropped with 24bit as expected, the player returning a low 0.09% at -60dB. This is a good performance for a budget player, showing the Panasonic has a decent analogue performance.

Jitter levels from S/PDIF

Jitter levels from S/PDIF were average, a 1kHz, -66dB tone producing 100pS of signal related jitter, whilst random jitter hovered around 20pS across the audio band, but low frequency jitter rose to 40pS. Output was a normal 2.2V.

The Panasonic's onboard conversion of digital audio to analogue reached a high standard, so CD and 24/96 PCM digital will

sound good from its stereo analogue outputs. NK

Frequency response (-1dB) CD, 24/96 2Hz - 20.8/46kHz

 Distortion (%)
 24/96
 CD

 0dB
 0.002
 0.003

 -6dB
 0.007

 -60dB (16,24bit)
 0.09
 0.22

 -80dB
 4

Separation (1kHz) 112dB
Noise (IEC A) -104dB
Dynamic range 99dB
Output 2.2V

FREQUENCY RESPONSE



VERDICT •

Great picture but limited in other respects, making this middling value even at its modest price.

PANASONIC DMP-BD45 £150
PANASONIC UK LTD.
(C +44 (0)344 844 3852
www.panasonic.co.uk

FOR

- lovely picture
- low price
- good sound

AGAINST

- no hi res SACD or DVD-A
- clunky to use
- no YouTube



In 2010, size matters

From October, slim is the new large. Seriously.







SAMSUNG BD-C6900 £299

he BD-C6900 is slim, light and elegantly finished. It is 3D ready if you have the specs and the movies, such as they are. Internet connection through an ethernet cable is provided, for BD-Live content and there is 588MB of onboard memory for storage. This is a video orientated design and so unsurprisingly does not play the high resolution content of either SACD or DVD-A discs. The former plays as CD and the latter its Dolby compressed tracks, but at least they play. It does play from a USB memory stick.

However, it isn't quite so simple because a full 7.1 analogue audio output (phono socket) set is fitted on the rear panel for connection to older receivers. Onboard speaker adjustment was perfunctory, altering size only, not level or distance. YouTube is available and this provides a vast collection of music, albeit at low quality, Samsung's clear data entry and on-screen prediction list 'guessing' Within Temptation at the 5th letter — not bad! Many other internet services are provided too.

Our player successfully connected to a router using DHCP and was updated to BSP-C6900WWB-1014.0 software version before use.

Load times were unusual, the Java menu of John Meyer's 'Where the Light Is' loading in a very fast 18 secs (30 secs is common) but a simple BDMV menu usually opened in 10 secs took 17 secs. Mostly, the Samsung was snappy enough.

Our tests showed that DTS HD Master Audio at 24/192 from 2L discs was decoded to PCM, and so was 24/192 Dolby TrueHD. Set to Bitstream, both were passed out to the receiver in raw form. The Samsung had no trouble with Dolby TrueHD audio at 24/96 from our Dolby test Blu-ray, as expected.

Samsung always provide

excellent video and the BD-C6900 was no exception, with low colour noise giving silky smooth colour; good detailing and fine chroma and luma balance giving a rich but natural picture. All HQV Blu-ray tests were handled perfectly, with no jaggies even at Pause. SMPTE test card sharpness and definition were high. Our outdoor HD video test BD-Rs of grass and trees looked superb and a BD-RE was read without problem.

SOUND QUALITY

The Samsung was quite different to the other players in having an analogue sound very close to that from HDMI when playing CDs—quite a shock. It was fast, tight at low frequencies and unusually clean and muddle free across the midband. HDMI had no hardness or glare and switching between the two when

playing CD it was difficult to tell them apart: both were excellent at the price.

Digital audio from CD via the optical S/PDIF was not flabby in the bass like that of the other players and more descriptive of bass content. Turning HDMI video off in Pure Direct mode at the Marantz receiver did not make a great difference.

With our many 24/192 2L Blu-ray music discs the BD-C6900 sounded temporally tight, clean at low frequencies and free from hardness or glare. Percy Grainger's piano sounded imposingly large and powerful, but less digital, and orchestral strings were easy but densely patterned and well separated. The Samsung gave superb sound quality, fractionally ahead of all the other players here.

MEASURED PERFORMANCE

The BD-C6900's frequency response from CD via the analogue outputs was flat to 21.8kHz, our analysis shows. Frequency response with 96kHz sample rate digital reached 45kHz so high resolution digital will give appreciably better sound from the analogue outputs.

Distortion levels were very

Distortion levels were very low with CD, measuring 0.19% at -60dB — as good as CD gets. As a result, and due to low quantisation products, EIAJ Dynamic Range was a high 100dB. Distortion dropped with 24bit as expected, the player returning a low 0.04% at -\$0dB and again this is as good as it gets.

Jitter levels from S/PDIF

Jitter levels from S/PDIF were very low, a 1kHz, -60dB tone producing a miniscule 10pS of signal related jitter, whilst random jitter hovered around 5pS across the audio band, and low frequency jitter rose little, 1o 30pS. Output was a normal 2V.

The BD-C6900 produced top quality results from its analogue audio outputs, suggesting Samsung have used good quality components.

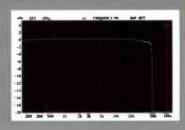
Extremely low jitter suggests better than usual code recovery from disc and clock stability. NK

Frequency response (-1dB)
CD, 24/96
2Hz - 21.8/45kHz

24/96	CD
0.003	0.007
	0.008
0.04	0.19
	4.4
	0.003

Separation (1kHz)	112dB
Noise (IEC A)	-108dB
Dynamic range	100dB
Output	2.04V

FREQUENCY RESPONSE



VERDICT ••••

Best sound and picture quality in the group, but does not play SACD or DVD-A fully, so not ideal, but YouTube helps.

SAMSUNG BD-C6900 £2 Samsung UK LTD. +44 (0)330 7267864 www.samsung.com/uk

FOR

- great picture
- fantastic sound
- YouTube

AGAINST

- no hi res SACD or DVD-A
- poor speaker adjustment



Chord Sarum range

The Chord Sarum cable range won't just reveal the real performance capabilities of your hi-fi components. It will allow you further and deeper into the thrilling emotions within a musical performance and will show the true prowess of your favourite musicians and singers.

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World Radio History



YAMAHA BD-S667 £299

he brand new BD-S667 is a straightforward Blu-ray player able to play CD, DVD and Blu-ray discs, like most, but unable to play the high resolution tracks of SACD or DVD-A. Both discs are accepted and played; the CD layer of SACD plays in stereo and with DVD-A the low resolution Dolby Surround track (AC3) is reproduced. A USB stick as accepted and WMV, WMA, MP3, JPEG and DivX files played

An internet connection provides Bonus View and also software update. Our player connected seamlessly via DHCP and was updated to Ver. 1.06. Manual router settings can be entered and all DHCP values are displayed, as is MAC address, useful ID on a router client list.

An extra Yamaha fit is the ability to read and play PC files, when Windows Media Player 12 is fitted. Macs are recognised but ignored and only WMA files would play, not WMVs seen by WMP. The player hung on a big picture (JPEG) file, but did play JPEGs. This may have been a network speed issue. Internet services like BBC iPlayer and YouTube are not available.

The player has stereo analogue outputs, not multi-channel. All the same, it has a 'speaker menu that allows matrix sum Rt and Lt to be output, for surround-sound from stereo no less, using a matrix decoder! There are optical and electrical S/PDIF digital audio outputs and HDMI of course.

Our tests showed the Yamaha decoded highest resolution 24/192 DTS HD Master Audio and Dolby TrueHD files onboard, to generate 24/192 PCM for older PCM-only receivers. It also read 24/192 PCM direct from disc.

The player sent 24/192 DTS HD Master Audio native (Bitstream) via HDMI and Dolby TrueHD. It

converted both from 2L discs to PCM as well. All Dolby TrueHD 24/96 files from a Dolby test disc were played, so all files are effectively handled.

Load times were fast; 28 seconds for a John Meyer Java menu load and 8 secs, for a simple BDMV menu, Our test BD-RE and BD-R discs played. The picture was lightly saturated and of good detail, but video properties are adjustable on this player.

SOUND QUALITY

The Yamaha's stereo analogue outputs had a lovely sound, with deliciously tight, fast bass that had a real spring to it and great pace. With a clean midband and sweet treble analogue sounded a little better when playing CDs than S/PDIF digital - a surprise. However, the HDMI line worked well too and gave the best result when all video was switched off (at the receiver) in Pure Direct mode. By any standards CD replay was then superb.

Bela Bartok's 'Divertimento for Strings' in 24/192 played with great deanliness and dense detailing of strings, in DT HD MA and PCM from a 2L music Blu-ray, whilst Percy Grainger's piano was well lit and rock solid in the room, the sparkling clarity of 24/192 being very obvious in the power of delivery.

With 'Vultures' from John Meyer's 'Live in LA' album (24/96) opening kick drum was strong and tight at centre stage and Meyer's vocals as clean as a whistle on an airy sound stage. The Yamaha performed well via HDMI, delivering great sound quality.

MEASURED PERFORMANCE

Frequency response from CD via the analogue outputs was flat to 20kHz. The Yamaha would not play high resolution DSD layer of SACD, but with 96kHz sample rat PCM it reached 48kHz, as shown exhibiting an unusual small +0.5dB lift at 35kHz.

Distortion levels were low with 16bit code from CD, measuring 0.22% at -60dB, the EIAJ Dynamic Range value measuring a normal 98dB. Distortion dropped a little with 24bit at -60dB, to 0.18%, but not as much as it should (0.04%). The Yamaha did averagely well, and would not play SACD or DVC-A.

Jitter levels via the optical S/ PDIF output were average, a 1kHz -60dB tone producing 100pS of signal related jitter, whilst random jitter hovered around 20pS across the audio band, but hum induced jitter hit 800pS. These are not bad figures, but they are commonly

The Yamaha was a little down on some figures, but only by a small amount. Some attention has

been paid to the analogue outputs so CD and 24/96 PCM digital will give respectable sound quality from these outputs. NK

Frequency response (-1dB) CD, 24/96 2Hz - 2 2Hz - 20/48kHz

24hit

Distortion (%)

Distuition 4 (0)	- Statute	
0dB	0.002	0.002
-6dB		0.004
-60dB	0.18	0.22
-80dB		4.5
Separation (1kHz)		112dB
Noise (IEC A)		-95dB
Dynamic range		98dB
Outnut		1.97V

FREQUENCY RESPONSE



VERDICT

Well engineered all-rounder with fine quality picture and sound, plus computer file replay.

£299

YAMAHA BD-S667 YAMAHA UK LTD. (C) +44(0)1923 233166 www.yamaha-uk.com

FOR

- good picture
- plays computer files
- fine sound

AGAINST

- no YouTube
- no hi res SACD or DVD-A



CAMBRIDGE 650BD £399.95

oming from a dedicated hi-fi company, rare for any Blu-ray because of its advanced chip technology, the 650BD from Cambridge Audio is a tour de force as dedicated audio players go. It has a full 7.1 analogue output socket set, for those still using analogue connections to the receiver, and it will play every silver audio disc, to the best of their abilities. It is the only player in this group and one of the few in the world that will play the high resolution code of DVD-A, as well as the DSD layer of SACD, giving excellent sound quality from both. This makes it a great choice for those with disc collections, and also for those who want to buy still-available SACD, for of its smooth digital sound.

This is the only player in the group to possess full loudspeaker size, sensitivity and distance adjustment, for the analogue outputs. Like all modern players it also decodes DTS HD Master Audio and Dolby TrueHD and our tests showed it successfully decoded both in highest resolution 24/192 to PCM onboard, for output via HDMI to older receivers lacking onboard decode. In Bitstream mode it also outputs both in raw form for decoding within the receiver. The 650BD is best set to output raw, so the receiver decodes DSD, DTS HD Master Audio and Dolby TrueHD, then any disc can be put into the draw and plays to its full abilities without further ado.

Internet connection is provided for BD Live and software update, but YouTube and other services are not available. Our player connected automatically without difficulty using DHCP and declared all router values, as well as its MAC address.

Our test BDMV HD video discs

of outdoor scenes looked very good, if not quite as lustrous as the Samsung and Panasonic players. However, all HQV Blu-ray tests were passed easily, with no jaggies even on Pause, good detail and correct colours. The picture's colour balance was good, if lightly saturated, but this can be altered because the player has full picture adjustment.

Our BD-R and BD-RE discs were read without difficulty and they loaded in a short 8 secs. However, John Meyer's 'Where The Light Is' took an average 30 secs.

SOUND QUALITY

Playing CDs through HDMI link, S/PDIF and the analogue outputs showed the 650BD to have a bigger sound than the other players, mainly due to fuller sounding bass. Interestingly, this carried through to all three outputs. The Cambridge was a little less composed than the Samsung, especially via analogue, but otherwise put up an impressive performance. By a narrow margin S/PDIF optical sounded best, with HDMI right behind (video off using Pure Audio). The heft in the sound gave kick drum at the start of John Meyer's 'Vultures' a tad extra oomph.

Of course, because this player span Carlos Santana's 'Supernatural' DVD-A in 24/96 and Lang Lang at the Mariinsky Theatre in DSD, both full surround-sound, it was streets ahead of the other players for those with such discs. Our 2L collection, mostly 24/192 in DTS HD Master Audio format sounded superb, with broad shouldered sonics as clear as a bell. Whatever it played the 650BD produced a great sound.

VERDICT OOO Audiophile Blu-ray player that

Audiophile Blu-ray player that produces serious sound from all silver discs. Good value and great fun.

CAMBRIDGE 650BD £399.95 CAMBRIDGE AUDIO (C) +44 (0)845 900 1230 www.cambridgeaudio.com

FOR

- plays all silver disc formats
- superb sound
- strong picture

AGAINST

- no YouTube
- dull styling
- small display

MEASURED PERFORMANCE

Frequency response with CD via the analogue outputs reached 21kHz. SACD reached 35kHz and DVD-A reached 76kHz (192k sample rate) as shown in our analysis.

Distortion levels were not as low as that of the best players, measuring 0.22% at -60dB from CD, against 0.18% or so from a really good hi-fi player. SACD gave 0.11% and 24bit PCM from DVD 0.1%, at -60dB. EIAJ Dynamic range was a good 99dB with CD and output a normal 2.2V.

Jitter on the digital signal measured less than 20pS above 100Hz, right up to 20kHz, a very low figure. There was a little random noise below 100Hz that registered up to 100pS or so, but this is not

uncommon.
The 650BD analogue outputs
measured well, meeting high
standards. NK

Frequency response (-1dB) CD, SACD, DVD-A

2Hz-21/35/75kHz

Distortion (%)

DSD 24bit CD
0dB 0.003 0.003 0.003
-6dB 0.007 0.0007 0.0016
-60dB 0.11 0.1 0.25
-80dB 1.1 0.8 4.3

Separation (1kHz) 109dB Noise (IEC A) -125dB Dynamic range 99dB Output 2.2V

FREQUENCY RESPONSE





NAD T557 £580

his is a basic player with few frills, in spite of the price. The T557 spins Blu-ray and DVD, but with SACD plays only the low resolution CD layer even in 'pass through' mode where it acts as a transport. This isn't uncommon of course, a majority of players do not recognise the DSD layer of SACD discs.

DVD-A discs were played, but the audio was Dolby Digital or DTS, compressed formats. At least DVD-A is played; some players just say Unrecognized. The analogue audio outputs are stereo only and onboard loudspeaker tuning unavailable as a result.

Blu-ray audio was played correctly up to 24/96 in PCM and Dolby TrueHD losslessly compressed format, embracing all movie sound tracks.

Highest resolution 24/192 replay was quirky though. In 'pass through' mode normal 24/192 PCM surroundsound was not recognised on our 2L Divertimenti disc that has played on all machines reviewed to date, including all those in this group. The DTS HD Master Audio version did play however, but Dolby TrueHD did not. Switching to 'PCM convert' got Dolby TrueHD playing, but not PCM! Since 24/192 discs are rare this will affect few listeners, luckily.

Our BD-RE and BD-R video test discs played perfectly. However, the picture was a little different to usual. Detailing was good in grass and trees and noise low, giving smooth colours, but black level too high, making for a contrasty picture with murky shadows, but solid edges to objects like windows. The T557 was superb in all HQV video tests, however.

The T557 polled an internet router using DHCP without problem, and can be set manually. It declares its MAC address and router values.

However, only Bonusview is available, not YouTube; even software update is unavailable.

Digital files on a USB memory stick can be read in WMA and MP3 format, and AAC from iTunes NAD say. Video files are recognised too, in JPEG, PNG and DivX format.

SOUND OUALITY

The stereo only analogue outputs had a big, solid sound with meaty bass; they were pleasantly entertaining with CD and definitely usable, if not as tidy in their sound as other players like the Sony.

The optical S/PDIF digital connection was more balanced and sounded cleaner across the midband than the analogue outputs but still

had fulsome bass, especially against HDMI. As usual though, the S/PDIF digital connection is preferable to analogue because the receiver then does the conversion work - and usually better.

I found the T557 did a good job with HDMI audio but there was a trifle more midband glare and accentuation than is common, making violins of the Trondheim soloists sound a tad forward and edgy, from a 24/192 2L disc. It hardly affected Rock music though, adding a trace of apparent focus to vocals. With John Meyer's well recorded Los Angeles concert on 'Where the Light Is' Bluray in 24/96 digital, the NAD was solid sounding and entertaining, It was more ballsy in its delivery than svelte.

MEASURED PERFORMANCE

Frequency response from CD via the analogue outputs was flat, rolling down slightly toward 20kHz our analysis shows, and with 96kHz sample rate continued down slowly to 30kHz. The NAD did not play the high resolution DSD layer of SACD or DVD-A

Distortion levels were a little high with 16bit code from CD, measuring 0.3% at -60dB, but the EIAJ Dynamic Range value measuring a normal 98dB. Distortion dropped a little with 24bit at -60dB, to 0.25%, but this is still a high value. The NAD was not especially linear via its analogue outputs.

Jitter levels via the optical S/PDIF output were low with a 1kHz, -60dB test tone producing just 20pS of signal related jitter, whilst random jitter hovered around 8pS across the audio band. However, hum induced jitter was a very high 1.4nS, which is not promising and could well affect the clean, solidity of the sound.

This player was under par via

its analogue outputs, and although not as bad as some still did not fare well in this group. NK

Frequency response (-1dB) CD, 24/96 2Hz - 2 2Hz - 20/30kHz

Distortion (%) OdB	24bit 0.002	CD 0.002
-6dB		0.001
-60dB	0.25	0.3
-80dB		4.8

Separation (1kHz)	113dB
Noise (IEC A)	-122dB
Dynamic range	98dB
Output	2.06V

FREQUENCY RESPONSE



VERDICT Decent picture quality and fair sound

but not as capable as price suggests. £580

NAD T557 ARMOUR HOME (+44(0)1279 501111 www.armourhome.co.uk

FOR

- fair picture
- easy to use
- tidy styling

AGAINST

- price
- no hi res SACD or DVD-A
- no 24/192 PCM replay

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NuForce P9 reference 2-box Pre-amp. Silver, mint, ex-demo. 5yr warranty, fantastlc reviews, current spec. (£2500). Bargain at £1500

Luxman L-509u Flagship Integrated Amp. This amp has had some of the very best reviews of any integrated. (£7495) £POA

Manley Labs Shrimp pre with Snapper 100w valve monos (EL34). Mint condition, original boxes and packing. Syr warranty. Monos cost £4250 and £1850 for the pre. So at £2795 amazing value.

Creek EVO2 Integrated Amp. Black. Boxed, exdisplay, 5yr warranty. Last two. (£680) Only £499

Quad 99 Power Amp. Black, mint, boxed, one owner. (£600) £349

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Luxman M800 Power Amp. Ex-demo, mint condition. Sensational class A performance. (£10980) £POA

Myryad Mi Multi-Source System. Ex-demo unit, with optional 'Blue Play' module, only 6 mths old, immaculate, original box, manual & remote. Outstanding performance. (£1295) only £849

Art Audio VPI Pre Amp (with MM Phono Stage). Chrome, spectacular condition, original boxes and packing. (New £2600) only£1295.

Quad II Forty mono blocks. One owner, original box. Excellent condition, 5yr warranty. (£3800) £1895

Creek EVO2 integrated Amp. Silver. One owner, supplied by us. 5yr warranty. (£665) Bargain at £495

Bel Canto EVO2 Gen II Power Amp. Great condition (one small mark on front lhs), boxed, manual. RCA and XLR Inputs. Cost new £2600, a bargain at £795

MBL 9008A reference mono blocks (x2). Black/gold, original flight cases, one owner, excellent condition, 5yr warranty. New £41,000. Amazing value at £16,995.

Deltech DPA50S power Amp (with Deltech 500S Slink speaker cable. Boxed, manual etc. (£990) £495

Eastern Electric MiniMax Pre/power combination. One owner, supplied new by us, as new, only 2 mths old, 5yr warranty. Stunning performance, amazing reviews. (£2195) £1295

DIGITA

Musical Fidelity V-DAC with Russ Andrews Power Pack II PSU. Perfect condition, with the transforming vDACPak upgrade power supply. (£250) only £145

NuForce MSR-1 music server. Boxed, new, unused, black. Great reviews. (£2200) £1469

NuForce CDP-8 CD player. New model. Boxed, new, unused, black..5yr warranty. (£1000) £699

Marantz Ki Pearl SACD. Mint, as new, boxed, only a few months old. Great reviews. Special Edition plaque (£2500) £1695

Vincent CD-S6MK CD player. New model, only a few months old, Balanced & single ended outputs. Exdemo, silver, immaculate, full warranty. (£1750) £999

LOUDSPEAKERS

Proac Studio 140 MK2 Speakers. One owner, and only 18mths old in perfect condition, cherry. All original boxes and packing. (£1650) Only £895

MBL 101E Loudspeakers. Probably a once in a lifetime opportunity. One owner, 5yr warranty. Excellent condition. (£43,000) Only £19,995

Audio Physic Virgo V. One owner, originally supplied by us), excellent condition. Original boxes and packing, Maple finish, (£5500) £3695

ATC SCM 50 ASLT (Towers) Active Speakers. Finished in Yew (premium finish). 2010 models, mint and boxed. (£10815) £POA

JAS Audio Orsa Speakers, High Gloss Cherry, Voted HIFi+ Product of the Year, Some minor marks (not visible from front). New £2000, a bargain at £645

Dynaudio Contour 1.3SE Speakers with Dynaudio Stands. Very rare, highly sought after. Private sales fetch around £1000 with no stands. Yours with stands (plus 5yr warranty) for only £1095 (£2900 new).

ATC SCM19 Speakers. Cherry, one owner, 6mths old, excellent condition (few marks). New £1700 Only £995

Amphion Argon 3L Speakers. ScandInavian Birch with original boxes, packing & accessory pack. Only 8mths old. Hi-Fi Choice Best Buy and Group test Winner (Issue 322) (£2600) only £1695

Audio Physic Scorpio II. Latest model, finished in cherry, ex-demo, unmarked. (£3773) £2750

Quad ESL 2905 speakers. One owner, mint and boxed with very low hours. Amazing reviews (£7000) only £4990 with a 5yr warranty

Audio Physic Tempo VI Speakers. Maple, one owner, 6mths old, completely unmarked, original packing, boxes & literature. (£2612) Bargain at £1995.

Ruark Prelude Speakers. Yew, virtually as new.
One local owner, fantastic sound and a bargain at only £299! no boxes, so collection only.

Audio Physic Scorpio. Boxed, Cherry, one owner, good condition (very minor marks). (£3800) £2195

ANALOGUE

LFD MCT Phonostage. Mint condition, one owner. Sensational performance, only 18mths old, very low hours. New £3400, so £2500 looks very tasty indeed!

Graham Slee Gram Amp 3 Fanfare. One owner, perfect condition. (£250) Only £135

Transfiguration Spirit MK III MC Cartridge. One owner, approx. 30 hours use. Perfect condition (£1800.00) Only £395

Supex SD-901 Super High Output Moving Coil Cartridge. Low hours, perfect condition. £225

Linn Akito Tonearm. One owner, in absolutely perfect condition. £195

Linn LP12 Arm Board. Original and as new. £35

Avid Acutus SP Turntable. One owner. Excellent condition, boxed, manual etc. 5yr warranty. (£8000) only £4495

Whest PS20 complete with MSU20. One owner, stunning 2-box phono stage in black, original box and packing. Incredible reviews. (£1299) £595

Magnum Dynalab MD108T Tuner. (complete with 24/192 internal dac which was a £800 upgrade). One owner, a very unique opportunity. Gold upgrade finish. Control knobs are 24 carat gold plated. Tuner comes with original Magnum Dynalab flight case. Cost new around £9000 so a bargain at just £3495.

Linn Lingo PSU. For the Linn Sondek LP-12 and in wonderful condition, complete with LP12 Switch, Circuit Board and Interconnecting Power Lead. £495

ROTEL RQ-970BX Phonostage. Finished in black with all original box and packing. (£195) only £95

Eastern Electric Minimax Phonostage. Probably has the most outstanding reviews of any product currently available. Boxed, unmarked. One owner, only months old. Simply sensational (£1495)£920

Quad QC 24P Phonostage. Mint, one owner example and is as new. Great reviews. (£1200) £795

MAINS CONDITIONING

PurePower 700 Finished in black. Ex-demo.
The ultimate mains regeneration. (£1595) £POA

Vertex Silver Ptus Jaya. One owner, raised badge current spec model, excellent condition. Reviews speak for themselves. Grab a bargain. (£572) £365

ISOL8 Substation Vogue. One owner, originally supplied by us, mint condition, stunning performance flagship mains conditioning. (£2595) £1495

Vertex AQ Taga. 6-way distribution mains filter. Great reviews. One owner from new, unmarked. (£868) £595

CABLES

Chord Carnival SilverScreen Bi-Wire Speaker Cable. 2m. (£133) only £45

Vertex Hi-Res Solfonn (rca-rca) Interconnect. 1m, ex-demo, simply sensational. (£2047) only £1120

Vertex Silver Scifonn (rca-rca) Interconnect. 1m, ex-demo. (£1092) only £760

Vertex Silver Roraima Mains Lead Lite. 1.5m, ex-demo. (£786) Only £540

Vertex Silver Roraima Mains Lead Lite. 2m, ex-demo. (£885) Only £560

Vertex AQ Mini Moncayo Speaker Links. Set of 4 Links with the 80x65x30mm acoustic absorption module - simply sensational, (£540) £395

Chord Signature Speaker Cable. One owner, boxed, as new. 2.5m, amazing reviews. (£775) £445

Transparent Reference Digital BNC (75 ohm)
Red Sleeve, 1m, cost new £850, huge saving at £279

ACCESSORIES

Finite Element Segment X RacK. Black & silver, complete with 5-piece dedicated spike set. One owner, assembled once (only a few months old) (£600) £275

MISCELLANEOUS

AKG K701 Premium Class Reference Headphones. White, with KimberKable option. (£540) only £210

Grado SR 60 award-winning Headphones. Costinew £100, great saving at £45

t's easiest to consider these players in reverse order, from least to most attractive, letting the cream rise to the top as it were. Although this is a dedicated hi-fi magazine video quality and facilities must come into any final choice, and we tested video quality thoroughly.

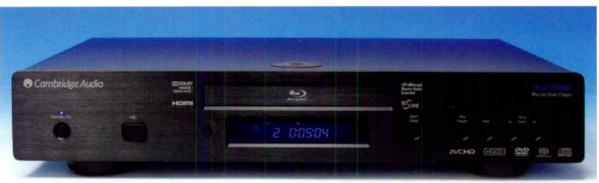
I am saddened to say that NAD's T557 was a fairly obvious candidate for last place on the wish list. NAD are an audio company but the T557 has no merit as an audio player, unlike Cambridge Audio's 650BD. That NAD want £580 for it is optimistic by any standards; it's a basic player purposed for Home Cinema. It did have good basic picture quality, but even this was spoilt by poor alignment, giving a curiously hued picture with too much black. Its picture looked like that of no other player in this group. Its inability to handle top quality 24/192

of You Tube for example, which the Yamaha does not have. It was a very nice Blu-ray player but frankly the price tag demands better in a bitterly competitive market and Yamaha could easily produce a better honed and more dedicated product if they put their mind to it.

Samsung's BD-C6900 was finely honed, with a great picture and equally good sound. Samsungs might feel lightweight and insubstantial, but under the skin they are technologically amongst the best, or perhaps are the best, giving Japanese giants like Sony and Panasonic a hard act to follow. However, the BD-C6900 majors on offering 3D compatibility and ignores SACD, even though these discs are still being issued, it cannot play DVD-A and has some curiously slow load times we found. At the price of £300 the Samsung is straddled by the Cambridge at

any small weaknesses like flimsy build and varying load times, it has YouTube and all the music it can offer. It's a great player at a low price.

Vying for top slot are two entirely different players, one the cheapest of the group and the other the most expensive (almost). For what you get, the pricing of Sony's BDP-S370 is daft! With full SACD replay and YouTube for just £120 this has to be the bargain of the century. It also has to be a pawn in the war with the other CE giants Matsushita (Panasonic) and Samsung. Yet again, Sony have come up with a technology, this time Blu-ray, codeveloped with Philips, they have fought off Toshiba and HD DVD, only to see the competition run away with it. That their top player I reviewed last month, the BDP-5000ES cannot even play SACD properly just shows how deeply asleep they have become,



Cambridge Audio's 650BD is still this magazine's audiophile Blu-ray player of choice.

PCM audio again marked it out, because all other players managed this. With no apparent ability to update software and unable to reproduce quality audio formats like SACD and DVD-A the T557 had no cards up its sleeve.

I was baffled and confused by Panasonic's DMP-BD45. Yes, it's cheap at £150 but there are plenty of similarly priced or cheaper rivals - and they all have an internet connection with all it provides. Just look at Sony's knockout BDP-S370 in this group to see how glum the new Panasonic looks against its rivals. You must buy the more expensive BD-65 for internet connection, showing where Panasonic place this ability in their range price structure. The strength of this player is great picture quality, but this cannot redeem its poor build, clunky operation and limited feature set.

Next up is Yamaha's BD-S667. At near to £300 there needs to be some raison d'être and DNLA isn't it! Reading computer audio and video files through a home network carries a lot of difficulties and isn't compellingly sexy, unlike the lures

£399 and the Sony at just £120. It isn't shot out of the water, far from it, because of all the machines, sound quality was just a tad better than every other player, including the audiophile Cambridge.

However, differences in digital sound via HDMI and S/PDIF are subtle, less than obvious and demand a very high quality replay chain and top quality audiophile recordings in full 24/192 code to be at all apparent. They are most likely attributable to jitter suppression at source, meaning within the player, and in this regard Samsungs are measurably better than rivals, equalling or bettering audiophile CD players, except those finely honed in the digital domain, such as the Cyrus CD8SE. Samsung manufacture their own parts and this likely has something to do with their exceptional underlying quality.

If SACD and/or DVD-A replay is not an issue then the Samsung BD-C6900 moves to the top of the tree in this group and is the best player I have ever seen or heard by a small but appreciable margin. It isn't perfect – and how I would like to see an audiophile Samsung – but balancing

or perhaps became. This newer budget player seems to announce a new awakening, with AAC and YouTube catered for. Whether it is or not hardly matters, for the small Sony is a great player at the price and something of a mini-marvel.

Cambridge Audio's 650BD still takes all honours though, because it just does everything, and very well. Its menus are the most extensive and sophisticated and it plays all discs without hiccup. The price is competitive too; many players are considerably more expensive and cannot justify it. All the same, in this group the Cambridge is challenged because it lacks YouTube or other internet services and for those who don't care about SACD or DVD-A then perhaps its abilities and associated price are questionable. This throws the light back onto the Samsung, which edges the 650BD in some ways. It's a close call between them, but since Cambridge Audio's 650BD is so well built and thought out and so dedicated to audio use, including a video mute feature all other players lack, it still tops the tree and is the one to get.

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NATIONAL Audio Show Whittlebury Hall 25th-26th September 2010



t hardly seems possible but - yes - it's just 4 weeks to go before the National Audio Show 2010, and based on its reception and success last year everyone is looking forward to another great event. But what is so special about 'Whittlebury' as it's now affectionately called? Roy Bird, Chester Group's principle said: "Not one thing really, but several. We found a venue which has real style and occasion and helps to elevate the products on show and in a location that's reasonable for everyone to reach. The Nation's major event had traditionally been held at Heathrow. It's positioning inside the M25 worsened parking issues for many people, whilst limited local facilities meant that it had really run its course.

Then there's the fact that the National Audio Show is an independent event with no direct connections to anyone other than us the organizers. This means that we are free from politics and persuasions and everyone is welcome, from Retailers to Agents, from Manufacturers to Importers and Distributors to Press, which makes up a fascinating mosaic of businesses.

Surprisingly, we are still asked from time to time whether our shows are 'Selling Shows' and that to some extent hints at how shows in the past have been run. Our reply is always simple "of course they are; exhibitors are free to sell".

Then we have all those great local facilities in a beautiful area of Northamptonshire which includes a Championship Golf Course, popular Rural Villages, National Trust Properties, Outlet Villages and the Silverstone motor racing circuit to name just a few.

Add to all that our move to

make Music an essential element in the makeup of the show. Once again this year we will have a major concert on Saturday evening, open to everyone to attend. This year we have Eleanor McEvoy. These are unique 'evenings with' and we are only concerned about meeting the costs. This because so many of those that attend the concert also come to the show, increasing 'footfall'. That's something essential to the whole industry and probably why we have enjoyed so much excellent press since last year's show. The Rick Wakeman concert in 2009 provided a lot of new visitors, many of whom had never been to an Audio Show before

We'll have live entertainments during show days which will include the increasingly popular less Childs. so that we do not forget just why we all love high quality audio in the first place - for its entertainment value.

We've now increased the Shuttle Bus service so that it runs all day every 1/2 hour, further improved the already extensive parking (still free!), provided a hugely increased food and

beverage service, including two great BBQs in the exclusive Hotel Courtyards, and last but by no means least had a dramatic increase in the amount of exhibitors both nationally and internationally

We are all looking forward to the 2010 Show and hope to put the UK back on the map as far a flagship events are concerned. We look forward to seeing you all at the show". (Roy Bird)

For further information please see page 126-127.

TESTIMONIALS

I thought the Audio show was excellent. Very well organized and very well attended.

There were very few sales people there if any. All the people looking around were all genuine Hi Fi enthusiasts.

For myself personally I regarded the show as a big success, we had a lot af interest from a lot of areas. We have sold one TT already on the back of it and I have a long list of people that would like more information. Many thanks for all your efforts.

Peter Curran, Claro Audio - Knaresborough

Dear Roy, Justin,

Congrats on a great show.

Even though there was not an easy way to get there as a foreigner, the

Very good organized, good attendance and a nice accommodation. Thank god Park Inn is no more!

Maarten Binnendijk - Managing Director A.J. van den Hul b.v. - The Netherlands

Just wanted to drop you a line and congratulate you & Roy on the Whittlebury Hall event.

I have had some great feedback from friends and clients who attended 171 be booking a bedroom to stay over next year.

Robert Follis, robertfollisassociates consumer electronics pr - London UK



Juicy Fruit

Peachtree Audio's iDecco is more than just another style system, explains David Price...

o here we are in 2010. It is no longer illegal, as far as I know, for serious audiophiles to be seen using – or even purchasing – so-called 'style systems'. No, the likes of Arcam's Solo and Linn's Classik have effected a change in the rules, proving that putting everything in one box doesn't necessarily spoil the sound (of course, many such systems still sound rank, but it now no longer automatically follows...).

So, here we are in our brave new world where (almost) anything goes. Audiophiles are allowed to own things that don't have seven separate boxes and as many mains cables, and a few select one box systems can actually deliver serious sonic goods. Where does that leave the new Peachtree Audio iDecco?

Well, on first look, it could be just another Chinese box with blue LEDs. Spend any sort of time in China now and you'll see a whole raft of hi-fi utterly unknown in the West, invariably made in Shenzhen by an 'OEM' manufacturer when they're not running out a few hundred thousand AV receivers for a big



the tube buffer is switchable by remote control!

lapanese name. Trouble is, these anonymous contraptions are generally pretty awful. Although many of them have valves, are packed with buzzwords that titillate Western audiophiles (LC-OCC wiring, 24/96 upsampling, etc.), they so rarely deliver; full of Eastern promise you might say, but as sour as mouldy tofu...

The iDecco is not one of these, and one key reason for this is its substantial design input from John Westlake. You might know him from a little something he prepared earlier. Noel and I can still remember being around to sample this, fresh from the oven, so to speak. The delectation I'm referring to was the Pink Triangle Da Capo DAC. I can still remember the look on Noel's face, as sometime back in 1994 (I think?), he switched it on, only to experience pleasures unknown to those previously confined to digital. The Da Capo was a seminal digital product, as impressive as any turntable to come from the Pink Triangle stable, which is really saying something, and certainly to Noel and my ears was the best we'd ever heard 16bit CD.

John's career didn't stop there though, as he then went to work for Cambridge Audio and did the CD 4SE CD player. My brother still has one of these £249 machines and always asks me, every couple of years, if it's worth upgrading to a modern silver disc spinner. No, I say - it's a John Westlake design. Kind of asking if you should change your Dieter Rams Braun watch for the latest all singing, all dancing Swatch... Then there was the DACMagic, again a stupidly good product at its vanishingly low price. If

there was ever a guy whose actions spoke louder than his words, it's John.

Well, some of his engineering DNA is to be found here, inside the Peachtree Audio iDecco. It's not, in all fairness, the result of his life's work; look to the forthcoming Audiolab CD8200 (reviewed in next month's issue) to see where's his heart is at. But still the iDecco has been heavily breathed on by John, especially of course the digital section, which as you'll see plays a big part.

Essentially, this is a 40W MOSFET Class A/B amplifier with a DAC and an iPod dock built in. The amp sports a preamp with a switchable tube buffer, and the iPod dock extracts the direct digital datastream from the iPod (iPod Touch (first and second generation), iPod Classic 80G, 120G, 160G, Nano second to fifth generation), a la Wadia i170, so it's not a 'lifestyle-y' thing; this is a real piece of work. The signal goes to an ESS 9006 Sabre DAC, its implementation said to be the result of two years development, on a mutli-layer DAC board with over 450 components and II regulated power supplies!





Its patented jitter reduction circuit reclocks the digital signal before passing it through a high-resolution 24/96 upsampling processor. Each digital input is transformer-coupled so noise associated with ground problems and switching power supplies from computers is said to be eliminated. The USB connection is galvanically isolated, eliminating noise generated by your computer's switching power supply and greatly improving sound quality, it's claimed.

The preamplifier section employs a Class A tube buffer with a 30 Ohm output impedance, the tube buffer being switchable by a button on the remote control, and polypropylene caps are used in the signal path. Aside from the iPod, there are three digital inputs (USB, coaxial, optical) plus one analogue input. There's also

a Class A tube (6N1P) headphone amplifier, which mutes the speaker outputs, and a component video out so you can plug in a flat panel TV or monitor. Round the back, there's a switchable digital filter, marked 'sharp/ slow' to help fine tune your listening preferences, and also a fixed analogue line out. It sports an IEC socket so you can experiment with mains cables.

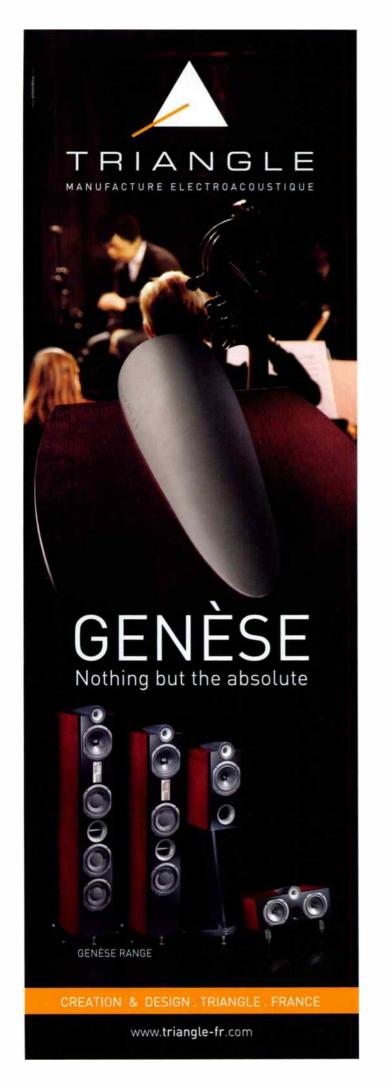
In use the iDecco feels like a nice piece of kit. Its gloss black case is solid and finely finished, while the aluminium fascia inset looks good. I'm not convinced of the aesthetic merits of having that little window for the tube, which is of course uplift when it's in circuit, but there's no denying it will catch eyes. The controls have a decent quality feel and there's no sense at all that you've bought

a cheap product, unconventional though it is.

SOUND QUALITY

Starting off with the iDecco as an amplifier via its analogue line in, and you're in no way left with the sense that this is a sub-£1,000 system. It has an open and expansive sound, in its way, which gave a confident and projective performance even through my Yamaha NS1000M speakers. No less impressive was its tonal balance; whilst not overly warm, the Peachtree is certainly on the benign side of neutral; again there's absolutely on sense of this being a hard, thin, transistory amplifier. The result is a most enjoyable sound that covers its tracks well.

Cue up Zero 7's 'I Have Seen' on vinyl and you're greeted with a big,





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"Plenty of insight into what's happening in those lower octaves."

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"Attractive openness about the sound and high frequencies stay refined"
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East Grinstead 01342 305103 www.zlensman.com

www.blackrhodium.co.uk Tel: +44 (0) 1332 342233 fulsome bass and crisp, quite delicate treble, between which is a smooth and capacious mid. It's no rhythmic slouch either, letting the track push along with a fine sense of timing. Indeed, as I sat there I was trying to find any clues as to its humble origins (in the great hi-fi scheme of things), so enjoyable was it. There's real 'snap' to the snare drums, a decent degree of dynamic articulation and the general sense of the track having a beginning, a middle and an end.

Neil Richardson's 'The Riviera Affair', a big, blustery nineteen sixties soundtrack packed with cascading strings and heaving brass, was brilliantly carried considering the iDecco's place in life. Coming via the excellent TAC C-60, it was all thrills and spills, with lots of detail and a vast midband. The little amp pushed out far more punch than its modest power rating suggests; some forty watters sound like - to borrow from Blackadder - "an anaemic ant" by comparison. But I was intrigued to see how the iDecco's internal DAC would compare, so I duly bypassed the C-60's excellent DAC stage and fed the digital audio in coaxially. The result was quite a surprise...

If anything, the iDecco sounded better using its own DAC. Of course, you might say it should, because it's bypassing one analogue output stage

and a pair of interconnects, but in my experience the built-in DACs of all-in-one units are often such that you often lose more on the swings than you gain on the roundabouts. Not so here; the iDecco served up a more immediate, vivid and detailed sound, with better definition of the strings, which had a more finely etched 'wiriness' to them and superior space. There's certainly no sense that the built in DAC is a 'filler', chucked into the package to make the product seem better value; it's obviously been done very well. And I can report that it was no less impressive via the USB input too, fed from my MacBook Pro...

Intrigued to hear the 'direct digital' iPod dock in action, I duly packed my iPod Classic with a host of CD quality, non compressed music. Considering that until recently the only product that offered direct digital off an iPod was the Wadia iTransport, this was an interesting moment of truth; would it perform? Again the answer was a resolute yes; the iPod sounded powerful and engaging without a grain



of harshness to be heard anywhere; certainly there wasn't a trace of the limp, lifeless, thin sound you normally get via an Apple audio product. Blur's 'Charmless Man' positively shuffled out of my speakers, with great pace and little sense of compression or compromise. Zipping back to the original CD via the TAC's digital out showing a tiny loss of detail and a slightly more mechanical feel to the rhythms, but it really was quite marginal. Another result.

So is this the replacement for high end hi-fi? Well, not quite. It plays digital sources very well at the price but in absolute terms you can hear that it's a decent but unspectacular MOSFET Class A/B amp; there's a slight mush across the midband, a slight haziness to the sound that leaves you one less step closer to the sound than a good transistor amp at around £1,000. The tube ameliorates this very slightly, adding just a touch of

colour and softening that transistory fingerprint, but in overall terms it has only a minor effect; a bit like adding half a teaspoon of sugar to your tea.

CONCLUSION

A very interesting product, this. The Peachtree Audio iDecco is a great purchase for those heavily into digital, but with little space in their houses or listening rooms. Its built-in DAC is good enough to mix it with anything at the price, and the amplifier is highly effective too. Factor in a direct digital iPod dock, plus several other audiophile friendly facilities like a decent headphone section, and it makes a very convincing case for itself. Instead of an attractive style system that's a little light on audiophile engineering, think of this more as a serious grown up DAC and integrated amplifier that's been magically shrunk into a lifestyle box. As such, it gets the Hi-Fi World thumbs aloft!

MEASURED PERFORMANCE

The iDecco produced 45 Watts into 8 Ohms and 64 Watts into 4 Ohms, enough power to drive reasonably sensitive loudspeakers, like 87dB large standmounters, loud. Small shelf mounters of 84dB will go loud, but not very loud.

The output stage had an unusual negative damping factor, where output voltage goes up instead of down when faced with a lower load, not unknown but never felt to be especially beneficial. Unfortunately, output conditions were not too well controlled; at very high frequencies response varied until slaw rate limiting set in, not ideal. The open loop gain has not been curtailed at high frequencies in the chip amp used, as it needs to be. The amp was trying to work at 300kHz.

Sensitivity via the Aux input is very low at 750mV, good enough for CD players and tuners, but not most Phono stages.

Distortion was close to zero even at high frequencies, with the valve switched out, but that is what FETs with wide open loop gain plus a lot of feedback can do. The valve added just a little_second harmonic, 0.04%.

The input DAC performed very well. It was unusually linear, so distortion was low, measuring just 0.14% at - 60dB, a fine result. Frequency response

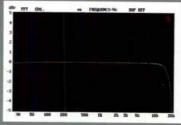
was flat except with the filter engaged, and then it reached 17kHz our analysis shows, a well judged facility that will take the edge of much digital. Jitter injected via the optical input barely appeared on the amplifier's output, whether the Jitter filter was switched in or out so resclocking looks solid.

in or out, so re-clocking looks solid.

The Peachtree will work well,
but its excessive bandwidth may pass
interference in 'noisy' locations; hi-fi
amps do not work up to 300kHz or
more. Otherwise the iDecco measured
very well all round. NK

CD/tuner/aux.
Frequency response 50Hz-300kHz
Separation 72dB
Noise -98dB
Distortion 0.04%
Sensitivity 750mV

FREQUENCY RESPONSE S/PDIF



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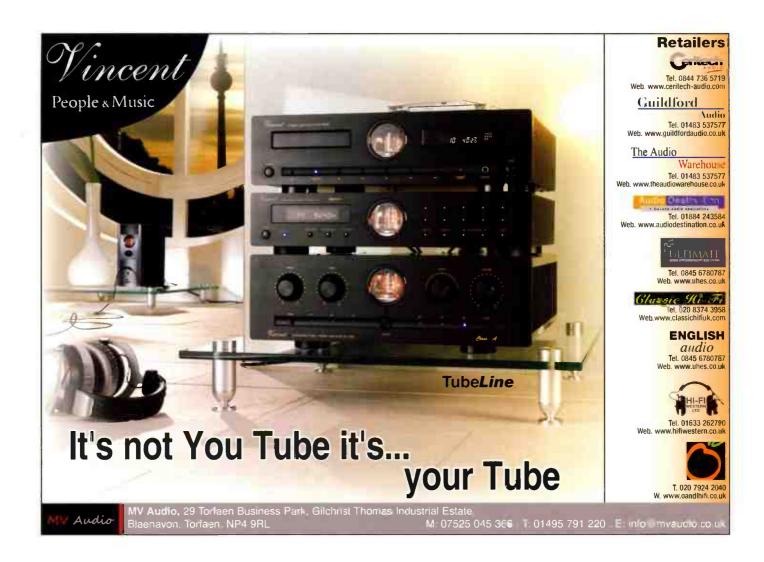
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- smooth, open amplifier
- switchable tube buffer
- design, build, engineering

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LETTER OF THE MONTH PRIZE



KEF iQ30 LOUDSPEAKERS

A pair of KEF iQ30 loudspeakers is on their way to PAUL WILLIAMSON, Letter of the Month winner in our September 2010 issue.

Letter of the Month

TUBE TALES

Having caught the hi-fi bug a number of years ago I purchased the Rotel RA O4 amplifier (I'm a tight Yorkshireman and refused to pay an extra hundred quid for the model up with a remote control), a Rotel RA 06 CD player, B&W 684 speakers with Atlas interconnects and ten quid-a-metre bi-wire speaker cable.

Having had a serious operation in November last year I had a good number of months to contemplate upgrading. I have always wanted to try valves as everything I read about them seemed to be right up my listening street. I live in the cold wastelands of Northern England and auditioning valves would have meant a three or four hundred mile round trip.

Having had a pay rise and scraped some money together I decided to treat myself to the Icon Audio Stereo 40 Mark 3 with upgraded KT 88 valves. I bought the amplifier direct from Icon Audio and I have to say they are a marvellous company to deal with. I had a few problems which, with me being a valve virgin, they dealt with promptly and they even gave me an upgrade on the KT 88 valve free of charge. It's fantastic to see a company that has a prompt, effective and friendly after care service and don't just take your money and run. A really big thank you to David Shaw, the MD of Icon Audio for personally dealing with my insanely stupid questions.

I play the amplifier through the Rotel CD player, a Musical Fidelity V



Upgrade the CD player and consider the ever so svelte Cyrus CD8se player to go with Icon Audio valve amplifiers, says Noel.

DAC, Chord Interconnects and B&W 'speakers. The music I listen to varies from Northern Soul to Alt Country leaving out Pop, Rap, Classical and Opera. I particularly like to listen to 60s and 70s Soul and I only have CD as a source.

My question is, I have no clue which piece of kit to upgrade next, the Rotel CD player or the B&W speakers (or both). I rarely listen at high volumes but I do like a rich warm texture that kind of wraps itself around your head. I have probably around a thousand pounds for this upgrade. The room my kit is in is odd shaped, small and above everything the missus hates floorstanders, so a speaker upgrade would have to be a standmount. I don't mind going second hand but would only buy from a reputable store (I don't trust auction sites).

Another, and probably the most important pre requisite, is they have to be aesthetically pleasing to keep the little lady in some degree of happiness. I also have the Icon Audio headphone amp (which is also a single ended amplifier), that I use to play my laptop

through. I use the B&W Zeppelin speaker, which gives a really nice sound. This has made me think about single-ended amplifiers, which then led me to look at single-ended integrated or valve monoblocks.

I am wondering if it would be best to trade in the integrated amplifier for the Icon Audio MB 25a monoblocks and keep the CD player and 'speakers, or look at the Separo 300B single-ended valve amp. Again, auditioning would be very difficult so I am flying as blind as I did with the Stereo 40.

I have to say though valves are everything and more than I expected and I am really pleased with the Icon and, it being a small British company makes it all the more sweeter.

Thanks a lot.

Mark Wilkinson South Shields Tyne & Wear

Hi Mark. I'm glad you are enjoying your Icon Audio amplifiers and have had a good experience. David Shaw has been designing for many years now and spends a lot of time

in China with his suppliers, so the products are well developed and both sound good and measure well. I would not jump ship to a 9 Watt Single-Ended, quite frankly. SEs are very good when done properly but their transformers must support enormous flux levels because of the high standing d.c. current and it's a difficult technology to get right. Most SEs are just soft and a little underwhelming I find. Also, you will run out of steam fast unless you use a sensitive loudspeaker. meaning a floorstander. We do say repeatedly that small loudspeakers are insensitive and do not suit low power amplifiers. Do by all means try an SE, but the step up over a good push-pull isn't night and day, especially as you use a well honed amplifier. I would suggest you upgrade the CD player and consider the ever so svelte Cyrus CD8se. If you can possibly help it, do not move to stand mount loudspeakers as they demand more power and this will not help sound quality one iota. NK

VIRTUAL VINYL

Your mention of the Brennan JB7 Music Server in the May 2010 Mail section resurrected my thoughts on making my vinyl collection available for playing on digital portables and the creation of CD copies.

Currently the vinyl system is downstairs and the desktop computer is upstairs — and ne'er the twain shall meet [WAF!].

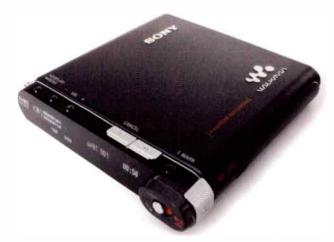
My thinking is that if I can transfer compact digital audio file copies [WAV - as on a standard compact disc] of the LP tracks on my vinyl to the desktop computer, then I can convert to MP3, AAC etc. to my heart's content before downloading to my digital portable, as well as making CD copies for my second system which does not have a turntable.

I have considered three options to achieving this objective:-

- 1. Using the Brennan JB7 Music Server 2. Using a second hand Compact Disc recorder [Pioneer PDR-609?]
- 3. Purchasing a second hand laptop [but with what software for Windows?] and using it with a Russ Andrews XITEL INport Deluxe USB Recording Soundcard or something similar.

Would all of the above achieve my objective and, if they do, are there any sonic advantages to choosing one option above the others?

It would not surprise me if you came up with some whizzy wireless means of transferring my vinyl direct to my desktop but my knowledge of digital wizardry is not great. Perhaps your magazine might consider the occasional article, updated as technology advances, on the ways of converting analogue to



Sony MZ-RH1 Hi-MD portable recorder, little bigger than a MiniDisc and can record in uncompressed WAV format at 16bit/44.1kHz.

digital for old duffers such as myself.

Hoping that you can help and with my thanks in advance,

Wayne Allen

Another 'how long's a piece of string' type query! The problem is, Wayne, I'm not sure about your domestic situation, and whether you can move your existing computer downstairs to do direct recording on to it, or if you'd even want to? If not, how much money have you got the throw at the problem?

Okay, let's have a go! First, [1] I don't think buying a Brennan would be particularly suitable, as you're limited to its very average analogue to digital convertor, and recording formats (it doesn't do AAC, for example, although does do WAV, so you could transcode via iTunes). [2] Yes, this is a good idea, inasmuch as it has a semi decent A-D convertor, and produces a CD that you can then digitally extract into a WAV (or compressed) file easily via iTunes, or suchlike. The only downside is that a Pioneer PDR-609 isn't exactly portable. [3] You could indeed pick up a secondhand laptop, but this is both a pain (and risky, as is any secondhand computer purchase, in my view) and not ideal in sonic terms; the sort of cheap USB A-Ds around on your budget aren't exactly amazing and certainly not as good as that of a Pioneer hi-fi CD recorder.

So, I'd counsel going for option [3], namely the CD recorder. However, think on this fourth possibility. It's still possible to buy brand new Sony MZ-RHI Hi-MD portables; these aren't much bigger than a MiniDisc and can record in uncompressed WAV format at

16bit/44.1kHz.1 know them to have fine quality analogue to digital convertors built in; they make excellent recordings. Spending £250 on one of these, to use for making portable digital recordings which you can then very easily take upstairs to your PC, is a good idea, methinks. Once you've made the recording, you can transfer it as a computer file at high speed (i.e. not real time) via USB to your computer, running Sony's bundled Sonic Studio software. You can then edit the file, label it and transcode it to other formats; a super tool and likely just what you need. DP

THE DIGITS IN ANALOGUE

I read with interest your column in the June 2010 issue. To jump to the nub of the issue, in my opinion as you increase sample rates and bit width, all you do is approximate the analogue signal. Therefore to accurately copy an analogue signal you would need an infinite sampling rate which is effectively analogue.

I feel the missed opportunity in recording was not keeping the audio signal analogue. Laserdisc technology was an analogue recording with digital technology controlling the read process. I am sure lasers could be used to replace styluses and track vinyl recordings with no wear on the grooves and as good as the best moving coil. Blue ray technology could be used to record and



The Finial laser turntable, extremely complex and disappointing too.

replay analogue music and side-step the problems of vinyl roar, wow, and non quantised noise.

To conclude, the way forward was a combination of technologies which keeps the music signal analogue while transport and reading technologies are controlled digitally.
regards

William Bramer

There was scope for modulating a high frequency carrier with baseband audio and transmitting and storing it on high density optical media, as Laservision did. But as lovely as high quality analogue systems sound, they are less flexible in terms of signal processing and more subject to degradation than digital systems.

Sadly, I found the Finial laser turntable was a very disappointing device. It sounded very transistory (i.e. flat and coarse) and read groove dirt and noise, as well as damage. It was not at all like a pickup cartridge and served to remind me that a moving coil cartridge is a perfect generator, with no active devices and almost no wire either! The stylus pushes dirt out of the way too. **NK**

RELAXED MONITORS

A new 'speaker and amp is needed! My big problem – my room! I can arrange the speaker a maximum 30 cm. before the wall and they have to fill the room up to 3.5 m. to the listening position. I have a square room with 4.8 m. (listening side) to 12m. So I would say a large room. On the one side you have complete glass (to the garden) and on the other side a lot of room (it is a living room with the kitchen inside). You see not easy. I search for a relaxed monitor sound - not too analytic - for hi-fi listening.

I like all kinds of music.... I like sometimes to hear loud, but mostly I listen in moderate volume. I search for smaller 'speaker which must stand on my sideboard or hang on the wall, maybe later with a subwoofer. It is for Stereo Listening. I'm not interested in multiroom. Existing hi-fi equipment: I have an Olive Opus 4 HD (CD-player, Internet radio, CD-Burner), also a turntable dps 2 with dps Rega RB 250, Lyra Dorian and Tom Evans Microgroove

What speaker and what amp should I look at? Or do you think active speakers? What would you think? Can you help me? kind regards from Germany

Gerhard Geipel

Hi Gerhard. I assume you mean a rectangular room 4.8m x 12m, which is big enough to include a kitchen and is a very big space, as you say.



KEF iQ30s are a large stand mount loudspeaker able to provide even sound at good volume through a large room.

To fill this space with good volume, not too loud, you really need large loudspeakers. The smallest you should consider are large volume stand mounters like KEF iQ30s or B&W 685s, both available in Germany for around €500 l believe.

The ideal loudspeaker for you I review in our next issue: it is the Revolver Screen 3 panel. It goes loud, has an easy sound and will hang on a wall. If it is in your budget, do try and listen. Alternatively, look at an Elac AM150. In my experience Elac loudspeakers represent superb German engineering and would be at the top of my list in Germany. If their sound is too bright / vivid, then listen to Spendor SA1s. These offer a gentle monitor sound. **NK**

CLASSIC TURNTABLE ADVICE

My main system consists of EAR Acute CD player, and ATC SCM50 active speakers.

I am now busy putting together a second vinyl based system, primarily because of the resurgence of vinyl and to have a bit of fun.

To this end I have acquired a Thorens TD135 with Ortofon S15T cartridge in good condition. I have also been lucky enough to buy a Tandberg 3002 pre-amp, and Musical Fidelity P180 power amps, with external power supply for next to nothing. I am currently using Arcam Muso speakers with the set-up.

There is some bearing play in the BTD-12S tone arm and it was poorly rewired by the previous owner. Could you advise if an alternative arm could be fitted, and if so what do you recommend?

I would also appreciate advice on a cartridge change. The SIST is still in good condition, but not sure how it would stack up against a modern budget cartridge like the Ortofon 2M Blue for example.

Alternatively, maybe I should cut my losses, sell the Thorens and buy either Planar 3 / Technics SL I 200, or Project RPM5.1.

Your advice will be appreciated.

Douglas Henning

It sounds like the Thorens needs restoring and should find a suitable home. I would advise you to cut your losses and buy a Rega P3-24 and the best of the Ortofon 2M Series cartridges you feel you can afford. Just bear in mind the 2Ms are quite bright and forward, because there is no upper midband droop.



Technics SL1200 with Rega tonearm, an excellent combo.

More forgiving are the Goldring 1000 Series cartridges, and a 1024 is always a good choice. **NK**

At this price point, my choice would be a Technics SL1200 with a Rega RB251 arm (on OL armboard) fitted and the cartridge of your choice. The Rega is excellent, but when rearmed, as it was, the Technics offers a far more powerful and propulsive presentation, albeit a little less subtle. Either way, these two new decks will be streets ahead of your classic Thorens. Beware, however, as you may stop buying CDs as a result! **DP**

TABLE TALK

Thank you for the review of the Timestep SL1200 MkII / SME V/ Koetsu RS! A gift from a dear friend of a freshly restored Denon DP-45F has prompted my wife and me to get back into vinyl, and this sounds like a great choice.

We appreciate the speed stability of a Direct Drive turntable, but we're also McIntosh fans, and are therefore torn between a DP spec SL1200 and an MT10

Can you give us any insight as to how these two tables compare sonically? Does the MTIO approach the musicality and midrange beauty of the modded SLI200? Does the SLI200 sound colored in comparison to the MTIO, or would you prefer to say that the MTIO sounds artificial or less beautiful or hi-fi?

Does the perceived wow and flutter of the MT10 approach that of the SL1200?

Would you say that the SL1200 ravishes, but the MT10 does not? Or would you say that the MT10 sounds more accurate, and that this is ultimately more satisfying?

Of course these are subjective questions, but that's what I'm looking for: your experience in listening to music with these two turntables.

The difference in price is immaterial to us. Our current system includes the McIntosh 60th Anniversary System amp and preamp, and an MCD1000/MDA1000 Transport/DAC.

Thank you for any guidance you can

Thank you for any guidance you can provide!

Scott Kyle

Hmmm... what an interesting question! If you're MacIntosh fans and want to buy yourselves a lovely luxurious piece which will give you large amounts of pleasure, in the same way that buying yourself a high end convertible car would, then get the McIntosh. If it's no holds barred raw performance you want, then it's got to be the Technics...

The modded SL1200 sounds very different to the MT10, as you'd expect. It's not as silky, not



The MacIntosh MT10 turntable "is fluid and tonally warm" says David.

as beguiling, not as lyrical, not as sweet, not as cosseting, not as reassuring. But it's faster, punchier, more dynamic, more explicit, more enthralling, more visceral, more arresting, more unnerving, edgier and sassier. It also makes all music a seat-of-the-pants experience, which is riotously good fun but isn't so good if all you want to do is kick back and relax with a glass of the hard stuff, cigarette and/or life partner in hand!

It's always hard to distill out the essence of the two decks without resorting to journalistic cliche, but suffice to say that both belt drives and direct drives have their own distinct sonic signatures, and both the McIntosh and the Technics are excellent examples of their respective technologies. The former is fluid and tonally warm, but ultimately lacks grip and dynamics, whereas the latter is crisper and colder, but has great energy and push. The MT10 seduces, the SL1200 (modded) amazes - hope this helps; now you're on your own! Me, I'd have the Technics - but then again I like hi-fi to be a visceral experience and don't collect McIntosh gear, lovely as it is. So you might think differently.

DP

SOUEEZEBOXED

Recently I have thought a lot about the way I now listen to music and how this has changed quite dramatically over the past thirty or forty years. These days my sources of choice are vinyl and streamed audio, the vinyl being for more serious listening, leaving a collection of over 1000 CDs and a £1500 Naim CD5x all but redundant.

The purchase that pretty much changed everything for me was a Logitech Squeezebox 2, now replaced by a new Logitech Duet system which has completely changed the way I listen to music. It was also very reasonably

priced and though not hi-fi in the purest sense, played through my Naim Nait 5i and Shahinnian Super Elf speakers can sound pretty close to the CD5x with a good quality rip.

With a decent DAC this system will sing and be a convenient alternative to my Technics SL1210 when I am cooking, or otherwise less inclined to change vinyl every 30 minutes. What worries me though is the way in which traditional hi-fi companies have jumped onto the bandwagon producing components costing thousands such as the £4500 Naim HDX. I had an opportunity recently to see the innards of one of these and discovered two cheap hard disk drives which retail at about £50 each.



A life changer for Garnet Newton-Wade, the Logitech Duet.

How about the £10,000 AVI AMD9 active speaker combo? I recently read how one hi-fi enthusiast had tracked down the original manufacturer's circuit diagrams and found they had capacitors back to front and an incorrectly

implemented protection circuit.
The suggestion was the design was suspiciously like an incorrect interpretation of a Wireless World article from the nineteen seventies.

I myself had an issue with a Cambridge Audio Azur 640H music server which despite costing me £650 has been consigned to the attic after failing four times in just over a year, the fourth time being after the guarantee ran out.

I think we are seeing a shift from traditional hi-fi manufacturers to the likes of Logitech, Sonus and Apple who are far more capable of implementing computer technology and are currently making inroads into the hi-fi market. They are producing well made, well implemented and reasonably priced designs which are stealing market share. The Luddites among the hi-fi fraternity still worry about compression (which is optional) or that a Hard Disk Drive isn't as good as a CD mechanism when the opposite is true.

Hard Disk Drives are better because they are more sophisticated. Instead of reading in real time and guessing or muting what they aren't able to retrieve, they keep reading and feeding information to RAM where a Checksum is done. The computer adds up the binary and when it has them it plays your music, and its exactly the same every time. Streaming music via a computer removes a chain of unnecessary mechanical interfaces compared to when a CD player is used and the less the signal is interfered with, then the better the overall sound.

So that's the science but it's a bit like this; if you fit a turbocharger to your car it will go faster. It might also go faster if you remove the hub caps because it's lighter but which is the modification you would choose?

Garnet Newton-Wade Wiltshire

Hmmm... CD always used Reed Soloman error correction and it is quite powerful. Redundancy in the data stream isn't guessing. Granted, disc errors could overwhelm it and the Cambridge error counter in the CD-1 CD player did suggest errors could be high when the plating was dodgy, but the days of 'see through' CDs are over I believe. All the same, modern hard discs are in a different world, one 30 years more advanced where instead of 0.6GBs we have 1000GBs. But I still don't trust 'em!

I think you're spot on in many respects; the digital world is moving to computers to store its audio, and the likes of the Apple iPad with its 'jazzy' interface will doubtless

NK

accelerate the process. Meanwhile, the vinyl revival continues apace, for those who like physical media...

I think the hi-fi industry is very much on a learning curve with computer audio, trying to find a way to 'add value' (to use that dreadful marketing speak) whilst staying cost-competitive. The Naim HDX is actually a very good example of a hybrid between the computer audio and hi-fi; its disk drives are the cheap bits, but rest assured its audio stages are on a level or three above those of your home PC. Whether it catches on or not remains to be seen; I think we're all currently in the process of 'negotiating' our way through the changeover. As for me, I've got so impatient with this snail-like process that I've gone back to cassette and am loving it! DP

STAR STATIONS

I read with interest the Letters section in the latest edition of Hi-Fi World. You were responding to a letter by Roy Chant about stereo receivers

and internet radio stations. Roy mentioned a station called http://www.jazz. fm which caught my attention as I like lazz. I read your answer with interest and a degree of scepticism as you went on to point out to Roy that the sound quality wasn't very good streaming at 48kbps and that internet radio often sounds dreadful.

Sceptical about your response I decided to check out http://www.jazz. fm for myself. After about 3 minutes of listening to the station I thought, whoops! Noel was right about this one! The sound quality was very disappointing.

I had a HomeTheatre PC custom built for me in 2006. Its been very much part of my hi-fi system and I use it to play CDs and DVDs, plus listen to internet radio stations - now its becoming the norm but I had a Linn Karik III which I sold to use the Home Theatre PC as my source instead, in 2006, so I feel like a pioneer! I have saved internet streams which I consider to output high quality sound. One of the 1st stations to do that was The Jazz which lasted only 12 months from 2007 to 2008 due to politics – it was a great station and the internet stream was much better quality than their DAB

counterbart.

Another station with excellent sound quality is France International Paris (FIP) which plays a combination of jazz, adult oriented pop, and other eclectic music. http://sites.radiofrance.fr/chaines/fip/endirect. I have been listening to the satellite version of this station on Hotbird, 13 degrees east, and latterly Astra, 19 degrees east, since 2000 and though the internet stream is not quite as good as the satellite station, the sound quality has improved in the last 12 months and is not far off.

Another station I listen to regularly is Radio Monte Carlo, again originally a satellite station http://www.radiomontecarlo.net/home http://www.radiomontecarlo.net/it/multimedia/webradio/rmc_2. It plays a lot of Euro electronic dance music, chill and electro jazz much better than Chill DAB who have a similar remit.

AOL also outputs very high quality radio streams. I regularly listened to the Fusion stream but unfortunately they've stopped streaming to Europe which is a shame. You now get re-routed to http://



France International Paris offers an excellent sound with a wide variety of music, says Laurie Burnette.

www.last.fm.

I thought it might be an idea to recommend Hi-Fi World in a future edition maybe doing a feature on Internet Radio and recommending some high quality streams for people to check out. I'm sure there are stations I haven't discovered which I would like to hear.

Just one last thing. I also found your feature on the revival of cassette fascinating as an easy way to record music. I'm the proud owner of a Sharp IMR 420 I bit Minidisc recorder that I use it to record off satellite radio, internet streams and transfer CDs. I listen to it on the road and play through my hi-fi when at home. The sound quality is absolutely excellent using ATRAC3 which is highly thought of, I understand. Minidisc could have been a great mass replacement for cassette. I'm amazed Sony missed such a trick because it's reported they try to sell it



A good budget phono stage, Icon Audio's PS1.

as a replacement for CD when with its recording facilities it should have been a replacement for cassette decks! regards

Laurie Burnette

VINYL QUEST

I am on a quest for answers (as we all are who write into you at Hi-Fi World) to the ever-plaguing need for partnering perfection. I have done a lot of research, more than I like to admit, yet I cannot find decisive answers to pairing tonearms and pickups. So here I write to you, the experts who I hold in high regards, for some direction.

Before indulging upon my questions, let me fill you in on what I have to work with (i.e. hi-fi system and budget). My system consists of a Roksan Caspian M-Series-I integrated amplifier, Dali Ikon 5 speakers, a pair of the Chord Carnival Silverscreen speaker cables (which I believe help the Ikon 5s tendency to be bright at the high end), and a Rega P3-24 turntable with the TT-PSU. All of which has been bought second hand, otherwise I would have never been able to afford it.

Vinyl records are the only source of music I use in my system. The P3-24 is replacing my Pro-Ject Debut III run from the Pro-Jects Speed Box II and linked to the Roksan via the Cambridge Audio Azur 640P phono stage. I understand that my components are not high-end, but feel I've done well with the money I managed to scrape together, spending just over £1,100 on the Roksan, Dalis, and Rega over an extended period of time.

This brings me to my budget and my intentions. Personally, I really like the simplicity of the P3-24 and love the idea of being able to tweak my turntable over time as my cash-flow permits. I plan on upgrading the P3-24's sub-platter, platter, and tonearm. I will also be upgrading my phono stage and interconnect. The sub-platter ond platter I am going to use for the upgrades are the ISOkinetiks ISOsub sub-platter and bearing kit and ISOkinetiks ISOplatter 25mm Reference ocrylic platter, but any

suggestions/alternatives to these are very welcome.

The phono stage upgrade will be determined by what pickup I choose; at the moment I really like the Graham Slee phono stages for price and quality. I am planning on upgrading my tonearm to Rega's RB700 (an OEM version). Again, I am very open to alternatives for the tonearm upgrade. I would like to spend in the region of £400 to £500 on the tonearm and would like to keep the pickup around £200 to £350.

The sound I am hoping to accomplish with my hi-fi system is something detailed/analytical, but a warm and inviting expansive soundstage with a tight, potent low end, a crisp midrange, and a clean, delicate high end. And although my budget may not be extensive I feel this is still feasible (in retrospect to the amount I have to spend).

With that out of the way here are my questions... Do you think it is worth upgrading from the RB301 to the RB700? Or, should I just upgrade the tonearm wires/cables? What pickup works well with an RB700 (and/or the RB301) and a P3-24 plinth? Due to the RBs rigid nature and lean tendency, which I have concluded from my research and listening to the RB301; would an MM or MC pickup work better? With that in mind, what MM and/or MC would you recommend? With the tonearm and bickub pairings you recommend, what phono stage do you think would work well in my current system, my desired sound, and with a budget from £200 to £500?

And finally, what interconnects do you recommend with the pickup/ tonearm/phono stage partners you listed? Since I only listen to vinyl there is only one interconnect I need to buy (0.5m to Im), so I am happy to spend anywhere from £50 to £150 on it, but if there is an interconnect you feel is perfect for my hi-fi system and is over this price range, please do not hesitate to let me know.

Some alternatives I am considering: for the pickup Goldring 2500, Ortofon 2M Bronze/Black, Denon 103R, Goldring GX1042, Ortofon Samba/Salsa, and Dynavector DV10X5.

For the phono stage: Graham Slee's Amp 2 Special Edition (MM)/Amp 3Fanfare (MC)/or Era Gold V (MM)/Reflex C (MC), Icon Audio PS2 (though I do not know much about tube amps), and Trichord Dino MkII.

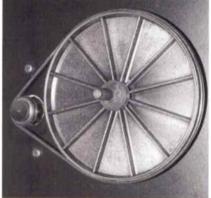
Just a heads up; I have an Ortofon 2M Red I used on my Pro-Ject Debut, and from my understanding the bodies of the 2M Red and Blue are the same with only the stylus being different, so I could save money by getting a 2M Blue replacement stylus if you believe this tonearm and pickup partnering would

be the best option for my system and budget.

Please bear-in-mind buying at the lower end of the budget will be quicker to achieve and will keep my wife smiling with the money saved. While buying at the higher end of the budget will inevitably take longer to achieve but will keep both of us, myself and my wife, smiling with the beautiful sounds the end product produces; this is a quest after all... thank you,

loe Kanaan





The original Rega sub-platter and ISOsub (top) side by side.

The RB700 is clearly better than the '301, offering more focus plus a more natural and less mechanical sound; upgrading the 301 with fancy wires will take you closer to the 700, but is a hassle and you'll have to live without your arm for a week or two! I have extensive experience of using an AT-OC9 moving coil with a Rega Planar 3, and it works very well on the end of the Rega arms; the AT gives a very crisp and dynamic sound which kicks some life into the gentle warmth of the Rega deck. At the price you're considering, the Graham Slee phono stages are excellent and have an enthusiastic following if you're into solid-state stages; alternatively Icon Audio's new PSI (£449) will give a fuller, fatter and slightly less detailed sound. There's a litany of competition; best take your deck and cartridge over and find a good dealer

and listen for yourself, in my humble opinion. Personally, I'd recommend a Missing Link 'Link Cryo' (£245/0.5m) as an interconnect; it's a bit over your budget but well worth it in the long run, such is its very open, smooth, sweet and musical sound. **DP**

ANALOGUE AND DIGITAL

Mr. Noel Keywood has never been less than stimulating and insightful in his monthly OpEd pieces for Hi-Fi World, and nine times out of ten I find myself nodding in agreement at the paragraphs of logic and common sense he writes. However, I feel strongly that his piece in the June edition of the magazine was written either with his tongue in his cheek or was consciously disingenuous. As usual, Mr. Keywood treats us to an apparently impeccable and irrefutable argument: "since all signals are analogue until converted to digital, it's impossible for digital to be better than analogue..." In making this statement Mr. Keywood conveniently overlooks the fact that in an analogue recording process, signals which start as sound waves passing through the air - are converted into a grove embedded into a piece of vinyl, which is a pretty radical transformation by any measure.

The process of achieving this transformation involves many separate stages. In the analogue world, each of these stages - recording on to master tape, mixing a master copy, cutting a press tool, making a physical pressing - are all subject to imperfections which, in this domain, are additive and so all will be present in the final analogue representation of the original sound. These imperfections may take the form of noise, distortion, resonance and so on, so that the final representation is the original sound plus the extraneous effects of the analogue process steps. While efforts are made to minimise these effects, they cannot be entirely

Some manufactures went to greater lengths than others to reduce these imperfections. Decca for example used a proprietary vinyl compound and a preproduction sintering process so that the vinyl material was pre-stressed before going into the press tool. Decca believed this contributed to the final "Decca sound" and it also meant that Decca's discs were not prone to warping and the other pressing defects of certain of its rivals (up the road in Hayes especially).

On the whole, industry adopted digital to overcome the additive defect problem present in analogue, and although I would admit that the initial digital standards may have been too low to offer the "perfect sound" claimed, it was undoubtedly the right decision, as anybody who had seen the horrors of record pressing in Hayes in the 1970s

would agree.

It is also worth pointing out that the analogue process is not entirely analogue as, for example, the cutting lathes used to make disc masters have been CNC (i.e. digitally controlled) for decades, while the much praised analogue FM stereo radio of the BBC relies on digital transmission over the miles of land lines between studio and transmitter.

The other objection I have to the purist view of analogue is that an orchestral recording made with a dozen or more microphones, which is then skillfully mixed down to two channels, is no analogue of reality. It is instead an artificial construction of reality, just as digital encoding and decoding is an artificial construction of reality, and it seems to me that one form of artificial construction of reality has no inherent superiority over any other. I personally

they must have cracked the "digital problem" sufficiently to make the most ardent analogue supporter happy with digital.

Best regards, and congratulations on producing the best and most interesting hi-fi magazine, even if I do not always agree with everything you write.

Keith Hodgkinson

Thanks Keith. I don't really disagree with anything you say, but there are problems with the detail. Analogue's additive distortions were a lot easier on the ear than digital's. I recall reading an account of early digital development by a Philips engineer, I think it was, where he admitted that they knew quantisation worked at sub-multiples of the sampling frequency, but they had no idea what happened in-between! This meant that most of the music got mashed,



The SACD disc at left sounds different to the PCM disc at right. But why?

think that the best we should expect from recorded sound it that it properly represents the timbre of voices and instruments and, in my opinion, the latest digital recordings do that (you guys may be able to spot the difference between digital and analogue, but can any of you spot the difference between a Steinway and a Bosendorfer?).

Also, while it is generally claimed by the analogue purists that digital is not as good as analogue at "imaging", imaging is part of the artificial construction of reality created by the sound engineers at their mixing desks, and regular attendance of live performances will confirm that much praised imaging of hi-fi systems has no analogue in reality. I think you purists need to get out more.

Meanwhile it seems to me that the BBC must be on to something if they can send digital signals to analogue transmitters without anybody noticing: and no one quite appreciates this. But you can hear it.

Higher resolution PCM does seem to do the trick, but it remains the case that SACD sounds different to 24/192 PCM and no one knows why, as far as I am aware (I don't accept that out-of-band noise is somehow responsible).

Imaging a contrivance engineered at the mixing desk? Er, I don't think so. Sound location is an acute ability in humans, as William Yost's researches at the Parmly Hearing Institute so clearly show. Get his book 'Fundamentals of Hearing' from Amazon to read more, or direct from Loyola University, Chicago.

I do sometimes feel that digital better conveys analogue nasties as well, and gets lumbered with them. Many microphones have rising treble and quite a rough top end, and



they feed into poor IC preamps, often incorporated into mixing desks. This gives audio a poor start in life and helps explain, I suspect (as does violinist and audiophile Rafael Todes) why strings recorded digitally commonly sound coarse and timbrally anaemic. As impressed as I am by, for example, by the very dedicated 24/192 PCM and SACD recordings being issued by 2L I am still not quite convinced perfection has been reached. But blaming digital is, as you suggest, likely incorrect.

DENON SOUP

NK

I thought my last e-mail was the last word on the subject of 'souped up Denons'. However I found that the more I listened, the more there was still a bit of a problem of 'spit' and surface noise and a slight edginess and glare to the sound that I could not get rid of. Fitting the metal body to the standard DL 103 cartridge did lift the top treble a bit, but it stayed in balance. However with the Paratrace stylus it could sometimes be edgy and fatiguing. I played around with tracking weight, alignment and electrical loading without success, so I went back to basic engineering principles.

I had noticed that the cartridge and arm seemed to have become more microphonic than previously: when tapped with a screwdriver it clinked and clanked. Maybe the metal body was transmitting high frequencies into the headshell and arm too well and there was not enough damping or energy dissipation?

If this was the problem, then in theory sandwiching a very thin layer of suitable material between the cartridge and the headshell like a gasket could provide a break in the energy path and act as constrained layer damping to dissipate excess high frequency energy. However the material would need to be very thin and reasonably stiff, with good self-damping so that it would not decouple the cartridge body from the headshell and affect mid- and low frequencies.

After a little thought I settled on standard 80g photocopy paper as a

good starting point. I carefully cut a piece to fit, tightened up the mounting screws and sat down to listen. My hunch about the cause of the problem must have been correct, because it worked exactly as theory predicted: there was no loss of midrange or bass definition but the 'glare' and 'spit' had gone and the treble now had excellent definition and clarity.

It seems that the 'paper gasket' is a simple and effective solution - and it could help other metal-bodied cartridges where treble 'spit' and glare is a problem. Before you scoff too much at the idea, it is based on sound engineering principles, it works, it costs nothing and it isn't half as drastic or wacky as the Cartridge Man's Isolator. It is worth considering (and trying?) as a cheap and effective alternative to the latter. yours sincerely,

Alasdair Beal

Scoff? Not at all Alasdair. Our accelerometer measurements of pickup arm vibration clearly show there is a lot going on around 6kHz and moving the accelerometer to different locations on an arm suggests the headshell is responsible. However, Karl Heinz Fink, who uses laser interferometry to assess arm behaviour, tells me these modes exist in the arm tube. Whatever, something is going on. One solution is to wrap a plastic damping sleeve around the arm tube; another is to drill the tube with holes that act as wave breaks; another would be to add ribs, which also dissipate wave motion. So you are likely spot on with your solution! NK

NEW GENERATION

I hope I didn't give you guys the impression that I am a Sony hater. I have all the respect in the world for the company and its many truly great products. The Sony F-66W is an example of a Sony product that was well ahead of its time. Mine is looking at me as I write and still giving great service!

The future of audio publishing belongs to those who realise that to a

whole generation the 1812 Overture is simply music for a montage of kids crashing shopping trolleys into brick walls. I read a review in a rival magazine that used this piece of music and shook my head. Yeah, you kids need to forget your iPods and buy a brute of a turntable, to excavate every last molecule of information from your pressing of the 1812.

There has been a paradigm shift in the minds of kids when it comes to music. As Trent Reznor puts it, they don't think they should have to pay for music anymore. This attitude was demonstrated on a recent visit to YouTube to have a look at a Prince video. Prince has been very active keeping his music off the site and the comments on the video (which had its audio track removed) were incredulous in tone; internet users struggling to fathom why he would actually expect to get paid for his music.

The reason that Blu-ray has been embraced while SACD is WTF? People actually sit down and watch films. Only audiophiles put on an album and listen to the whole thing; the very concept of sitting down and listening to an entire album is crazy. This was brought home when I began talking to someone on the train. After discussing various topics from obscure Japanese Cage Fighters to telescopes I mentioned audio and got



Old generation for a new generation.

a puzzled look. Uhh, stereo? Nothing. Hi-Fi? Not a clue what I meant. People, we are truly underground. To quote Rage against the Machine: "We're the renegades. We're the people with our own philosophies."

It's hard to mess with Noel
Keywood, the guy really knows his stuff.
When I first raided my Dad's audio
magazine collection I found his writing
a little too objective and preferred the
fantastical writing of a journalist who
will remain nameless. Well, let's just
say he is supposedly single handedly
responsible for the revival in vintage
audio (excuse me while I explain that
to the 300B cults of Japan, manufac-

turers like Audio Research who never stopped making tube gear and all the audiophiles who hung on to their classic equipment), likes to mention Swiss watch makers ad nauseam and recently wasted a whole column on Steve Jobs follies. These days though I'm not so keen on his writing and prefer Noel's even handed approach. As a kid I found Noel's writing a little dry (no mentions of French hookers or Ferraris) but now I appreciate the measured approach he takes to reviewing.

An area where I feel Hi-Fi World is falling behind is photos of components internals. I want my audio porn! David's recent review of the DCS CD player was underwhelming in this respect.

All audio magazines seem really confused when it comes to MP3 and kids. Column after column of statistics on drops in sales of CD singles etc., and not a clue what to do. The confusion stems mainly I feel from not understanding the distinction between demonstrating value and imposing it. But why don't the kids want a 300 Watt Class A monoblock amplifier? Because they don't care! Get over it and build a better iPod dock a la the Krell Kid. Though David's optimistic view that such products will act as a gateway into real audio is a little confused. They will act as a gateway, but in the other direction i.e. audiophiles getting into MP3 and iPods. Remember the Real Hi-Fi campaign? Yeah, that worked. Again, trying to impose values rather than demonstrating value.

Oh, how I would love to wave my hand in front of Adam Smith Jedi style and say having 300 mediocre turntables is silly. Perhaps you should ebay them and reprocess the funds into good gear. Keep your Garrard, Alphason and Marantz CD player, the rest can go. How on earth did the Craputrac, uuurgh sorry, Accutrac make its way into the classics section when real, affordable classics like the Thorens TD 150 and TD 160/super are omitted? I agree with Adam when he says the sky's the

limit for upgrading these suspended sub-chassis decks. And Adam, don't be embarrassed by using tracks like Hadaway what is love? Great song.

Whatever happened to the new production of 845M tubes? What's the story with Blackburn's new 12AX7/ ECC83 tubes? And why don't Rega make a 12 inch arm?

I was impressed with the resume of turntables you have heard David. My fear was that I might respond with something like Yeah, but my man (to use Bob Dylan speak) uses a Sota Sapphire with vacuum platter, SME IV and Supex 900 and I reference it far too often.

Kicking back with my dad I said "you know there is a model above the TTS8000". His response? There would want to be.

My final confession; I manhandle all the audio magazines but only ever buy Hi-Fi World!

Ben North

Thanks Ben. I harbour no illusion that listening to an album on its own is now an outdated pastime, or is seen to be. But equally, having seen fashions come and go and attitudes change, I don't take it all too seriously. Mr iPod – my 10 year old son - is starting to take to big concerts and long guitar solos and even asking about Prog Rock ("you won't like it, so don't ask"!). His eyes popped out at The Who's 'Live At Kilburn' Blu-ray, a real bit of high energy Rock that brought a large smile to his face. And I heard Voodoo Chile issuing from his bedroom the other night. It's disgraceful what kids listen to nowadays! NK

Hi Ben - a great letter (or was it a manifesto?); not sure if I agree with you on many of those topics but I must say you put things very lucidly! I think the main point is that real hi-fi is now an elite pastime for a certain kind of music and/or movie fan, and not a mass market movement for

everyone. This shouldn't in itself concern us, although I do feel that we should try a lot harder to be more inclusive, and not constantly seek to find ways of deterring 'normal' civilians joining in with our fun. The industry has to reach out to the general public, because it sure as hell isn't going to happen the other way round. **DP**

AFFORDABLE AMP

I've built up a system that I think sounds great and spend many happy hours listening to both vinyl and CD, but I'm wondering if it could sound even better and I'd like your advice. I've included a couple of photos to show you the speakers are Tannoy Autographs with 15 Gold drivers and Tannoy supertweeters - the original Tannoy crossovers were rebuilt using all new and modern parts (they'd have been 30-40years old and components wear out). I built the cabinets myself from plans on the web more as a wonder how difficult that would be than anything else (took me 5 months end to end and, yes, it was really difficult!). But the sound they generate is, to my ears, just magnificent. My musical tastes are pretty varied, some classical piano and orchestra pieces, female vocalists, Pink Floyd, Kate Bush, but not towards heavy metal. I like to hear into the music, being able to pick out individual instruments rather than just have a huge wall of sound battering me!

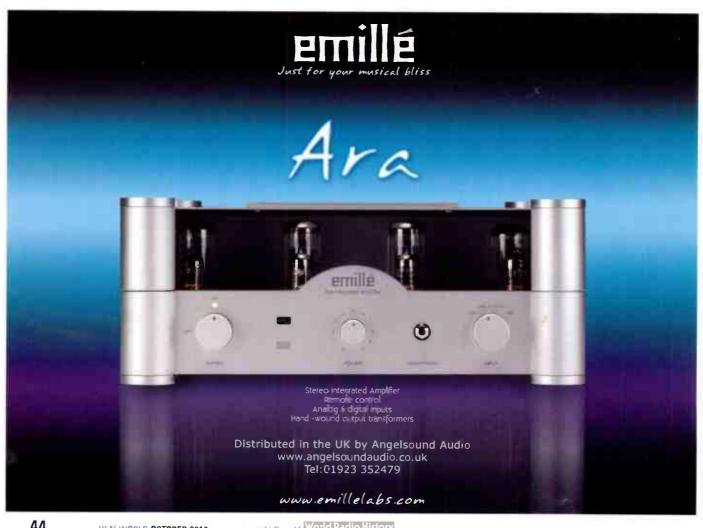
My room is 14ft wide and 21ft long with a vaulted ceiling, plenty of furniture, bookcases, sofas etc. I love the whole turntable and vinyl experience so have two of these, a Technics SP10 Mk2 in a metal and hardwood plinth, an SME IV arm with a Lyra Argo cartridge.

The other turntable is an Amari (little known, I think they went out of business but there's still some info on the web), a Wilson Benesch arm and



The new Icon Audio MB845 Super MkII power amplifiers.





an Audio Technica $\,$ OC9 cartridge.

Both cartridges feed into a Whest audio PS20/MS20 phono stage.

The CD player is a top loading Chinese import called an Original Leonardo. I loved the look of it and it also has some excellent componentry. The digital signal from this goes into a Musical Fidelity Trivista DAC. As many of us have come to realise, the vinyl side beats the CD side for clarity and depth of sound and gives that feeling the musicians are in the room with you. On their own, CDs sound great, just not as good as the same vinyl albums in back to back comparisons.

I use a valve amplifier from the Affordable Valve
Company - triode connected using four KT88 Svetlana output valves. I have always preferred the sound of this to other transistor amplifiers I've used, the nearest in sound quality came from a Jungson JA88 Class A amp.

So to my point. It's the valve amplifier that I think I can improve. It's not that I can pin-point any particular weakness with the current amp (probably because unlike you hi-fi reviewers, I just haven't been exposed to the variety of superb sounding equipment that you have). So I'm looking for a better sound in all areas, and I like the idea of having a remote control for the volume, at least with a budget of £2000 what to do?

I have a Creek passive preamp so could go for a power amp or monoblocks, or go for another integrated. What I don't want to do, and this is a situation I'm sure many people face, is spend a lot of money only to find I get something with more or less the same performance. Can you help?

Simon Taylor

If you have the Creek OBH-22 passive preamp with remote volume control an obvious choice are the forthcoming Icon Audio MB845. Super MkII power amplifiers. Price, unfortunately, will be above your budget, I'd guess around £3000 per pair at least and likely more. They will give you close to the ultimate in terms of triode sound quality, having both smoothness and slam.

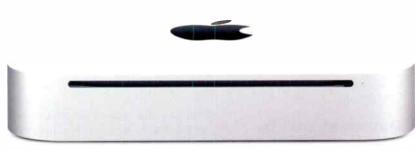
Within your budget is the Icon Audio Stereo 300, that offers the smooth, smooth sound of 300B triodes. Just be aware that 300Bs are expensive: think £80 apiece minimum. After a few thousand hours of use

replacement is expensive. Otherwise, look to KT88s from Icon Audio in the Stereo 40 MkIII, another lovely sounding amplifier at a great price. You'll get great results with those lovely looking Tannoys. **NK**

PICTURE COURTESY OF APPLE



Since the age of 15 (I'm only 25 now) I've read hi-fi mags and have come to favour your magazine over the others, based on auditioning a large variety of equipment over the years and tending to agree with a lot of your reviews. So I



New Mac Mini outputs digital audio from USB, optical jack and HDMI.

MAC ATTACK

Leigh Penny wrote to us asking whether he should use the optical or USB output of a Mac Mini. He wasn't happy with Noel's reply in our September 2010 issue – and nor were other readers! Here's the saga...

LEIGH PENNY WRITES...

I wrote to you with my situation (in the email below), of which I have just read your reply/comments, in the latest issue (September 2010). I don't feel that you have commented correctly or given much relevant advice on the matter.

Firstly, you say that you are "not aware that Mac Mini's have an optical audio output". I think you'll find most do, well at least for the last few years anyway. Its headphone jack doubles as one giving 24bit-192kHz. You would have to use an optical cable that has TOSLINK to MINIPLUG, i.e. "Van Den Hul Optocoupler MkII (Toslink to Miniplug)."

Then you advise I get a "Musical Fidelity V-DAC" even though I've asked for advice on DACs costing £1,000-£1,300.

I feel you have dismissed a lot of what I wrote. I would still very much appreciate any help or advice **Leigh Penny** thought this to be a great opportunity to write in for your opinion on my current dilemma. Since my CD player died, I've been seriously researching the best way to incorporate a music server into my hi-fi system. Even though I build PCs and use Microsoft Windows on a daily basis, I've decided against this route in favour for an Apple Mac Mini.

The problem is that I can't decide whether to go Optical or USB. My current system consists of: Dynaudio Audience 82 speakers (real wood version), Audio Note L3 preamp (that I built and upgraded with a remote controlled Dact stepped attenuator) and the original Quad IIs (that I've sympathetically modified). I know the Quads aren't ideal to drive the Dyns but I love the sound they produce and I live in a flat, so the low power probably keeps my neighbours happy.

Ideally I'd like to build an AudioNote DAC to connect the Mac Mini to my system, but it doesn't have an optical input. In my mind I'd prefer to use an optical connection to isolate noise from the Mac.

I have also read that the Mac doesn't automatically switch between sample rates when outputting to a USB DAC. So I have to change settings in OS X to the correct sample rate of each track to ensure bit-perfect output. But I



can't find information on whether this is an issue when using the optical output.

Most of my music will be ripped from CD to WAV or AIFF format using error correction. But I will want to download higher sample rates in the future when they become more available and I know manually changing the sample rates on the MAC will become tedious. So the questions are: do I use Optical or USB? And if I were to use Optical, what DAC would you recommend for around £1,000-£1,300? Any help/advice would be much appreciated.

Leigh Penny

AND OUR READERS SAY...

I read with interest the letter from Mr Leigh Penny in the September issue. The Mac Mini does indeed have an optical digital output and has a digital input too. I have never used this but regularly use the output via a Toslink cable connected to a Musical Fidelity V-DAC. Initially, I was puzzled by Apple's claims that the computer had both a digital input and output (the computer manual is not helpful here) until a little research revealed that what was needed was a Toslink to mini Toslink adaptor. The jack sockets on the computer are dual purpose and when a Toslink cable fitted with the adaptor is used, they give a digital connection.

Like Mr Penny, I too would like to



Sampling rate options for USB were 44.1 and 48kHz with our Intel Mac Mini running Leopard, connected to a Cambridge Audio DAC Magic able to process 96kHz.

every month and always find it an interesting read.

Tom Mercer Fife

When it comes to computer audio, I have always regarded your magazine as sort of 'charmingly misinformed'. But your response to the 'Optical Mac?' question however was at best, wrong. At worst it could be described deliberately misleading. Go to - http://support.apple.com/kb/HT4210 for more information on the Mac optical connection.

Mr Penny asked a question about automatic sample rate switching in OSX.

16/44.1 and Mr Penny plays a 24/96 file, the file will be converted to 16/44.1 prior to being sent to the DAC. There is no automatic way for the sample rate to be matched 'on the fly' without investing in additional software and/or hardware.

Mr Penny's question was to whether this sample rate matching issue was applicable to the optical output. The answer is yes, it is. The issue is one applicable to OSX and will affect all outputs.

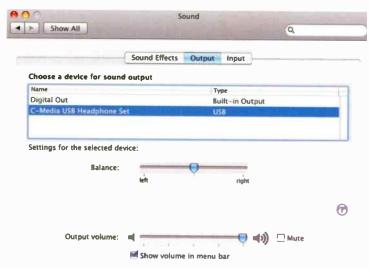
I can fully understand that 'computer audio', as a whole world if you will, is not the main emphasis of your magazine and that's fine. Even the slightly patronising tone that is often used, when it comes to things 'computer', is okay. The world of audio playback is nothing if not contentious! But incorrect information is unforgivable. You owe Mr Penny an apology.

Bob Hurst

In response to Leigh Penny (HFW 20(7) p43) Noel Keywood states that the Mac Mini lacks an optical output. The optical out on a Mac Mini (and the Macbooks and Airport Express) is integrated into the 3.5mm audio out connector and will happily talk to a conventional Toslink socket with the appropriate adaptor plug. Sample rates and bit depth can be tweaked via the Audio Midi application; any additional USB audio devices will show up here too. I'm not sure if all iterations of the Mac Mini have had the optical out so integrated, but I'm fairly sure that all of the Intel based Mac Minis have. Hope this helps. Certainly my three year old MacBook has one as well as my newer machine.

Dr J.D. Atkinson

Your statement that Mac Minis do not have an optical output is not correct, as a quick check of the spec sheet on Apple's website would have shown. The 3.5mm mini-jack on the machine is, in fact, a dual-purpose analogue stereo



A USB device declares its identity and must be selected in the Sound control panel within System Preferences.

learn about the pros and cons of optical and USB connections and although I find the sound I am getting from computer is generally very good and musically satisfying, I am never sure if everything is set for optimum performance. As someone who became interested in hi-fi in the sixties, I feel at home with matters analogue and although I am familiar with computers and use them on a daily basis, I still feel a bit at sea in the world of computer audio.

I look forward to your magazine

The response he got failed to answer the question and was on most individual points incorrect.

Mac Mini's do have, and always have had, a digital output. Mr Penny is correct when he says that the audio resolution, of sample rate and bit depth, must be preset within Core Audio prior to playback by iTunes. This is set in 'Audio Midi' settings. If this is set incorrectly the audio stream will be sample rate converted to match the setting. So, if Core Audio is set to



The 'Format' set is the Mini's output data rate, irrespective of the music file rate. A data rate of 96kHz, shown here, is the maximum. 'Digital out' means optical S/PDIF.

and mini Toslink output. It is the same interface used on the Airport Express wireless base station and in Apple laptops.

USB may well be a better bet however as the Toslink connection won't pass sample rates higher than 24 bit/96kHz. FireWire is also a possibility for digital output, as is HDMI on the latest model.

Collin Coleman Avon

Oh dear oh dear. NK is simply mistaken to claim that the Mac Mini does not have an optical output in the Letters column of Sept '10, when replying to Leigh Penny. The headphone socket on the back is a combination socket that also includes optical out.

Then there's the subject of bit rates, etc. On my Mac Mini using OSX 10.6.4 (and indeed earlier versions) once there is an optical output lead connected to an external DAC, you can alter all sorts of parameters in Utilities > midi > sound input/sound output. I've been using my Mac Mini via optical through a DAC for about three years, and I believe (and this personal) that the optical is superior to the USB, to me it just sounds better.

Steve Dixon

AND NOEL REPLIES ...

Well, I never knew that! My thanks to all our readers who obviously have Mac Minis and know more about them than me – and even Apple (more later)! And my sincere apologies to all for an inadequate answer.

I bought one of the first Mac Minis and have been using it at home as a 'silent' companion ever since, keeping it up to speed with regular DIY disk drive and memory upgrades. So I thought I knew it — and I do. It has no optical output in the headphone socket. Later Macs do, including an Intel Mac Mini I also have (but do not like because the

interpretation layer makes it slow), so whilst strictly 'not wrong', I wasn't usefully right either!

Suitably chastened by your letters I trotted down to Apple's Mac emporium on London's Regent Street and asked for an adaptor."A what?" was the reply from three assistants (I got passed along). After thirty minutes in the stock room a Mac expert sold me a cable that, he assured me, had the adaptor in the box. You can guess the rest. I got the darn thing at Maplin in the end, as an accessory packed with an Nikkai optical cable. So if you want one, try Maplins!

I admit I have never thought of my little, unpretentious and silent companion as having any audio leanings, other than to deliver music from YouTube late at night, when my fingers have reached meltdown. But there's plenty on the 'net about Mac Minis being used like this.

Why wouldn't a Mac Mini deliver music properly? For the usual quoted reasons; noise and jitter. Intrigued by the notion of using a Mac Mini for music (I've always associated music and video with my PC) but suspicious that this isn't the best of ideas, I connected up the Intel Mini's optical S/PDIF line to our Rohde & Schwarz jitter analyser and saw very little jitter at 44.1 kHz sample rate. It looked good. Switching to 48kHz sample rate, jitter and noise rose considerably, suggesting the Mac Mini isn't ideal. Unfortunately, our analyser doesn't measure jitter on a 96kHz signal. So it looks like a fair choice of music server, but it's by no means perfect and hardly purposed for this role. Note that using Optical does not isolate this type of noise. And look at what Naim say about this on their website with regard to the Naim DAC, certified to work with Macs and designed to suppress computer crud.

The Intel Mac Mini has selectable

fixed output sample rates of 44.1, 48 and 96kHz via the optical output but only 44.1 and 48kHz via USB, at least with a 96kHz capable Cambridge Audio DAC Magic attached as a test mule, and running OSX Leopard 10.5.8. This may well have risen to 96k in the new Mac Minis, running Snow Leopard, with which I have no experience. It sample rate converted 44.1, 48 and 96k WAV sample rate test files up or down successfully too, meaning 44.1 up to 96k (which is not a multiple) and 96k down to 44.1, without obvious problems. I did not spend to much time on this but the spectrums were clean. Sample rate conversion to non multiples/submultiples can have problems.

As readers have pointed out, output rate is set in the Audio tab of the 'Audio MIDI Setup' device, found in the Utilities folder, within Applications. Once set, this is the output rate; you do not have to change it. All files are converted to this rate.

Subjectively, optical connection is usually preferred to electrical, if not by everyone. Optical introduces an extra transmitter and receiver which I am told "can have problems". But there is no signal ground return path to be shared with earth currents and this is the usual quoted advantage, lessening 'noise'. Optical coupling of S/PDIF invariably gives a less sharp sound than electrical, or one with less temporal definition, according to how you see it. HDMI and USB have the same character as electrical connection, optical having a quite distinct flavour.

All in all then, I suggest you use optical; I usually do. It is a relaxing yet clean listen. The Musical Fidelity V-Dac I recommended is a suitable budget match but a Cyrus DAC-X at £1,200 would be a quality partner. AudioNote's DAC is quite different in its anti-alias filtering to all others and uses valves of course. You could use a USB-to-S/PDIF converter, assuming 96k is available from USB in the latest Mac Minis. There's plenty of music around in 24/96 and it worth having; 24bit resolution especially. I would not worry unduly about 24/192. There's so little music around at this resolution and my experience to date is that there are no night-and-day advantages over 24/96; generally, it has more intense detailing. And the Mac Mini does not support it yet as far as I am aware, although HDMI on the new Mini has the bandwidth.

I hope this makes all the issues clear – and makes everyone happy too! And my apologies once again for the wonky reply.

NK

ELEANOR MCEVOY

ELEANOR MCEVOY I'D RATHER GO BLONDE



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World Radio History



WIN A YAMAHA RX-V567 AV RECEIVER WORTH £400 IN THIS MONTH'S GREAT COMPETITION!

i-Fi World gives you the chance to win a great little multichannel AV receiver in the shape of Yamaha's RX-V567! Here's what Noel Keywood said about it in the September 2010 issue...

"Yamaha have stepped in with this interesting receiver, that's remarkably simple in layout and operation, yet offers seven channels able to punch out 100W eacn. The rear panel carries no less than seven pairs of loudspeaker output terminals, for this is a 7.1 receiver able to drive three front loudspeakers and four rears (Surrounds and Backs). Using two channels to bi-amp Left and Right front loudspeakers is now a common option, and the RX-V567 has it. To bi-amp you need bi-wire loudspeakers with shorting links removed; it tidies the sound

a little and is a useful gain. As well as HDMI Version 1.4a ready for 3D and all the usual audio suspects, like DTS HD Master Audio and Dolby TrueHD, Yamaha include hall modes. Surround-sound can be synthesised from stereo with Dolby ProLogic IIx and DTS Neo6. Fitted with 24/192 digital-to-analogue convertors on all channels, the RX-V567 can reproduce top quality PCM digital audio from Blu-ray.

Installing the RX-V567 was straightforward enough. Dolby Digital Plus worked well from a Dolby test disc and the receiver correctly recognised it in my routine checks. The same showed 24/192 PCM was identified from 2L Blu-rays and handled properly, as well as Dolby TrueHD and DTS HD Master Audio. The biggest surprise came when, with the Blu-ray player set to output DSD, the Yamaha recognised it as such and

played it, to provide high resolution surround-sound from SACD discs. It sounded smooth and easy on the ear, but was nicely insightful all the same. With the Eagles 'Last Good Time in Town', there was a good sense of depth; The Mariinsky Theatre orchestra had scale and weight, and Lang Lang's piano sounded silky smooth yet full bodied. With this disc the Yamaha provided glorious results, succinctly conveying the airy venue. the power of the orchestra and the majesty of piano. Yamaha manage to tread carefully along a narrow tightrope through the technological minefield of AV with this product. getting nothing seriously wrong. Even the tuner is carefully engineered; every little corner has been carefully attended to. It is smooth sounding, has plenty of bass weight and a wide variety of interesting options. So if you want a hi-fi package on a tight budget, this receiver is a great choice"

If you'd like to win this superb bit of kit then all you have to do is answer the following four easy questions. Send your entries on a postcard by 30th September 2010 to:

October 2010 Competition,
Hi-Fi World magazine, Unit
G4, Argo House, The Park
Business Centre, Kilburn
Park Road, London NW6 5LF.

QUESTIONS

- [I] The Yamaha RX-V567 is a what?
- [a] loudspeaker
- [b] motorcycle
- [c] grand piano [d] AV receiver
- [2] How many pairs of speaker terminals does it have?
- [a] 2
- [b] 4
- [c] 5 [d] 7
- [3] What's the resolution of its DACs?
- [a] 16/44.1
- [ь] 24/48
- [c] 24/96
- [d] 24/192
 [4] The biggest
- surprise was when the output was set to what?
- [a] PCM
- [b] DAB
- [c] MP3
- [d] DSD

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

RULES AND CONDITIONS OF ENTRY

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JULY 2010 WINNER: ASTIN TREW AT8000 PHONO STAGE Mr. Jae Goldsworth of Bradford, West Yorkshire

Knight Life

Noel Keywood listens to Castle's new Knight 5 floorstanding loudspeaker...

astle Loudspeakers attract a dedicated following of users that appreciate their sonics, style and build. Smooth sounding and capable all rounders, I am told the marque appeals to a traditional audience, rather than the burgeoning iPod generation.

We.I, with the new Knights that hasn't changed; the new top of the range Knight 5 floorstanders you see here certainly don't come in high tech livery, nor anything like it. Indeed, our review samples had an unusually reticent veneered finish of dark redbrown Mahogany with smoked grey edges no less! Factor in the 'semi matt clear lacquer', as Castle put it, and anthracite grey plinths and fittings and you end up with a visually unobtrusive loudspeaker, yet one better architecturally figured than many. That's because the Knight 5 carries more detailing than many an ordinary box, from the small badges to the curved, routed plinths, rounded cabinet edges and even the rather nicely plated spikes, that have a shiny grey lustre rather than the usual industrial matt biack. Some thought and effort has been put into detailing, in keeping I suppose with its likely presence in a 'mature' home that will be traditionally furnished and likely iPod-free!

The Knight 5 doesn't quite cover a vertical metre on its spikes, whereas many big boxes are creeping past this line in the sand. The front face is 200mm wide and depth is 335mm, neither being out of

the ordinary. And weight has been held to an easily movable 20kgs (44lbs) so the biggest Castle isn't really so vast; more a fort methinks!

Our review samples came simply but adequately packed, but the instructions and diagramming were a bit generic and opaque as a result, so I had to guess which way around the plinth went. More irritatingly, a few of the plinth inserts had not been tightened up, and the spikes caused them to spin around as I tried to adjust height. I had to disassemble and tighten the inserts, which the sharp end of the spike did nicely.

A long 'quarter wave' internal line, like an extended port in effect, exhausts through a big opening in the loudspeaker's base. Castle call this 'twin pipe technology'. The plinth is spaced a few millimetres from the base by large washers, to define and control port exit conditions. The idea here is to broaden the damping on the bass units, to better control them. This also improves the load characteristic of the loudspeaker, making it easier for an amplifier to drive, It's an area where current reflex loudspeakers conspicuously under perform and a good solution will improve bass quality all round, with little increase in cabinet complexity and cost

It's all a matter of sorting out what is going on acoustically inside. This has been tackled in transmission line loudspeakers, and a lot of claims have been made, but few products of convincing



extra ability have yet to appear. The Knight 5, like its predecessor the Howard, has an internal line supposed to tackle this. It isn't a full blown transmission line, but then I am not sure anyone quite agrees how a transmission line should be defined.

Most commercial TLs have

With the plinths finally bolted on I then found that the plastic blanking plugs used were infernally small and difficult to ease out; this is a job we carry out with a knife. The rear carries a bi-wire panel with removable shorting plates. Once the plastic plugs have been popped out 4mm banana plugs can be used, and the gold plated terminals also accept bare wires and spade plugs.

this. The Castle Knight 5s would also

approach this goal than many ported

loudspeakers, but not all, so they are

get close I hoped, and they better

a step along the road as it were.

The Knight 5 has a 25mm (lin) textile dome tweeter that comes into play above 3kHz, and two 150mm bass/midrange drivers able to work with 25W - 200W amplifiers, Castle suggest. As the Knight 5s are sensitive, our measurements show, a lot of power isn't necessary and 40-60 Watts will be plenty enough under most circumstances.

more symbiotic. The slightly hard quality of treble morphed into a forceful delivery, but also one full of detail. Bass ran deeper, rolling down the scale like a carpet of gentle thunder at times, and the soundstage opened up. The AMS50 is dry as toast and the Knight 5s need an amplifier that is easier going, but I found myself swapping back to it at times, for its definitive sense of clarity. It's an amplifier that's muddle and colourfree, with an iron grip and intense detailing. The Knight 5 had similar properties and the two did offer a very grippy, clear and dry sound, but one that took no prisoners. A big Single Ended valve amplifier would suit the Knight 5 I believe, or an easy going transistor amplifier - but there aren't too many of these about. A Naim may suit

As our big 845s came on song though, the Knight 5s started to show how a loudspeaker dimensioned to work well all round can tease out the best from an

"This isn't a loudspeaker that holds back; It delivers strings with detail and intensity..."

SOUND QUALITY

The Knight 5s sounded very tight initially, and we gave them a longish run comprising forty eight hours of pink noise, then twelve hours of music and finally twelve hours of Monitor Audio's peculiar and slightly cosmic De-Tox programme. Bass power rose quite audibly, the Knight 5s moving from being just a bit or the reticent side even with our grunty Musical Fidelity AMS50 amplifier, to having enthusiastically strong bass that supported an even sounding bass line, from the lowest strings up. Initial impressions were that the Knight 5s are clear, even handed right across the audio band and a trifle remorseless in their treble delivery. I knew Castles of old well, liking the sonic 'flavour' of their carbon fibre drive units. They didn't quite match those from Audax that I preferred over all else, for their dark, damped sound free from the 'schh' and 'crack' of fibreglass and to a lesser extent Kevlar, and certainly far more natural than metal cones. Castle applied them sympathetically; their loudspeakers had good bass. especially the large Howard, and treble that didn't take your ears out.

After a few hours using the run in Knight 5s with our AMS50 I moved to our Icon Audio MB845 valve amps and initially felt the relationship was

accompanying amplifier. This isn't a loudspeaker packed with sonic fireworks, rather than one that lays out a big, wide, clean soundstage that is 'just so' in every respect. The image stretched widely between the loudspeakers, if not in a high arc over them and was back in the plane of the cabinets. I found myself listening intently to a perfect rendition of singers that was even-handed and very convincing in an understated fashion. This worked beautifully when the going got simple, for example with Celine Dion singing 'I'm Alive'. Her voice was dense and chiselled out in stone on the soundstage. The detailing was strong but treble a little on the strenuous side, giving the Knight 5 something of the intense timing Epos loudspeakers were and are known for: great for bringing rock hard timing to Rock. I initially put this down to their tweeters, but as listening progressed began to suspect the hard plastic parasitic domes that lie at the centre of the bass/midrange units.

So what about Rock? Putting on Steve Earle's 'Billy Austin' brought Steve Earle's gritty voice out in greater detail than I remember it from before, close-miked strummed steel guitar strings scythed out with a strength that was unequivocal, and Earle's small asides were lifted



I see a TL as something that

possesses no acoustic reactance and

electrical load. Big IMFs got close to

in consequence will be a resistive





and lit allowing me to clearly hear every word. That the Knight 5s have a treble emphasis was underlined by strong sibilants at the end of the line "will you pull that switch yourself sir". The following track, 'Justice In Ontario' started with a strong hiss to rim shots and cymbals that was again due to treble emphasis.

There was also a hint of box somewhere in the sound that I heard with Steve Earle and again with Duffy's simple rendition of 'Warwick Avenue', I suspect the bass lines were exciting the strong mode at 110Hz our measurements identified. It's a box or line effect and adds just a trace of occasionally identifiable colour. Duffy's voice was hard etched and sparklingly clear, the Knight 5s strong insight across the upper midband highlighted her sinuous vocal inflections. Although these loudspeakers keep vocals back in the plane of the cabinets, they have great intelligibility.

Nigel Kennedy's violin was intense; again I felt that whilst the tweeter was great for giving transients speed and strength, it was forward and strong in delivery. In the same way the Knight 5s threw a light onto Duffy, they also lifted Kennedy's violin in pieces like Max Bruch's 'Violin Concerto No1', giving it a strong presence in the room. Whilst strings weren't delivered with the deft skill of an electrostatic or ribbon, they were made obvious by the Knight 5s. This isn't a loudspeaker that holds back; it delivers strings with detail and intensity.

Massed strings of the Royal Philharmonic were well separated and clear in Tchaikovsky's Symphony No6, the loudspeaker's good tonal balance keeping tonal perspectives in believable order; violins playing the lilting theme were in good balance with the deeper wind instruments, and kettle

drum rolled gently in the background, within a nice big panoply of sound. Lacking the obviously raised treble of other loudspeakers the Knight 5s have a sober evenhandedness that lets the music flow through unenhanced and I noticed this most when the whole orchestra was in full flight; there was a believability that came from the absence of contrivance. Horns were dryly rendered though and kettle drums relatively spry compared to their sound from the under damped bass of many loudspeakers; the Knight 5s are not heavy sounding or warm by any means. Across the lower midband instruments had an almost sparse quality.

These loudspeakers have clean bass that runs low, although subjectively they do not have subsonics. The internal line applies broad damping that keeps bass tuneful, but the floor exit doesn't output at high level, unlike some narrow tuned ports that add a sort of subsonic

'bounce' that really is a bit artificial. The deep stabbing synth line in Goldfrapp's 'You Never Know' had real power and it reached firmly downward, but was kept under firm control. There were times when heavy deep bass was conspicuously better controlled than usual, the pounding synth bass in Safri Duo's 'Samb Adagio' was one clear example that showed just how well the Knight 5 was able to keep tight grip on very heavy bass lines from synths in modern productions.

I had a lot of fun caning them with both our AMS50 and MB845s to see how they would stand up to this and the more I drove them the less flustered they sounded. They didn't collapse under pressure, maintaining posture and grip where others loudspeakers commonly soften up. When you drive a box loudspeaker hard with powerful bass it will produce masses of 'doubling' distortion and tend to sound bloopy; the Knight 5s largely avoided this.

CONCLUSION

Dry in balance but very accurate, fast in their treble but also with a firm fist, the Castle Knight 5s are a good Rock proposition. With strong, solid bass that is clean and tuneful, they're a loudspeaker with power and pace. Their voicing is a mad less relaxed and fulsome than I remember Castles of yore, yet their even-handed nature should appeal to classical enthusiasts. I was going to note that our benchmark Spendor S8es had a similar balance but were a tad easier sounding (probably because of their fixed phase plugs), but then you only have to look at the prices to see that the Castle Knight 5s are less than half the cost. Taking into account their thoughtful standard of finish and the high overall quality of their sound the new Castles add up to a strong proposition worth hearing.

VERDICT



Finely finished, tastefully styled floorstander with a crisp, concise and open sound; needs a smooth source and sweet amplification to excel.

CASTLE KNIGHT 5 £999.95

(+44 (0)1480 447700 www.castle.uk.com

FOR

- strong detailing
- fast treble
- excellent bass
- sensitivity

AGAINST

- tonally dry
- hard edged treble

MEASURED PERFORMANCE

Inspecting the Knight 5's overall forward frequency response with steady pink noise showed it possesses rising treble immediately in front of the cabinet, and good drive unit phase matching. Moving the microphone off-axis by around 30 degrees usefully smoothed treble, lowering a 12kHz peak in the tweeter. This showed the Knight 5 was best pointing straight down a room, and not directly at listeners. This widens the soundstage and makes for a more expansive delivery. Doing this did lower extreme treble at 20kHz but it isn't an effect that would be easily noticed. Treble output is smooth and just emphasised enough to give good detailing with obvious brightness.

Our stepped and gated sine wave frequency response published here shows the Knight 5 manages an even balance right across the frequency band, avoiding large peaks or dips. The midrange is quite prominent, but the lower midrange falls back a bit. Our green trace doesn't show even bass output down to 50Hz, due to weighting of the measurement time window, but it does show a peak at 110Hz that is quite strong in our steady pink noise analysis. The red trace shows port output and confirms that the internal line and floor port apply broad damping to bass units, so bass should be tuneful rather than bouncy. The Knight 5 has been engineered to produce more even bass than is common from a normal port and our port output trace suggests it is successful here. Port output was quite low, however, so it does not make a big contribution.

The impedance trace also shows broad port damping around 35Hz, being an inverse of our red port output trace in effect. Some acoustic reactance remains in the twin residual peaks though, so perfection hasn't quite been achieved, and the 110Hz internal box mode can be seen as a blip. Only listening can tell whether the 110Hz

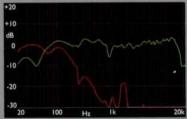
mode will be at all audible.

The Knight 5 is an easy enough load, especially as it is an 8 0hm loudspeaker, with minima at 6 0hms, so it doesn't demand heavy current. In spite of this sensitivity was high at 89dB SPL from one nominal Watt of input (2.8V) so the Knight 5 doesn't need a lot of power and 40 Watts should be enough for most listeners and rooms.

The decay spectrum was clean, suggesting low colouration, with the exception of an obvious mode at 110Hz, a phenomenon that appears in all other measurements. Lower bass looks clean, however. Since bass distortion was also low the Knight 5 looks very strong in terms of overall bass quality. Midband distortion was average, at around 0.2%.

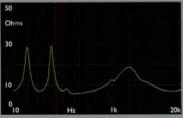
The Castle Knight 5 was designed to give an accurate sound, great bass quality and good amplifier matching — and it meets all these aims. It is very well engineered all round. NK

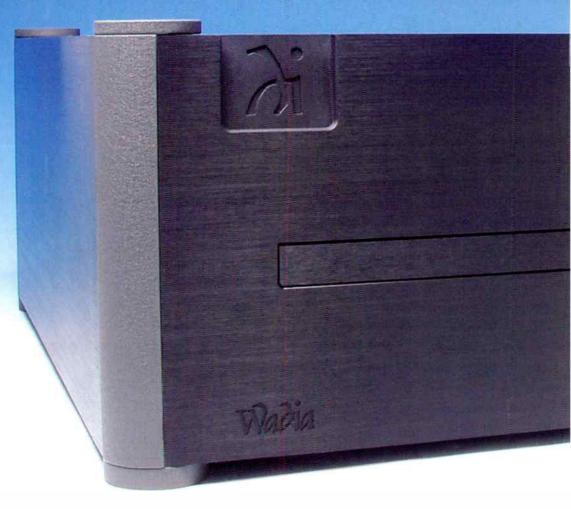
FREQUENCY RESPONSE



Green - driver output Red - port output

IMPEDANCE





Wadia Know

From across the pond comes one of the last great battleship CD players, finds David Price...



Now the same seems to be happening with Compact Disc. Sales figures tell us that this dog has had its day, but it keeps getting up to bite audiophiles with ever stronger jaws. Every month I find myself hauling absurdly heavy high end CD players down the M4, the coil springs of my Land Rover banging on their bump stops, as they make the journey from Hi-Fi World towers in London to my home near Marlborough.

And every month they seem to have ever more clever technology inside, some of which really does seem to make more difference than that fitted to machines of ten years

ago. I'm really beginning to think that CD is better than I'd believed; although by way of perspective I'll have to say that even at its best it's still not a patch on top flight vinyl.

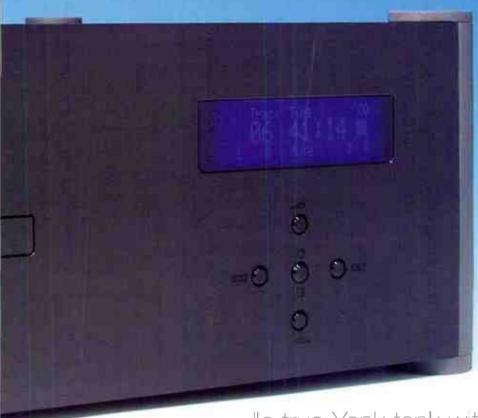
The key difference for me is the way that a number of recent high end CD spinners have made the format listenable for long periods at high levels through my speakers, which as many of this magazine's esteemed contributors have doubtless pointed out to anyone who'll listen, are somewhat explicit sounding. And ye olde 16bit isn't just becoming tolerable, it's actually getting rather musical in a way that I've really not experienced before. Signs of life have been discovered deep inside its tiny aluminium pits, it seems!

The latest monster music maker is Wadia's W381, which is quite the most visually and physically imposing one-box beast designed to play Compact Disc that I've seen. It makes your average late eighties

Japanese battleship machine look like a Sony Discman, such is its vast 184x432x420mm, 25kg girth. And such is its construction quality that it feels even heavier! Put it this way, if you got your finger trapped in the disc drawer of most CD players as they closed, the drawer would fall off. But with this Wadia I'd be worried about the prospect of suddenly acquiring a seriously restyled hand.

Darwinism, it seems, doesn't just apply to Mother Nature. The Wadia is a bigger, stronger and more flexible beast than its predecessors, thanks to its FLAC, WMA and MP3 playback capability. You'll have to burn the aforesaid files to disc first, but this done the Wadia is no longer limited to 16/44; it will go as high as FLAC - 24/96 playback is there if you need it. There's also the £8,299 USB version with digital input boards, which accepts data from a variety of sources, including the superb Wadia i170 iPod transport. The machine





reviewed here is the cooking W381, sans digital boards, but it's still a versatile machine. There's a variable output control, along with adjustable balance, so it can go direct into a power amplifier; also, actual output voltage can be adjusted via internal switches from 0.3V to 4.25V.

The silver disc department has a new CD transport, modified to allow the company's ClockLink jitter reduction process and "sporting the lowest measured error correction in Wadia's history". This second point is an important one, as jitter isn't the beginning and the end of a CD mechanism's sound; its basic first pass read accuracy counts for an awful lot too. The mechanism itself sports a custom mounting and enclosure designed to provide mechanical and electrical isolation, and its drawer loading system is a thing of beauty. We're not quite in the Linn Sondek CD12 league here, but not so far off. Indeed, it ties in with the massively robust, over engineered feel to its

As far as the digital section is concerned, Wadia's SwiftCurrent 3 Discreet (SC-3D) design has been combined with the latest version of their current-to-voltage conversion technology (they say that, "current exiting the DAC is optimally loaded, allowing each convertor to remain linear"). Current is then mirrored and driven with a zero global feedback Class A throughput stage, which feeds directly into a "phase accurate" filter that simultaneously creates voltage and removes unwanted high

"a true Yank tank with redoubtable build and sonic presentation to match..."

frequency noise. The player generates three independent data streams that drive both the balanced and unbalanced legs of the output stage (XLRs and RCAs are supplied on the back).

Power comes via two new fully balanced shielded toroidal transformers sitting in their own housings, isolated from other components. Wadia says that new inductor filtering has been added to the digital supply ensuring smooth charging of capacitors and eliminating noise spikes from the ground plain. There is a fully regulated separate power supply for digital processing, clocking, DA conversion and the output stage. My listening was done via the balanced XLR outs.

SOUND QUALITY

In a world where so many modern CD players sound alike, it's fascinating to find that the Wadia is a quite distinct performer. And if you'll pardon me falling back on cultural stereotypes (to loosely paraphrase what Dr Johnson said of patriotism, this is "the last refuge of scoundrel"), the W381 sounds very American. Whereas last month's German designed TAC C-60 was quite Teutonic, all clean and pristine and forensic, the Yank Wadia is big, butch and bombastic. I mean this in a most positive sense; rather like the endless wall of torque a Harley Davidson motorcycle has, so the Wadia is

massively muscular in its job of playing music. Big, punchy and visceral, there's no sense of it being the digital disc spinning equivalent of a shrinking violet!

Take Simple Minds' 'Big Sleep' for example. A great track off a classic early eighties album, it works through the interplay between the bass drum and snare, and the bass guitar, over which vocal Jim Kerr sings plaintively. I can honestly say that this isn't an easy song to get right; it can be a fairly boring, tedious mush if the source equipment is not on the ball; there's not an awful lot of melody to fall back on if the CD player can't capture the physicality of the stopstart drum work and the gentle but insistent bassline. The Wadia duly pummelled it out like a stadium rock track, with enormous bass heft and real syncopation between bass guitar and drums. It caught the song in its essence, rendering it on a vast scale, the backing synth lines pushing out way beyond the speakers (between which they're often apologetically locked) and Kerr's vocals had fantastic clarity allied to a haunting, ethereal quality.

Any possibility that this was a one-off was swiftly despatched when I cued up Appaloosa's 'Travelling' from LTJ Bukem's 'Earth: Vol. I'. A towering late nineties drum'n'bass track, the Wadia clicked instantly into the groove, despatching the electronic snare and hi hat loops



DR. FEICKERT ANALOGUE

stunning ['st/nin]

adjective extremely impressive or attractive











"An intriguing turntable from Dr Feickert which takes a new approach to the challenges of perfect vinyl replay."

SCORE * * * REVI

REVIEW FROM HI-FI CHOICE

Acoustic Preference Almarro Cain & Cain Dr Feickert Emillé Marten ModWright Raysonic Tri



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SUSSEX

at disarming speed. The song then kicks into a spacey sounding bridge, and then the sub bass kicks in, and this fact didn't go unnoticed with my nearest neighbours some half a mile away I imagine, as the Yams almost blew themselves off their heavily spiked speaker stands and into the rear wall. The Wadia rustled up one of the most dramatic bass lines I've heard from digital, showing utter ease and no sense of being flustered, unlike yours truly who was worried for his woofer cone surrounds, not to mention his shelllikes. I was utterly enamoured by their immense power, delivered like a Hummer compared to the Vauxhall Nova that is your average silver disc spinner. And yet it wasn't just a case of quantity; the W381 started and stopped in the bass on a sixpence (or should that be a 'quarter') and integrated brilliantly with that huge, cathedral-like midband around me.

Up top in the treble department, whatever the filter setting, I can't honestly say the Wadia is the world's best performer. Even the substantially cheaper TAC offered a touch more sheen to hi hats, with a superior 'hear through' quality to the recorded acoustic, although in fairness the TAC is exceptional in this respect. Yet I found the Wadia to be rather Garrard 301-like; such is its remarkable bass and general musical joie de vivre that you're not minded to concentrate on matters loftier. The TAC was almost the reverse, with a heavenly high end that rather distracted you from a fine if unexceptional bass. Fourplay's 'Elixir' was delivered with immense aplomb, but I found myself concentrating on the musicianship rather than the recording. Yes, cymbals had plenty of sparkle, there was an sense of excellent atmosphere and the recording was beautifully composed, but I didn't care, such was that massive bass and the towering lefthand piano work.

Moving to some delicious early seventies soul/funk courtesy of the Isley Brothers, 'Harvest for the World' was despatched with a marvellous sense of commitment. I find this sort of acoustic-led music quite hard work on CD; it just seems to lose its mojo and you all too often seem to end up listening to the digital transfer, remarking on piano stools creaking and the like, whilst completely missing the music. Not so with the Wadia, which seemed to know the story from the off; here we had a wide soundstage bristling with fine instrumentalists all playing together with relish, making for a really special musical event. As I'd

come to expect, everything hung off the bassline, which provided the foundations for a mix rich with emotional, as well as physical, impact. It has a highly detailed midband, as befitting a CD player of its price point, but it didn't subsume the musical impact of the song in a bid to demonstrate this.

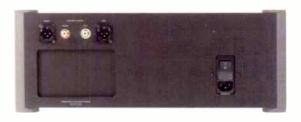
Feeling as if the W381 and I were on some sort of musical journey together now, I duly fed it with some full fat, five star jazz courtesy of Lou Donaldson. 'Alligator Bogaloo' is a lovely mid sixties Blue Note waxing, but just doesn't seem to like the CD format. As the saying goes, 'it don't mean a thing if it ain't got that swing', and silver disc is such that all too often this piece simply passes you by. Not so here; once again the Wadia picked up its skirts and ran, so to speak. I was delighted by the fulsome nature of the sound, the slightly warm tonality (for CD), and the massively confident and assured way it threw stereo images into the room. But I also delighted at the really tactile way that the instrumentalists played with one another, the

Wadia giving a spookily believable account of the song where all too often this Compact Disc just sounds frigid.

Moving to 24/96 FLAC, and there was another level of air and space to George Harrison's voice on 'While My Guitar Gently Weeps', with a slight lessening of the intensity of the midband. Things sounded altogether less digital, but the interesting point is that the difference wasn't quite as dramatic as it can be on some similarly equipped silver disc spinners. I was impressed by a slightly more fluid bass, a gentle improvement in image articulation and a silkier and less processed treble, but there wasn't a massive amount in it; obviously the Wadia makes an exceptionally good fist of cooking Red Book CD.

CONCLUSION

This was my first experience of a Wadia CD player. I've followed



the brand with interest over the decades and often wondered if it's had a charmed life at the hands of hi-fi hacks this side of the pond and beyond. On the basis of my short acquaintance I can say that the marque is a most impressive one, if the W381 is anything to go by. It's an unashamedly high end machine but does what it says on the tin; it's a true Yank tank with redoubtable build and sonic presentation to match. I really liked its distinctive styling and feel too; in a world of generic machines, many of which have bits (display, controls, loading drawers) so obviously bought in from someone else's parts bin, here's something with its own unique aura and a truly charismatic sound to match. Despite the sales numbers, the Compact Disc renaissance continues apace...

VERDUCT ••••

Vast Yank tank with massive, barrel-chested sound to match. This charismatic performer actually

WADIA DIGITAL W381 £6,499 Musical Design Company () +44(0)1992 573 030 www.mdc-hifi.co.uk

FOR

- bluff, physical sound
- excellent musicality
- confident soundstaging
- design, styling, build
- flexibility

AGAINST

- stiff price competition

MEASURED PERFORMANCE

With the A algorithm the Wadia 381 has a very distinctive frequency response, where output rolls down early, measuring -1dB at 16.2kHz. Chord Electronics DAC64 gave a similar result, as have certain Pioneer and Denon players that used unusual digital processing schemes. Unlike both, however, the Wadia correctly processed a raised cosine pulse test signal and convolved it correctly to give the Algorithm A response shown. Algorithm B measured flat to 21.5kHz and C to 20.8kHz. The A scheme will give a smooth sound, easy on the ear and atmospheric, whilst B and C will sound altogether harder, sharper but faster, likely with little perceptible difference between them.

Distortion levels were higher than

Distortion levels were higher than is common with all three algorithms, A giving 0.31% at -60dB compared to 0.2% or so as a norm. B and C gave even higher distortion figures, but in all cases third harmonic dominated, not higher order, more discordant nonlinearities so sound quality will be a little sharpened at most, rather than made harsh. The EIAJ Dynamic range value was a decent if unexceptional 99dB as a result.

Output was a normal 2.2V via XLR and Phono outputs, channel separation high and noise low. Performance was similar between phono and XLR outputs.

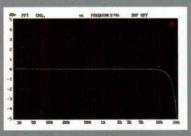
The 381 has a distinctive test performance but is likely to have an attractive sound. NK

Frequency response (-1dB) CD 2Hz - 21.5kHz

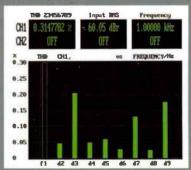
Distorti	ion			
0dB			0.0	14
-6dB			0.0	03
-60dB			0.	31
-80dB				4.3

Separation (1kHz) Noise (IEC A) Dynamic range Output 127dB -105dB 99dB 2.2V

FREQUENCY RESPONSE



DISTORTION



World Radio History www.hi-fiworld.co.uk

MUSICAL FIDELITY

AMS50 Power Amplifier

New from Musical Fidelity. 50 wpc. Pure Class A. Fully balanced. Bridged. Dual mono. High current.





NUFORCE ICON HDP £345.

If you were to go back in time about twenty years then you would notice a few facilities that were fitted to the majority of amplifiers that are now a rarity, such as phono stages and headphone sockets. As readers know we regularly feature outboard phono stages to cater for those who wish to spin the sacred black stuff. Those who wish to use headphones are also catered for, with products from Pro-ject and GSP Audio being well known. California based company, NuForce, known for their range of digital amplifiers, also make a range of headphone amps, the newest of which is this, the Icon HDP.

This £345 unit can be used as a freestanding headphone amplifier, a digital-to-analogue convertor, or as a preamplifier for two digital sources and one analogue. It is part of the 'desktop' range and can be partnered with the company's own similarly sized 24W Icon amplifier.

The casework occupies a compact 150x113x24mm, is available in either black or silver, and comes with a silicone shoe which allows it to be used in an upright position. The front panel contains two knobs. one controls the volume, and has an off position, the other selects source. Below this is a blue LED to signify power is present, and a 6.3mm jack socket for headphones. (A 3.5mm adapter is supplied).

The back is a little more crowded, with the power socket from the supplied AC adaptor at

the top, followed by the pair of gold plated RCA phono sockets for the analogue input, and another for the coaxial digital input. Below this is a 3.5mm socket, which doubles as an optical input, and the USB socket. This works at 44.1kHz/16 bit with USB1.0 and 1.1, and goes up to 96kHz/24bit when fed with USB 2.0. At the bottom are the two RCA sockets for the analogue output.

I used it as a preamp, feeding, in turn, the two Quad 303s and the Leak Stereo 20 in my upstairs system. Analogue signal came from the Sondek/Musicmaker III feeding the recently reviewed Luxman E200 phono stage, whilst my Njoe Tjoeb 4000 CD player, digibox, DVD player and MacBook provided digital audio.

SOUND QUALITY

I normally use a Cambridge Audio DACMagic 3 for the above named digital sources. This automatically upsamples all signals to 24bit/192kHz so proved a hard act to follow. However, despite the lack of upsampling, the NuForce HDP proved a very competent performer with a well displayed, firmly defined soundstage which sat neatly between the speakers. Compared to the generally mediocre sound that emanates from most digital AV equipment and computer soundcards, the sound from the NuForce was superb. Stereo placement improved dramatically allowing me to visualise performers as individuals rather than a noise-making morass of sound.

The higher frequencies had a slightly firmer and darker edge to them than I would normally prefer, but some may well find this extra sense of definition preferable. Feeding the rather laid back sounding Leak Stereo 20 certainly perked up the high frequency performance, without detracting from the fullness in the mid and lower registers. Bass was very fast, although not the weightiest that I have heard through either amp. Fed with analogue signals from the Luxman and the high frequency definition remained so I assumed it to be a characteristic of the preamp stage rather than the DAC.

The headphone output was equally well handled. My ageing Beyerdynamic HD411s had a slightly higher impedance than I think the output preferred, so volume was ultimately a little restricted, but certainly more than loud enough for normal usage (but unlikely to go so loud as to risk hearing damage). Compared to the Pro-Ject Head Amp I found the sound to be a bit more open, but slightly cooler in outlook, with a perception of a bigger more enveloping soundstage.

Overall then, this is a very well specified, well made and interesting product. It packs a lot of very usable features into a small space and will win many friends due to its combination of practicality and performance. To my ears the DACMagic 3 just had the edge in performance with its 24bit/192kHz output, but is purely a DAC. The HDP is an affordable and easy way to get the benefits of an outboard DAC, the convenience of private listening through headphones, and a very acceptable preamplifier all in one compact unit. TB

Contact 08450 525259, www.h.aud.o.co.uk]



Soumdbitte

WORLD STANDARDS

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

TURNTABLES

PRO-JECT GENIE 2 2008 £175

A masterpiece of minimalism, this is well made for the money and includes a decent Ortofon OM3 moving magnet cartridge. Great sound per pound.

REGA P2 2008 £220

Some say the cheapest real hi-fi turntable money can buy - excellent value for money engineering, easy set up and fine sound.

TECHNICS SL1200/II 1973 £395

Slick build makes it a respectable performer, although the cheapo arm limits it - fit a Rega RB250 and it's suddenly a brilliant mid-price machine.

REGA P3-24 2008 £400

Seminal affordable audiophile deck with fine bundled tonearm. Tweakable, and really sings with optional £150 outboard power supply.

MICHELL TECNODEC 2003 £579

Superb introduction to Michell turntables
- on a budget. Top quality build and elegant
design make it the class of the mid-price field.



ROKSAN RADIUS 5.2 2010 £1,399

Effective, if expensive, update on the original formula. Highly musical, yet detailed and dimensional mid price turntable with a naturally open and easy sound.

FUNK FIRM VECTOR II 2009 £860

Innovative engineering gives a nimble, pacey and musical sound that's one of the best at the price.



MARANTZ TT-15S1 2005 £999

Cracking deck/arm/cartridge combination, this must surely be the best sounding 'plug and play package at this price point.

MICHELL GYRODEC SE2005 £1,005

Design icon with superlative build and finish. Sound is beautifully smooth, effortless and exceptionally expansive. No longer peerless at the price, but still a brilliant platform.

ACOUSTIC SOLID CLASSIC WOOD 2008 £1,350

Majoring on impact, punch and drive, this is an impactful mid-price turntable in sonic terms as well as physical size.

REVOLVER REPLAY 2007 £1,500

Revolver spring back into the vinyl market like they've never been away, with a stylish and solidly built LP spinner. Welcome back!

AVID DIVA II SP 2010 £2,000

New twin belt drive and power supply make this an even more commanding performer, although there's a substantial price hike. Its speed, dynamics and detail are hard to beat anywhere near the price.

MICHELL ORBE 1995 £2,500

The top Michell disc spinner remains a superbly capable all rounder with powerful, spacious sound that's delicate and beguiling.



LINN LP12SE 1973 £3,510

Surely hi-fi's most iconic turntable, the legendary Sondek goes from strength to strength. New Keel subchassis and Radikal DC motor add precision and grip to one of the world's most musical disc spinners.

SME MODEL 10A 1995 £4,556

Exquisitely engineered deck and SMEV tonearm combo that's an extremely accomplished performer with classical music.

ACOUSTIC SOLID ONE 2007 £4,000

Huge turntable, both in terms of sheer mass and sonic dynamics. Fit up to three arms and enjoy, just don't damage your back moving it...

BRINKMANN BARDO 2010 £4,495

Quartz locked Direct Drive makes for mastertape-like speed stability, plus wonderful clarity and pace. Upgradeability and excellent build complete a formidable package.

AVID VOLVERE SEQUEL2007£4,600

Stylish high end vinyl spinner with industrial strength build quality and a sound to match. Exceedingly neutral yet powerful sound is edge-of-the-seat stuff.

McINTOSH MT10 2008 £8,995

Big, expensive, controversially styled and glows more than some might consider necessary, but an astonishingly good performer.

EAT FORTE

2009£12,500

Lavishly finished two box, two motor turntable with gorgeous Ikeda 407 tonearm bundled. Exceptionally stable and unfussy performer with a relaxed but highly enjoyable gait.

TONEARMS

REGA RB251

2009 £136

Capable way past its price point, the new 3-point mount version of the classic RB250 serves up a taut and detailed sound. A little lean for some tastes, but responds very well to rewiring and counterweight modification.

MICHELL TECNOARM A2003 £442

The late John Michell's clever reworking of the Rega theme, using blasting, drilling and rewiring! Surely the best overall performer under £500.



ORIGIN LIVE SILVER 2006 £599

Expertly fettled Rega is still the 'affordable audiophile' choice, with an even, transparent and tuneful sound.

SME 309 1989 £767

Mid-range SME comes complete with costcut aluminium armtube and detachable headshell. Tight, neutral sound with good tonality, but lacks the IV's pace and precision.

SME SERIES IV 1988 £1,127

Offers nine tenths of the SMEV's magic at just over half price. Exquisitely built and finished, and a design classic. Faces stiff competition these days, but lovely nevertheless.

AUDIO ORIGAMI PU7 2007 £1,300

The classic Syrinx PU3 updated to spectacular effect. Hand made to order, with any mass, length and colour you care for. Fit, finish and sound truly impressive.

NAIM ARO 1987 £1,425

Charismatic unipivot is poor at frequency extremes but sublime in the midband; truly emotive and insightful.

HELIUS OMEGA 2008 £1,595

Stylish and solid lump of arm with fabulous build quality, that turns in a dynamic and weighty performance.

SME SERIES V 1987 £1,614

Vice-like bass with incredible weight, ultra clear midband and treble astound, although some don't like its matter of factness!

LINN EKOS

1987 £1,700

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

SME 312S 2010 £1,750

Twelve inch magnesium alloy armtube plus SMEV bearings makes an impressive transcription tool with a highly insightful yet composed sound. Superlative build completes the package.

GRAHAM PHANTOM 2006 £2,495

Sonically stunning arm with magnificent bass dexterity and soudstaging. Build quality up to SME standards, which is saying something...

TRI-PLANAR PRECISION2006 £3,600

Stunning build, exquisite design and surely the most naturally musical and lucid sound around makes this a remarkable pickup arm.

OL ENTERPRISE 3C 2010 £4,500

Few if any pivoted arms come close to this arm's combination of liquid musicality and forensic grip.

CARTRIDGES

AUDIO TECHNICA AT-95E

Great starter cartridge that's detailed and musical beyond its price. Superglue the stylus in for better sound.

ORTOFON 2M RED/BLUE

2007 £60/£120

Modern, high resolution budget moving magnets that are always an engaging listen.





GOLDRING G1042 1994

One of the best MMs going, with sweet and extended treble and punchy, muscular bass.

DENON DLI03R 2006 £200

Awkward to get working properly with a poor mounting arrangement, yet it rewards with a musical performance that makes similar priced cartridges sound cold.

DYNAVECTOR DVIOX52003 £250

Distant descendent of the classic Ultimo 10X, this has warmth and sweetness in spades, allied to a punchy bass. Beats G1042 comfortably.

ORTOFON 2M BLACK 2007 £350

Staggeringly good high-end MM that uses a stylus from the MC Jubilee and easily rivals similarly-priced MCs

DYNAVECTOR DV20X-H2003 £395

Deliciously sweet sound with fantastic getup-and-go makes this a great value budget MC. High output version works a treat with valve phono stages too.



AUDIO TECHNICA AT-OC9MLIII £399

2010

New stylus and cantilever breathe life into this feisty, punchy and detailed performer.

LYRA DORIAN 2007 £595

Incisive and musical, this baby Lyra is one of the most powerful and revealing MCs at its price point. Beware the sharp treble, though!

ORTOFON RONDO **BRONZE** 2005

Excellent mid-price moving coil with real rhythmic alacrity and a decent deal of finesse.

ZYX R-100H 2005 £625

Exceptionally tight sounding and detailed cartridge with the musical skills to match, this is up with the very best at the price, with a presentation all of its own.

BENZ MICRO GLIDER L2 2008 £650

Crisp, clean and detailed MC; particualrly impressive at both ends of the frequency

TRANSFIGURATION AXIA 2007

Musically adept and highly resolute cartridge with impressive tracking abilities. Top end lift means careful matching required, however...

ORTOFON CADENZA BLUE 2009 £1.000

Musical, out of the box sound, allied to real finesse, makes this a great do-it-all high end moving coil

ORTOFON MC WINDFELD2008 £1,799

Ortofon's new flagship MC is a sophisticated and alluring performer that takes the vinyl experience to a new level.

KOETSU RED K SIGNATURE 2007 £2,399

The new K Signature adds a hefty dose of insight and finesse to the already impressive Red and the results are fabulous.

DIGITAL SOURCES

MUSICAL FIDELITY V-DAC £170

Clear, concise, low distortion sound belies giveaway price. Supelative value for money.

CAMBRIDGE AUDIO DACMAGIC

An innovative and flexible new DAC, this is a svelte, rhythmic and impressive performer.



STELLO DA 100 **SIGNATURE**

€675 Superbly finessed sounding DAC at the price, with strong driving bass and plenty of air and space.



CAMBRIDGE AZUR 840C 2006 £800

Well built CD player with a silky, yet detailed sound and a whole host of useful facilities. Excellent value for money.

NAIM CD5/ 2008 €895

Naim's new italic 'i' variant improves even further on the original mid-price classic, offering super tight, grippy and musical sound.

ROKSAN KANDY K2 CD

2010 £900

A charmingly musical performer at the price, this is a surprisingly sophisticated CD player for the money.

BENCHMARK DAC-IS 2009 £930

Power, precision and poise - allied to real seat-of-the-pants musicality, this DAC justifies its premium price.

CYRUS CD8 SE 2008 £1,200

Bespoke Servo Evolution mech makes this the most musically engaging machine at the price, with super smooth tonality to boot. Optional PSX-R adds bass and dimensionality.

SIMAUDIO MOON 300D

2010 £1,290

Lovely fluid sounding DAC with a deep, dark, velvety tonality.



NAIM DAC

£1,995

€3.985

Painstaking design has yielded a brilliant 'affordable high end' performer that throws bright sunlight on the recording, yet remains unremittingly smooth and musically engaging.

CHORD QBD64 2008 £3,000

Bespoke architecture gives a truly uniquely musical sound that's beguilingly musical in nature, with dizzying incision and grip.

ELECTROCOMPANIET EMC-IUP 2003 £3,450

Quirky yet extremely capable high end upsampling CD spinner, with a musical fluency that beguiles more than it impresses.



ACCUSTIC ARTS CDPIMK2 2007

Styling not to everyone's taste but build quality is impeccable and the performance is stunningly musical.

ESOTERIC X-05 2010 £4,495

Superlative 'affordable high end' CD/SACD spinner with excellent build, massive detail and great poise.

NAIM CDX2-XPS2 2003 £4,950

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

NAIM CDS3 2003 €7.050

The most polished Naim CD to date; tremendously capable and musical, but lacks the Rottweiler quality of the cheaper CDX2-XPS2

ACCUSTIC ARTS DRIVE I MK2/ 2007 £7.980 TUBE DAC 2

Superbly built high end CD transport and DAC combo that shows just what the format can be capable of. Very tangible, musical sound with wonderful dynamics and glistening harmonics. Only curious styling and clunky build detract from its brilliance!

DCS PAGANINI DAC

£9,599

Digital rarely sounds better; dCS's bespoke Ring DAC makes for power, punch and insight on an epic scale. Add clock and upsampler for an even more profound experience. Justifiably expensive.



LINN KLIMAX DS 2007 £9,600

Landmark network music player, offering brilliant sonics at up to 24/96 resolution from hard disk/NAS. Expensive, but you can hear why...

NAIM CD555/555PS 2006 £14,000

Very probably the best CD player yet made - certainly the most expensive; a digital tour de force.



RECORDERS

NAIM HDX

2009 £4,405

Interesting one-box network enabled hard disk music system gives superb sonics together with impressive ease of use.

SONY TC-WE475 2010 £130

Essential tackle for committed cassette users, this well calibrated double deck sounds way better than expected!

SONY RCD-W3 2002 £250

Usual superb Sony ergonomics make for nononsense budget buy. Fine direct digital copies, but analogue input poor. Middling sonics, but there's a digital output!

PHONO STAGES

CAMBRIDGE AUDIO 640P £99

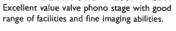
Excellent entry level design that raises the bar for budget phono stages. Crisp, smooth yet brightly lit sound on both MM and MC that's a vast improvement on most budget inboard designs.

GRAHAM SLEE ERA GOLD V

2004 £460

Wonderfully warm, open and musical nature makes this an essential audition for those wanting a top value mid-price phono stage.

ICON AUDIO PS1.2 2007 £599 Evcellent value valve phono stage with good





ASTIN TREW AT8000

€880

Expansive, detailed, powerful and musical sound makes this a surprise entrant to the first class sub-£1,000 phono stage club.

ANATEK MCI 2007

Excellent MC phono stage that offers serious insight underpinned by powerful and tuneful bass.

£850

OUAD OC24P 2007 £99S

Dynamic performer that can be used on its own as a complete phono-level preamp.

TRICHORD

DIABLO + NCPSU 2006 £1,198

Highly musical performer, this is one of the best phonostages at or near the price, but lacks the polish of the rival Whest.

ICON AUDIO PS3 2008 £1,500

Super sounding valve phono preamplifier, with an expansive, engaging and organic nature that makes vinyl sheer joy!

EMILLE ALLURE 2010 £2,495

Just as the name suggests, this is a lovely way to play LP with an exceptionally open and lucid sound.



A.N.T. AUDIO KORA 3T LTD 2010 £995

Exceptionally musical and natural sounding all discrete transistor phono stage, with highly lucid, valve-like presentation.

AMPLIFIERS

SUGDEN MYSTRO 2010 £1,225

Sugden's first Class AB integrated in a long time surprises; rollickingly good fun to listen to, it looses surprisingly little in smoothness to its Class AB siblings.



ICON AUDIO STEREO 25 2008 £500

Cracking entry-level valve integrated, with a warm and engaging sound. Limited power so needs careful partnering, though.

ROTEL RA-06 2008 £550

Vivacious sounding device that, whilst lacking the finer musical points, wears its heart on its sleeve and has plenty of power to match.

NAIM NAIT 5i 2007 £725

The italic 'i' version remains one of the most musically competent and dynamically engaging integrateds at the price.

CAMBRIDGE 840A V2 2007 £756

Version 2 addresses version 1's weaknesses to turn in a mightily accomplished performance, offering power, finesse and detail.

JUNGSON JA-88D 2006 £899

Stunning value for money Class A monster integrated; extreme power and clarity at a puzzlingly low price.



AUDIOLAB 8000S 2006 £400

In other life, this sold for three times the price, making it a stand-out bargain now. Very clean, powerful and tidy sound but not the world's most beguiling.

SUGDEN A21A S2 2007 £1,299

More power and greater transparency improve even further on the already impressive A21a to give truly impressive results

NAIM NAIT XS 2009 £1,250

With much of the sound of the Supernait at half the price, this is powerful, articulate and smooth beyond class expectations.

ELECTROCOMPANIET

PI-2 2008 £1,430

Powerful integrated with seriously solid bass and impressive dynamic abilities. Superbly musical.

SUGDEN A21A S2 2008 £1,469

Crystalline clarity, dizzying speed and forensic detailing makes this seminal design the most musical at the price, but power limited so needs sensitive speakers.

ANATEK A50R 2007 £1,600

Simple integrated amplifier with super bass grip and effortless dynamics.

VINCENT SA-236MK 2010 £1,749

Big, powerful and expansive sounding hybid transistor amplifer, with bright, spry and musical nature

MOON i-3RS 2008 £1,890

Grippy and clean performer with fine soundstaging and build quality.

COPLAND CSA29 2006 £1,998

Unfailingly svelte, sophisticated and smooth - both to listen to and look at - this is a truly desirable high end integrated.

NAIM SUPERNAIT 2007 £2,475

Integrated tour de force from Naim that combines impressive functionality and connectivity with super sound.

LUXMAN L-550A 2007 £2,800

Monster Class A integrated with powerful and revealing sound and a whole host of useful features, including a highly competent MM/MC phono stage

AUDIO RESEARCH VSI60

2009 £3,298

Load of tube power allied to a strong bass and smooth open midband makes this a grin-inducing listen.

LEEMA TUCANA II 2010 £3,495

Polished high end integrated amp that combines power, detail and genuine musicality with a good range of facilities.



SUGDEN IA4 2007 £3,650

Goodly amount of Class A power, icy clarity and a breathtakingly fast, musical sound make this one of the very best super-integrateds.

QUAD II CLASSIC 2010 £4,500

Beautiful retro styled integrated amplifier with a subtle, supple sound - although needs matching to speakers that are easy loads.

MUSICAL FIDELITY AMS351 2010 £6,000

Gorgeous, liquid sounding solid-state full Class A integrated with a supernatually sumptuous bass; surely one of the very best integrateds ever made?

AV AMPLIFIERS

ARCAM AVR350 2006 £1,500

Superbly accomplished do-it-all AV receiver package, with an uncommonly, warm, natural and musical sound. A winner goes from strength to strength.

HEADPHONE AMPLIFIERS

CHANNEL ISLANDS VHP-I/ VAC-I

A truly exceptional headphone output stage; the best at the price and an essential audition

MUSICAL FIDELITY X-CAN V8

2008 £350

€390

Open and explicitly detailed sound plus serious bass wallop and the ability to drive anything to very high levels makes this a great partner for most mid-to-high end headphones.

SUGDEN HEADMASTER

2003 £600

Unusual combined preamplifier and headphone amplifier, this boasts a surprisingly smooth and open sound.

PREAMPLIFIERS

CREEK OBH-12

2000 £220

Brilliant value budget passive, giving little away in sonics to far more expensive designs. Connectivity and build aren't great, but what do you expect at this price?



MF AUDIO PASSIVE PRE2003 £1,500

Effective pre with switchable gain via a transformer, and balanced operation. Open and incisive sound, yet makes most active rivals sound edgy by comparison. Silver version at the twice the price adds transparency.



MODWRIGHT SWL9.0SE £2,000

Captivating sound quality that will transform your system. Build quality is equally impressive and value top-notch. Highly recommended

NUFORCE P-9 2007 £2,200

Impressive two box preamp with superb resolution and an engaging sound.



DPA CA-1 2010 £2,650

Excellent solid-state preamp with a meticulously detailed and propulsive sound, but a deep velvety tonality.

MELODY PURE BLACK 101D

2007 £3,295

One of the best preamplifiers we have ever heard. Takes the clarity and openness we expect from valves and adds a staggering level of grip and detail.

MODWRIGHT 36.5 PRE/PSU 2010 £5.995

Exceptionally open and expansive, yet musically expressive sounding high end preamplifier.

MUSICAL FIDELITY PRIMO 2009 £7,900

Staggeringly expensive, but one listen explains why. Wonderfully exuberant sound that can only come from a top quality tube design.

POWER AMPLIFIERS

ROKSAN KANDY LIII 2008 £600

Fine budget power amp that punches well above its weight.

QUAD 909 2001 £900

The latest current-dumper has a smooth and expansive character with enough wallop to drive most loads. Not the most musical, but super value all the same. Lovely build, finish and Quad's legendary service are nice.

NAIM NAP150 2002 £795

Driven by a decent source and a NAC112, this gives highly enjoyable results - providing you like the Naim sound! Taut, fast and feisty despite its relative lack of power.

SUGDEN MUSIC MASTER 2003 £1,300

Quintessential Class A Sugden sound is not warm as many expect, but extremely neutral and open with real tonal colour. Superb when partnered with efficient loudspeakers like Revolver R45s, but many will find it underpowered.



NUFORCE REFERENCE 9SE V2 2006 £1,750

Brilliant value for money monoblocks with massive power and super-clean, three dimensional sound.



ROTEL RB1092 2007 £1,595

Hugely powerful digital amp with neutral midrange and a wonderfully spacious treble

CHANNEL ISLANDS AUDIO D100 2005 £1,595

Clean and musical Class D monoblock power amplifiers in a neat, small package.

ICON AUDIO MB845 2009 £2,499

Creamy and seductive yet blisteringly fast and musically lucid, this pair of 845 tube monoblocks is staggering value for money.

GRAAF GM20 OTL 2003 £3,300

Awesome output transformer-less valve power amp gives dazzling speed and incision, with an ethereal soundstaging and delicious filigree detail. Tremendous punch belies its humble 20W power rating. Factor in one of the most exquisite finishes this side of an Aston Martin and it's very hard to say no...

ELECTROCOMPANIET NEMO 2009 £4,450 (EACH)

The Norwegian power station is as cool as a glacier tonally, yet impresses with its sheer physicality and fleetness of foot. 600W per channel makes for a massive bang per buck.



DPA SA-1 2010

Pacey, engaging and rhymic almost to a fault, this solid-state power amplifier isn't the world's most powerful but is none the worse for it.

SILK GLOWMASTER KT88

2007 £1,699

KT88 based power amplifier offers dramatic clarity and excellent bass heft.



OUAD II-40 2005 £3,230

Modern tube monoblock power amplifiers with plenty of power, liquid and open midband and spacious, airy treble. Explicit, engaging sound, but not as euphonic as some.

QUAD II-80 2005 £6,000

Quad's best ever power amplifier, this is a dramatic performer with a silky but dark tonality, blistering dynamics, serious power and a compellingly musical sound. They don't come much better than these...

MUSICAL FIDELITY AMS50

Wonderfully assured high end full Class A integrated proffering icy clarity allied to real musicality. Lacks the lucidity of the best tube amps but redeems with power and punch.

LOUDSPEAKERS

Q ACOUSTICS 2020 2010 £140

Great little standmounters with a friendly, fun yet surprisingly refined gait. Excellent value starter speakers.

ACOUSTIC ENERGY NEO I

Tidy and well balanced standmounters with pleasing clarity and detail.

B&W 686 2007 £279

B&W's new baby standmounters offer a sophisticated and mature performance that belies both their dimensions and price tag.

KEF iQ30 2009 £330

Beautifully built, classily styled standmounters with exceptional image projection and a very clean, detailed sound.



USHER S-520 2006 £350

Astonishingly capable budget standmounters that offer detail and dynamics well beyond their price and dimensions

WHARFEDALE DIAMOND 10.3

2010 £290

Great small standmounters for audiophiles on a budget; dry punchy sound with impressive soundstaging at the price.

XTZ 99.25 2010 £640

Disarmingly open and refined at the price, these standmounters bring unexpected civility, refinement and insight to the price point. Exceptional value for money.



ACOUSTIC ENERGY AE! CLASSIC £845

Brilliantly successful remake of an iconic design; not flawless, but surely one of the most musical loudspeakers ever made.

SPENDOR S3/5E 2004

A natural successor to the BBC LS3/5a, whose impressive neutrality, imaging and evenhandedness makes this a superior, if less charismatic, loudspeaker.

RRR FS100 2007 €1,055

Mind-boggling amount of loudspeaker for the money. Big and sturdily built with serious bass and awesome soundstage scale. A real

MAD MY CLAPTON GRAND MM 2010 £3,400

Distinctive coaxial standmounters with wonderful soundstaging, bright lucid midband excellent musical insight.



REVOLVER RW45I 2006 £1.199

Very musical floorstander that's clear, concise and truthful, whilst being exceptionally amplifier friendly - a dreamboat for valves.

ONE THING AUDIO ESL57 2007 £1,450

One Thing Audio's modifications keep the good old ESL57 at the very top of the game.

KIBRI NAIMA 2007 £1.550

Unusual-looking omnidirectional loudspeakers with an absolutely captivating performance. Huge soundstage and bags of clarity - brilliant!

GURU QM-10P 2007 £1,595

Quirky but adorable standmounters that are way off the pace in respect of detail and power, but amazingly capable at playing a tune and pulling you in to the music.

USHER BE-718 2007 £1,600

Beryllium tweeters work superbly, allied to a fast and punchy bass driver. The result is subtle, smooth and emotive.

MARTIN LOGAN SOURCE

2008 €1,599

Brilliant entry level electrostatics, giving a taste of loudspeaker esoterica for the price of most moving coil boxes. Tremendous clarity, eveness and delicacy, although not the world's most powerful sound.

MONITOR AUDIO GS60

2008 £2,000

Still a great rock loudspeaker after all these years, with a vivd, lithe and engaging sound.

SPENDOR S8E £1.895

Generously large, silky smooth delivery, this dynamic sounding floorstander is an excellent all rounder.



ISOPHON GALILEO 2007 £2,100

Big standmounters that really grip the music and offer quite startling dynamics and grip.

YAMAHA SOAVO I.I 2009 £3,000

Musical, transparent large floorstanders with impressive dynamics and cohesion, Excellent build and finish.



MONITOR AUDIO PLI00 2008 £2,300

The MA boys pull out all the stops for their flagship 'Platinum' series standmounter with stunning results.

PMC OBII 2008 £2,950

Cleverly updated floorstanders give scale and solidity in slim and well finished package.

EMMINENT TECHNOLOGY LFT8B 2010 £3,000

Brilliant ribbon/moving coil hybrid with seamless, delicate and expansive yet tremendously musical nature.

MOWGAN AUDIO MABON 2007 £3,995

Massively capable loudspeakers that offer dynamics, scale and clarity in an elegantly simple package. Wide range of finishes, too.

B&O BEOLAB 9 2007 £5000

Technically impressive and visually striking loudspeakers with sound quality that more than matches their looks.

ARS AURES MI 2006 £5,995

Sublime build and finish allied to an insightful, assured and even-handed musical performance makes these an essential high end audition.

OUAD ESL-2905 2006 £5,995

The old 989 with all the bugs taken out, this gives a brilliantly neutral and open sound like only a top electrostatic can; still not a natural rock loudspeaker, though.

SPENDOR ST 2010 £5,995

This classy sounding, superbly presented big floorstander will appeal to those seeking high end sonics with subtle looks.

REVOLVER CYGNIS 2006 £5,999

Revolver pull out all the stops and show what they can do with this magnificent flagship loudspeaker. A superb monitor that is like a mini B&W 801D in many ways.

USHER BE-10 2009 £10,500

Clever high end moving coil design with immense speed and dizzying clarity allied to epic punch. Needs the best ancillaries to fly, though...

B&W 801D 2006 €10,500

In many respects, the ultimate studio monitor; dazzling clarity and speed with commanding scale and dynamics.



ISOPHON CASSIANO2007 £12,900

Drive units featuring exotic materials allied to superlative build quality result in an immensely capable loudspeaker. Not an easy load to drive, however.

REVOLVER CYGNIS GOLD

2010 €14,995

Big banger with enormous scale and vast power, although requires the right room and doesn't cohere as well as a panel.

ACCESSORIES

MONITOR AUDIO IDECK2006 £200

Fine design, impressive flexibility and a lucidly musical sound make the iDeck the current iPod dock champion.

ISOTEK AQUARIUS 2010

Highly accomplished premium priced mains conditioner that delivers the sonic goods, unlike so many others.

TOWNSHEND MAXIMUM

2003 €800

Classy ribbon supertweeter with flexible level settings and cool styling - you'll be amazed at the difference it makes, especially with Quad electrostatics.

HEADPHONES

SENNHEISER MX-550 2005

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

SENNHEISER PX-100 2002

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

€29



GOLDRING DRI 50 2006 £70 Excellent build and fine sound makes these budget cans superlative value for money.

SENNHEISER HD-590 1998 £199

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

SENNHEISER HD-650 2004 £250

A super all round reference design with crisp, detailed and even sound allied to superlative build and comfort. Cable upgrade yields great results.

SENNEISER HD800 2010 £1,000

The ultimate expression of the Sennheiser philosophy offers massive speed, clarity and insight, although lacks some of the charm of the softer, more beguiling rival Staxes.



STAX SR-007T OMEGA II/SRM-007T 2006 £2,890

Simply the best headphones we've ever heard at any price, these sweetly translucent electrostatic earspeakers are like no other headphone, or loudspeaker for that matter...

INTERCONNECTS

TECHLINK WIRES XS 2007 £20

Highly accomplished interconnects at an absurdly low price. Stunning value for money.

WIREWORLD OASIS 52003 £99/M

Excellent mid-price design with a very neutral, silky and self-effacing sound. Superb value for money.

CHORD COMPANY CHAMELEON 2 £90/M

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



DNM RESON 2002 £40/M

Neutral and transparent - a steal!

VDH ULTIMATE THE FIRST 2004 £260/0.6M

Carbon interconnects that help you forget the electronics and concentrate on the music. Miraculous transparency. Tight and tuneful bass mixed with air and space results in a cracking cable for the money.



TCI CONSTRICTOR 13A-6 BLOCK 2003 £120

Top quality 'affordable' mains outlet block, with fine build and good sonics. Well worth the extra over standard high street specials, which sound coarse and two-dimensional by comparison.

MISSING LINK CRYO REFERENCE 2008 £375

Currently our favourite 'affordable high end' interconnects, with a deliciously smooth, open and subtle sound without a hint of edge or grain. Superb value, inasuch as it's as good as some designs at three times the price.

TUNERS

DENON TU-1500AE 2006 £120

Excellent entry level analogue tuner; slick sonics and fine feature count makes it a bargain.



CAMBRIDGE AUDIO 640T2005 £250

Sweet sounding digital/analogue hybrid with fine build and finish at the price.

ARCAM FMJ T32 2009 £550

Excellent hybrid FM/DAB+ tuner with a smooth, engaging sound. Factor in its fine build and it's a super value package.

CREEK CLASSIC TUNER2006 £550

No tuner offers better sound per pound; wonderfully three dimensional and smooth from bottom to top.

MYRYAD MXT-2000 2005 £800

Truly sumptuous sound and excellent build is all most will ever need in a tuner; superb.

MAGNUM DYNALAB

MD-100T 2006 £1,895

One of the best ways to hear FM that we know; superbly open and musical sound in a quirky but characterful package.



SYSTEMS

YAMAHA CRX-M170 2007 £200

One heck of a lot of quality performance on DAB, CD and FM for £200! Optional matching £120 NX-E300 loudspeakers aren't too shabby either.

TEAC DR-H300DAB 2008 £329

Nicely built and styled mini with fine performance on all sources that even plays DVDs!

NAD C-715DAB 2008 £429

Small, neat looks cover a truly capable system that shows just what a compact design can achieve.

ARCAM SOLO MINI 2008 £650

Half the size and two-thirds the price of a full-sized Solo, the Mini gives very little away in terms of performance to it bigger brother.

ARCAM SOLO 2005 £1,249

Excellent all-in-one system, with a warm, smooth and balanced sound to match the features and style.

LINN CLASSIK MUSIC 2008 £1,250

Neat update of the original and best one-box stereo system; superbly musical sound beats equivalently priced separates.

MERIDIAN F80 2007 £1,500

Fantastically built and versatile DVD/CD/ DAB/FM/AM unit, designed in conjunction with Ferrari. Ignore nay-sayers who sneer that it isn't a 'proper' hi-fi product; most see sense when they listen to it...



AURA NOTE MUSIC CENTRE 2007 £1,500

Lovely shiny CD/tuner/amplifier with fine sound quality and dynamic abilities.

SHANLING MC-30 2007 £650

Quite possibly the cutest all-in-one around with fine performance from the CD player, tuner and MP3 player input. Very low power, though.



NAIM UNITI 2009 £1,995

Uniquely versatile one box music system with excellent ergonomics and sonics to match. A landmark product for Naim.

LINN CLASSIK MOVIE 2007 £2,250

Superbly built all-in-one that offers excellent sound across all formats and is surprisingly

MERIDIAN SOOLOOS 2.1

2010 £6,990

Thanks to its crisp styling and bright, colourful touchscreen, plus excellent search facilities this is one hard disk music system with a difference. Best partnered to Meridian active loudspeakers.

MARANTZ 'LEGEND' 2007 £22,000

The combination of SA-7S1 disc player, SC-7S2 preamp and MA-9S2 monoblocks delivers a truly jaw-dropping performance. Start saving now....



Two's Company

Elac's BS243 standmounting loudspeakers promise deft ribbon tweeter delicacy with big woofer bass, in a single small cabinet. Paul Rigby tries them for size...

ne of my all-time favourite actors is Walter Matthau. A natural comedian, he could do curmudgeon like no other, and displayed a perfect comedic timing. He became well known for his on-screen partnership with another acting great, Jack Lemmon. One of their most celebrated films together was The Odd Couple, a story of two men who lived together, happily, in the same apartment but whose personality, philosophy on life and personal hygiene were mutually at odds. Yet, a strange balance and harmony was formed from these two, disparate characters. Speaker manufacturer, Elac, is trying its best to do the same with the BS243 standmounter. Here, the apartment is a compact loudspeaker case and the odd couple is an Elac Jet Ribbon Tweeter and am Elac Crystal AS-XR bass driver...!

Elac make their own drivers.
To them it makes economic sense;
people can't clone your speakers for
one thing. Take the bass driver which
is an aluminium/paper sandwich
construction (the 'AS' bit means

Aluminium Sandwich, in fact). Think of the aluminium bit on the front as a giant dust-cap which has grown to cover the paper driver underneath. Why the mix? Because aluminium-only drivers can ring so hard that neighbours think it's time for church whenever you power

them up. Just use a paper cone and you'll find that it might breakup comparatively easily and start flexing. Mixing the two means that you can get a mutually support ve benefit of two different break-up frequencies because the paper tones down the aluminium's metallic sheen which, in turn, gives the paper cone underneath more stability, ELAC says. Even more-so with the featured crystal-shaped strengthening, they note. In addition, the latest AS-XR bass driver features a higher natural crossover frequency, meaning the crossover can be built with fewer components. Sonically, the midrange should be the main beneficiary as phase problems should be less of an

But why utilise aluminium at all? Director of Elac, Oliver John, explained that. "it adds weight to the whole system. The heavy weight needs a stronger drive and a very stiff suspension. You lower the whole resonance frequency of the whole system which enables you to get more bass from a smaller cabinet. The trade off? You'll need an amplifier with guts."

This in itself is rather worrying, because the partnering ribbon tweeter is fast, fast, fast. Partner it with a heavy bass unit and you're surely asking for trouble, especially one with the whopping great magnets fitted to the BS243's bass driver, are you not? Won't the ribbon tweeter run ahead while the lardier bass driver struggles to keep pace? Imagine a head-to-head tussle between Usain Bolt and John Prescott...



John flicked away the athletic imagery and responded with a petrol-head metaphor, "you can drive a British Lotus sports car, for example, which is very lightweight, has a relatively small engine but really flies and has high acceleration. On the other hand you can have a Mercedes AMG which weighs two tonnes but has the same acceleration but does so off a much larger engine."

Oliver's "larger engine", of course, is a bigger amp. Which again reiterates that these speakers will need a meaty amplifier to push them and, thus, you will need to consider this factor before you buy. For solid state amplifiers, Elac recommends 70W-80W or more over 4 Ohms (the ideal impedance, incidentally) or 100W-120W over 8 Ohms. That said, my Icon MB845s valve monoblocks drove the Elac BS243s without any problem, but I'm afraid that as far as





valve amps go they're the exception not the rule. A pair of early sixties Quad Ils won't really be at their best! At this juncture, I'm minded to say that a careful dealer dem is highly recommended...

The other principle feature of the Elac BS243 is the Jet Ribbon Tweeter. Based on the Heil Air Motion Transformer (AMT) design from the seventies, it includes a large, Mylar-based diaphragm, six times larger than a standard domed version, which means that it can move more air. "They also include strong magnets to drive the whole thing to increase the efficiency and widen the frequency response," said John. "This particular Jet Tweeter also has low harmonic distortion, a critical design facet."

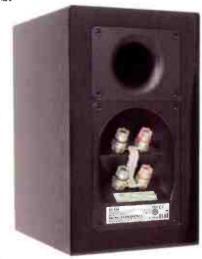
Other notable design additions include the Jet Dispersion Control. Basically a room environment control in the form of an optional foam ring that is fixed by clips around the tweeter for rooms with hard floors, lots of glass and minimal furnishing. It provides more focus and less aural reflection resulting in a less bright sound in such room make-ups. Finally, the BS243s, weighing in at 5.2kg and spanning 285x170x232mm, offers an optional, two-part bass port bung for use on shelves or close to the wall for small listening room experimentation. Available in High Gloss Black and White, Titan Shadow, Cherry and Mocha veneer, you can also stipulate your own colour scheme for an extra £300.

SOUND QUALITY

When in Rome or, in this case, Kiel, do as the Germans do. So I span Kraftwerk's 'Numbers' ('Computer World') on a Cyrus CD8SE CD player and, well, put it this way...

imagine you've just walked into a cloud of gnats. Before you start waving them away like a demented Kung Fu master, take a second to watch. Look at the way they flit and dance in multiple directions over all dimensions with precision and in varying patterns that are simple

and complex. That was treble and midrange on 'Numbers' via the BS243s! Bass actually kept pace, providing genuine power at surprising moments. Halfway through the track, for example, a deep bass sucking sound produced an eyebrow raising









rumble.

Moving to classical fare and Olivier Messiaen's Chamber Works via the Hebrides Ensemble (Linn). 'Quatuor pour la fin du Temps' begins with a quiet cacophony of clarinet, piano, violin, cello and more. I was impressed by the tonal accuracy of the presentation, especially piano which displayed bass-rich lows that were both detailed and powerful; this says a lot for the new crossover, as

classic trip hop in a lively manner. 'Funkativity' was light on its feet, providing a pacey presentation, even with complex rhythms and strident samples, handling them all with alacrity and grace. I heard a delicious, funk-infused jazz beat that showed why it's so easy to fall in love with the BS243s. As I wrote these words, half a dozen different parts of my body were moving in completely different directions, getting into the

associated benefits of a boxed standmounter.

There's a profound sense of freedom in the treble arena. Some

REFERENCE SYSTEM
Avid Acutus turntable
SME IV tonearm
Benz Glider cartridge
Icon PS3 phono stage
Cyrus CD8SE CD player
Aesthetix Calypso preamplifier
Icon MB845 power amplifiers

speakers sound nervous when they tackle any treble task, yet the Elacs

"they gave a pacey presentation, even with complex rhythms and strident samples, handling them all with alacrity and grace..."

all frequencies were on call when the piano was in full flight.

To rock now, and Idlewild's new release 'The Collection', from which energy surged via 'A Modern Way Of Letting Go' with heady abandon. To such an extent that the party was in full swing from the first bar while the beer flowed and pizza was passed around in a generous manner. The Elacs revealed their inherently transparent nature, showing how this album has been mastered with too much compression. This means that via the ELACs, you will always hear an honest appraisal of your software source.

Switching to my prized vinyl and 'I Love Paris' from Ella Fitzgerald's 'The Cole Porter Songbook' (Speakers Corner), these little standmounters offered a highly realistic three dimensional image, plus revealing lyrical enunciation and most believable timbre to the human voice. That is, the Elacs give you the frailties of the voice, as well as the headline features. Thanks (surely in no small part) to that tweeter, they really are exceptional in this respect.

Finally, the now rare 'Jazz Brakes Volume 4' via DJ Food (Ninja Tune) offered groove! Yet despite their hedonistic demeanour, they remained smooth and syelte at all times.

CONCLUSION

Okay, these little loudspeakers may not have quite the same command of upper frequencies as my Quad ESL-57 electrostatics, One Thing-modded, but there are plenty of similarities in the Elac BS243s to attract anyone who finds this genre of speaker appealing, but wants the size and

displayed both relish and finesse in this department. Moreover, the midband sounds like someone who's had a really good sleep and is now full of energy and raring to go; yet it's suffused with calm and ease. As for the bass? That, if anything, was the surprise package. It was pacey and effective but without strain or boom. So with the BS243s, Elac has a winner on its hands – they deserve investigating and should be top of your demo list.

MEASURED PERFORMANCE

Well engineered small loudspeakers like Wharfedale Diamonds have traditionally measured flat and delivered great balance, but the Elac BS243s are better than most in this respect. Our frequency response analysis shows they are almost ruler-flat, meaning they will provide great tonal accuracy and balance, but also low colouration, as the local resonances that affect response flatness also add colour. The ribbon treble unit Elac use is a good example of this, measuring far flatter than dome units, and this gives the BS243 an unusually even treble characteristic above 4kHz that will almost certainly translate into smooth, clean treble, of exemplary ribbon quality.

Bass from the small cabinet rolls

Bass from the small cabinet rolls down slovely below 200Hz, suggesting the Elac has been designed to be used close to a rear wall. The rear port comes into play around 55Hz and is fairly narrow tuned so will add 'bouncy' bass at this frequency. Its output is +10dB up on the bass unit at 80Hz so it contributes strongly.

Impedance measured 6 Ohms

Impedance measured 6 Ohms overall, falling to a minimum of 4 Ohms set by the bass unit's DCR. Across most of the audio band the Elac is unreactive, but the usual residual bass peaks of a reflex punctuate this, making the speaker a normal enough load. Sensitivity was high as small speakers go, at 87.5dB, so the BS243 does not

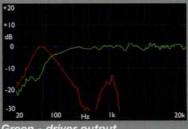
need a lot of power.

Distortion across the midband hovered around 0.1%, a low value and did not exceed 0.2%. Bass distortion was also low for a small loudspeaker, 3% at 40Hz and around 1% above 50Hz. The port peaked at 8% (50Hz) but this is typical of a small box.

The BS243 measures very well in

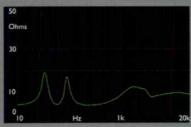
The BS243 measures very well in most important respects and should deliver a high standard of sound quality. NK

FREQUENCY RESPONSE



Green - driver output Red - port output

IMPEDANCE



VERDICT

Smooth and svelte yet punchy and engaging, this is an exceptional pair of mid-price standmounters.

£1,000

ELAC BS243 Atacama Audio (C) +44 (0)1455 283251

www.elac-audio.co.uk

FOR

- sparkling treble
- lucid midband
- overall transparency
- smooth yet punchy bass

AGAINST

- careful amp matching



Strong Arm Tactics

Haden Boardman remembers the staple amplification of so many nineteen sixties audiophiles, the Armstrong 200 series...

ostalgia strikes again! As a small boy, my Uncle Bill owned a rather splendid Armstrong 526 stereo receiver in a posh rosewood cabinet. Even in my childhood mind I realised this was vastly superior to the small audio unit audio my parents had invested in to replace an HMV radiogram. So I have always had a soft spot for the Armstrong brand.

Started in 1932 by Claude
Charles Jackson, the name Armstrong
was picked in tribute to the car
company! The first product produced
was a portable radio set, and by
the end of the nineteen thirties the
company had grown with enough
success to move to a much large
workshop over the top of a shopping
arcade at Walters Road, Holloway,
North London, with an eye to
expanding into the manufacture of
television sets.

In the early 1950s, the 'Jubilee' radio chassis was launched (twenty one years after the foundation of the company). With KT61 tetrode valves arranged in a push-pull output stage, a multi-band A.M. tuner section and quite a compact chassis, this unit offered a substantial upgrade



Baby of the 200 range; model 222...

for most radiogram users wishing to update a pre-WWII set, Armstrong not offering a suitable cabinet for the unit.

Later in that decade, Armstrong produced the A10 amplifier, with triode connected EL34 valves and famous Partridge output transformers. This was a true high fidelity product and marked the company's move into real hi-fi components. In 1963 they introduced the more budget 200 series. 1967 saw the transition from valve designs to transistors, via the 400 range, which was replaced in 1969 by the much better 500 models. However, Armstrong are more famed for the

mid-nineteen seventies 600 models. Sleek styling, preset tuning and decent enough performance marked these units out from the crowd.

Although in common with a lot of British manufacturers faced with the challenge of the Japanese mass produced audio sets, production declined

at the end of the seventies and ceased completely in 1980 when the landlord of the factory decided to demolish and redevelop the site. The Armstrong name continues to this day as a service company, still based in North London, and there was a sadly unsuccessful attempt by Armstrong engineers to keep manufacturing going at a different locale in the rather more upmarket 700 models; a high quality pre-power amplifier (if any reader has one out there, we would be delighted to take a listen)...

In contrast with a lot of small British manufacturers, Armstrong seem very organised, considering the factory base was over a shop! The entire 200 range was assembled from six sub assemblies bolted on to steel frame. There are two stereo integrated amplifiers, the 221 and 222; two stereo AM/FM receivers, the 226 and 227, two tuners, the AM/FM 223 and FM-only 224. There was also a monophonic receiver set, the 227M, and a more expensive rebadge of an earlier stereo pre-power combination; the model 220 EL84 valve based power amp and matching 225 preamp (the latter two models having nothing in common with the



Basic connections, with two pin speaker sockets.



The deluxe 221, with MM phono preamplifier...

rest of the 200 range discussed here).

The power amplifier section is based around Philips/Mullard ECL86 dual valve containing a driver triode and power pentode in one glass envelope. A pair of these valves deliver 10 Watts maximum output from a signal of 600mV. In the case of the 222 and 227 models an ECC83 dual triode provides preamplification, increasing the amplifier's sensitivity to 80mV for full output, totally unusable with modern moving magnet cartridges; Armstrong at the time advocating use of the latest Decca Deram ceramic pick up cartridge as being the ideal match!

The 221 and 226 models feature an additional pair of EF86 pentode valves in the preamp section to increase sensitivity to a more modern and useable 3.5 mV; hum and noise figures means that only a fairly high output modern MM cartridge will give satisfactory results. The 221 and 226 are deluxe models commanding a twenty percent higher price when new. In addition to higher sensitivity they both boast a loudness button, a high frequency filter, and a tape monitor, controlled via a small switch bank located to the lefthand side of the unit's fascia. Rectification within the high tension power supply was provided by very modern solidstate diodes in a voltage doubler combination; quite advanced for the day.

As for reliability, the 200 range is actually quite solid. Separate cathode resistors are used for the output section, which aids reliability compared to the competition. Noisy switches can be a problem and like any other forty five year old piece of equipment, passive components can and will fail at any time. ECL86 valves are now getting a little thin on the ground, and are getting a pricey too. Thankfully they seem to have great longevity in this design. I've never seen a faulty power supply electrolytic on one of these units either; quite an achievement, or just me being lucky!

The radio section is completely mono. However, Armstrong made provision for an FM stereo decoder; a massive amount of chassis space is kept clear for the later addition of this unit when stereo broadcasts commenced. Although I have had many 226/227 sets through my

hands, not one has had a decoder retrofitted for when the BBC first transmitted stereo back in 1968. The AM and FM tuners are reasonable enough; but in common with a lot of British vintage tuners, frankly not worth that much effort.

All input connections are via phono sockets, and loudspeakers via small two pin plugs (one large pin and

one small pin) which connect to one of three connection 'taps' on the output transformers (with universal 4, 8 and 16 ohm tapings).

Output transformers are potted types, and appear of very reasonable quality for the original price of the amplifier.

Most models appear as a simple chassis with detachable Perspex fascia plate; optional was a set of wooden side cheeks, a metal base and top cover. Armstrong's radiogram chassis designing days were still providing a strong design influence here! The modular construction makes the receiver feel a little flimsy, the smaller integrated amplifier chassis gets away with it much better.

SOUND QUALITY

Nearest rival back in the day would have been Jim Rogers's little Cadet amplifier; both the MkII and MkIII versions crossed swords with the 200 range, all using ECL86 output valves. Conveniently, a MkIII prepower was on hand for a direct comparison. For auditioning purposes a system was set up using a pair of Diatone P610 loudspeakers and a Philips CD960 Compact Disc player

as the source. All amplifiers were fed signal via the tape input. In the case of the Armstrong, three models of the 200 range were on hand, both 221 and 222 amplifiers, and a 227 receiver.

It was quickly established there was not a great deal of difference between all the Armstrong units



Note the chunky output transformer!



Extra connections on the 221 versus the 222...

in sonic terms. However, the 22 I tape monitor facility allows a direct audio feed to the amplifier's power amplifier section, bypassing the internal preamplifier completely. This provided a marked improvement over all the other models, but required a more substantial 600mV of signal. Still, the basic sound of the 222 and 227 was still quite sweet, dare I say a touch sweeter than that offered by the Rogers Cadet.

Bass performance was surprisingly clean, and quite fast, but

MUSICAL FIDELITY

AMS CD CD/DAC

New from Musical Fidelity. Quad dual differential DACs. Balanced.

Class A analogue stages. Mega technical performance.





Modern look to the 227 receiver fascia.

decidedly light; drum and bass fans should turn the page now! It's clearly no powerhouse, but still capable of quite remarkable punch. Midrange was surprisingly good, with very fine stereo imagery. Treble, a little like the bass, appeared a little rolled off, but not in an unpleasant way; the little amplifier had plenty of sparkle and air. I do feel the ECL86 is an underrated valve; very open sound seems to be offered by all amplifiers based around this tube.

Playing ABBA's 'The Day Before You Came', Agnetha's strong vocal performance was superbly displayed, as was the multilayered studio production; nobody could fault the sound. Switching to Ricky Lee Jones's classic 'Easy Money' was again an incredible delivery for such a wee amplifier. More modern rock, care of The Kings of Leon, took the amplifier to its dynamic limits, a more efficient speaker would be required to really rock and roll. I could not resist 'Money For Nothing' by Dire Straits, which the amplifier was quite happy with.

On hand was an early Thorens TD150 turntable, fitted with a reasonably high output Pickering XV15/625E pick-up. Out of our line up, only the 221 had enough gain to run it properly. I was quite surprised at the results. If anything the LP sound was a little soft, and a tad cloudy compared to more modern references; still it proved useable, with quite respectable sound.

Playing three classic 1959 records, Dave Brubeck Quartet, Jaques Loussier Trio and Miles Davis,

was quite a delight. 'Take Five' tends to sound good on anything I will admit. The simple but superb stereophonic sound recording of Loussier's 'Play Bach' can sound flat on some systems, but not here, and 'Kind of Blue' from Miles Davis was soulful and sonorous with no harshness or compression. Still, LP replay was a little coloured by modern standards, less dynamic recordings could sound a tad thin...

Most of the listening was done via CD, and this suits the little Armstrongs well. Efficient speakers are needed to get the best out of the 10 Watts per channel available. B&W's super little 686s simply needed more power on the end of this system; 89dB/W and above should be considered a minimum to use with any of these units. As mentioned earlier, the radio performance

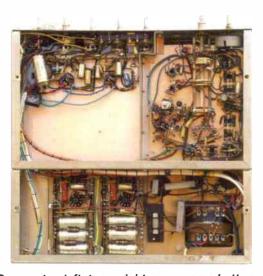
is adequate, usually mono and honestly of no real value.

The best news on the Armstrong sets are the prices. Prices for Rogers Cadets have gone in to the strato-

sphere of late. Sharing the same badge as the most popular maker of the little LS3/5a loudspeaker, as far as a large chunk of the Far East is concerned, has helped push up prices. Monitored prices on a well known internet auction site has seen really clean 221 or 222 integrated amps sell for anywhere between £50



Lots of space for optional stereo decoder!



Preamp top left, tuner right, power amp bottom.

and £200; the receivers 226 and 227 struggle to sell for half of that, the larger chassis size and inbuilt radio clearly putting people off. Still, there are not many useable stereo valve amps knocking about for under a hundred quid. The receiver sounds no worse than the integrated amplifier.

CONCLUSION

Those curious about valve amplifier sound on a budget, or those looking for something for a second system, should give the Armstrong 200 range strong consideration. Not as pretty as the Rogers rival, but equally as good technically, and slightly better sounding, the best bit is that they're available for half the price!



Modular construction on all 200 models.

buys. The year of introduction is given, doings. the original UK launch price. We do not sell these products. It is for your information only.

Here is our list of the great and good from audio's glorious past, products that have earned their place in hi-fi history. You'll also see some oddities which aren't classic as such, but are great used

DIGITAL

CAMBRIDGE AUDIO CDI 1986 £1500 Inspired Stan Curtis redesign of Philips CD104, complete with switchable digital filter. Lean but tight and musical performer.

CAMBRIDGE AUDIO CD4SE

1998 A touch soft in the treble and tonally light,

but outstanding in every other respect. LINN KARIK III

The final Karik was a gem. Superb transport

gives a brilliantly tight, grippy dynamic sound, albeit tonally dry.

MARANTZ CD73 1983 £700

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



MARANTZ SA-1 2000 £5,000

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



MERIDIAN 207 1988 £995

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

MUSICAL FIDELITY TRIVISTA 2002 €4000

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

MERIDIAN MCD 1984 €600

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



NAIM CDS

1990 £ N/A

Classic Philips 16x4 chipset with serious attention to power supplies equals grininducing sonics.



SONY CDP-101 1982 €800

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

SONY CDP-RI/DAS-R11987 £3,000

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



SONY CDP-701ES 1984

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

TECHNICS SL-PI200 1987 €800

CD version of the Technics SL-1200 turntable. Massively built to withstand the rigours of 'pro' use and laden with facilities - a great eighties icon. Sonically, it's pure fun, with hefty bass that can still show weedy modern players a thing or two!

YAMAHA CD-XI 1983 £340

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

COMPACT DISC TRANSPORTS

TEAC VRDS-TI 1994

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



ESOTERIC PO

1997 €8,000

£99

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

KENWOOD 9010 1986 €600

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

DACs

CAMBRIDGE AUDIO

DACMAGIC 1995

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



DCS ELGAR

1997 £8500

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



DPA LITTLE BIT 3

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



PINK TRIANGLE DACAPO

1993 £ N/A

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



OED DIGIT

1991

£90

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

TURNTABLES

ARISTON RDIIS 1972 £94

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

ADC ACCUTRAC 4000 1976 £300

Bonkers 1970s direct drive that uses an infra red beam to allow track selection and programming. More of a visual and operational delight than a sonic stunner.

PIONEER PLI2D 1973 £36

The beginning of the end for the British turntable industry. When vinyl was the leading source, this bought new standards of noise performance and stability to the class, plus a low friction S-shaped tonearm. Later PL112D was off the pace compared to rivals



PIONEER PLC-590 1976 £600

Sturdy and competent motor unit that performs well with a wide range of tonearms. Check very thoroughly before buying due to electronic complexity and use of some now-obsolete ICs.

DUAL CS505 1982 £75

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

GOLDRING LENCO

1970 £15.65

Simple, well engineered motor unit with soft, sweet sound and reasonable tonearm. Good spares and servicing support even today from specialists. Eminently tweakable. Similar 88 and 99 motor units are budget 301/TD124 rivals.

LINN AXIS 1987 £253

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

LINN SONDEK LP12 1973 £86

For many, the Brit superdeck; constant mods meant that early ones sound warmer and more lyrical than modern versions. Recent 'SE' mods have brought it into the 21st century, albeit at a price.



MARANTZ TT1000 1978 £ N/A

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



MICHELL GYRODEC 1981 £599

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

TECHNICS SP10 1973 £400

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

REGA PLANAR 3 1978 £79

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

GARRARD 301/401 1953 £19

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



ROKSAN XERXES 1984 £550

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

SONY PS-B80 1978 £800

First outing for Sony's impressive 'Biotracer' electronic tonearm. Built like a tank with a clean and tidy sound, albeit lacking involvement. Scarily complicated and with no spares support - buy with caution!

THORENS TD124 1959 £ N/A

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



TOWNSHEND ROCK 1979 £ N/A

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

TRIO LO-7D 1978 £600

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

TONEARMS

ACOS LUSTRE GST-1 1975 £46

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

AUDIO TECHNICA AT 1120

1978 £75

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

ALPHASON HRIOOS 1981 £150

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



SME 3009

1959 £18

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

GRACE G707 1974 £58

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

REGA RB300 1983 £88

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



SME SERIES III

1979 £113

£46

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

HADCOCK GH228 1976

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



LINN ITTOK LVII 1978 £

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

NAIM ARO 1986

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



£875

TECHNICS EPA-501 1979 £ N/A

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

INTEGRATED **AMPLIFIERS/COMBOS**

DELTEC 1987 £1900

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

ROGERS A75

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

EXPOSURE VII/VIII 1985

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



SUGDEN C51/P51 1976

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

VTL MINIMAL/50W

1985 €1,300 MONOBLOCK

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

1977

£115 Sweet and musical feature-packed integrated; the Audiolab 8000A used its blueprint to great effect.



CREEK CAS4040 1983

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

£150

AUDIOLAB 8000A 1985

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



MCINTOSH MA6800 1995 £3735

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

SUGDEN A21 1969 £ N/A

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

MISSION CYRUS 2 1984

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



MUSICAL FIDELITY A11985 £350

Beguiling Class A integrated with exquisite styling. Questionable reliability.



NAIM NAIT 1984

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

NAD 3020 1979

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

£69



MYST TMA3 1983 £300

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

ROGERS CADET III 1965 €34

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



ROTEL RA-820BX 1983

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

CHAPMAN 305 1960

Smooth pre/power combo with a sweet and open sound. Not quite up to Leak/Quad standards but considerably cheaper second-

PREAMPLIFIERS

AUDIOLAR 8000C 1991

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

£400

AUDIO RESEARCH SP-8 1982£1,400

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

CONRAD IOHNSON **MOTIV MC-8** 1986 €2,500

a curio, but worthwhile nonetheless.

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

CROFT MICRO 1986 €150

Budget valve pre-amp with exceptionally transparent performance.

LEAK POINT ONE STEREO 1958 € N/A

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

LINN LK-I 1986 £499

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

NAIM NAC32.5 1978 £ N/A

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

LECSON AC-1 1973 £ N/A

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



QUAD 22

1958 £25 The partner to the much vaunted Quad II

monoblocks - cloudy and vague sound means it's for anacrophiles only.

QUAD 33 1968 €43

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

POWER AMPLIFIERS HH ELECTRONICS TPA-50D 1973 **AMPLIFIERS**

Simple design with easily available components, solid build quality and fine sound make for a surprisingly overlooked bargain. Not exactly stylish, however.

LEAK STEREO 60 1958 £N/A

Leak's biggest valve power amp offers 35 Watts per channel and more low end welly than the smaller Stereo 20. Despite concerns over reliability their rarity means high prices are the order of the day.

LEAK STEREO 20

1958 £31

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



LECSON API

1973 £ N/A

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

MARANTZ MODEL 9 1997 £8000

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

MICHELL ALECTO 1997 £1989

Crisp, clean and beautifully controlled with gorgeous styling. Partnered with the £1650 Orca this sounds delicious!

LEAK POINT ONE, TL10, TL12.1 1949 £28

Early classics that are getting expensive.

Overhauling is de rigeur before use, using original parts if possible. Surprisingly crisp and musical sound, that's far more modern than Quad Ils. Deeply impressive when in fine fettle.



MUSICAL FIDELITY XA200

1996 £1000PR

200W of sweet smooth transistor stomp in a grooved tube! Under-rated oddity.



QUAD II

1952 €2

The all-time classic valve amplifier, with a deliciously fluid and lyrical voice. In other respects though, it sounds hopelessly dated. Low power and hard to partner properly



.QUAD 405

1978 £115

The first of the current dumpers is a capable design with smooth, effortless power and a decently musical sound. 606 and 707 continue the theme with greater detail and incision.

OUAD 303 1968 £5

Bullet proof build, but woolly sound. Off the pace, but endearing nonetheless. Some pipe smoking slipper wearers swear by them!

RADFORD STA25 RENAISSANCE

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



KRELL KMA100 II 1987 £5,750

Ludicrous monoblock version of the giant KSA-100 is one of the seminal eighties transistor power amplifiers. Massive wallop allied to a very clean and open Class A sound makes this one of the best amplifiers of its type, ever.

PIONEER M-73 1988 £1,200

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



PHONO STAGES

CREEK OBH-8 SE 1996 £180

Punchy, rhythmic character with oodles of detail makes this a great budget audiophile classic. Partner with a Goldring G1042 for an unbeatable budget combination.



LINN LINNK

1984 £149

Naim-designed MC phono stage built to partner the original Naim NAIT - yes, really! Fine sound, although off the pace these days.

MICHELL ISO 1988 £ N/A

This Tom Evans-designed black box started the trend for high performance offboard phono stages. Charismatic, musical and punchy - if lacking in finesse.

TUNERS

MARANTZ ST-8 1978 £353

Marantz's finest radio moment. Warm, organic sound plus an oscilloscope for checking the signal strength and multipath.



CREEK CAS3140 1985 £199

Excellent detail, separation and dynamics - brilliantly musical at the price. T40 continued the theme...

NAD 4040 1979 £79

Tremendously smooth and natural sound allied to low prices and good availability make this budget analogue esoterica. Needs a good antenna to work properly, however.

NAIM NAT03 1993 £59

The warm, atmospheric sound is further proof of Naim's proficiency with tuners.

PIONEER TX-9500 1976 £29!

Another of the serious classic solid-staters. Boasts the usual high end Jap package of fine sound, brilliant sensitivity and superb build.

LEAK TROUGHLINE 1956 £25

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



YAMAHA CT7000

1977 £444

Reputedly the best of the classic Jap analogues, this combines sleek ergonomics, high sensitivity and an explicit, detailed sound.

QUAD FM4 1983 £240

Supreme ergonomics and styling allied to a pleasingly lyrical sound with plenty of sweetness and detail made this one of the best tuners around upon its launch.



REVOX B760

1975 £52

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

NAD 4140

1995 £199

Brilliant affordable digital tuner has a smooth, detailed musical sound plus sensible real-world facilities.

ROGERS T75 1977 £12

Superb mid-price British audiophile design, complete with understated black fascia. Fine sound in the true Rogers mould – smooth and sweet with fine dimensionality.

SANSUI TU-9900 1976 £300

A flagship Japanese tuner designed to steal sales from the likes of Accuphase and Revox, it boasts superlative RF performance and an extremely smooth and lucid sound, along with very fine build and finish.

SONY ST-5950

1977 £222

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

SEQUERRA MODEL I 1973 £1300

Possibly the ultimate FM tuner. Massive in terms of technology, size and features dedicated to extracting every ounce of performance from radio, including impressive multi-purpose oscilloscope display.



TECHNICS ST-8080 1976 £180

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



ANALOGUE RECORDERS

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



AIWA XD-009 1989 £600

Aiwa's Nak beater didn't, but it wasn't half bad nonetheless, Massive spec even included a 16x4 DAC!

NAKAMICHI CR-7E 1987 £800

The very best sounding Nakamichi ever - but lacks the visual drama of a Dragon.



PIONEER CTF-950 1978 £400

Not up to modern standards sonically, but a great symbol of the cassette deck art nonetheless.



REVOX A77 1968 £145

The first domestic open reel that the pros used at home. Superbly made, but sonically off the pace these days. B77 better, but couldn't match the Japanese.



SONY WM-D6C

1985 £290

Single capstan transport on a par with a Swiss watch, single rec/replay head better than most Naks. Result: sublime.



SONY TC-377

1972 £N/A

A competitor to the Akai 4000D open reel machine, the Sony offered better sound quality and is still no slouch by modern standards

DIGITAL RECORDERS

SONY MDS-JE555ES 2000 £900

The best sounding MD deck ever, thanks to awesome build and heroic ATRAC-DSP Type R coding.



PIONEER PDR-555RW 1999 £480

For a moment, this was the CD recorder to have. Clean and detailed.

MARANTZ DR-17 1999 £1100

Probably the best sounding CD recorder made; built like a brick outhouse with a true audiophile sound and HDCD compatibility.



KENWOOD DM-9090 1997 4500

Serious and sophisticated sound thanks to well implemented ATRAC 4.5; surprisingly musical MD recorder.

SONY TCD-8 DATMAN1996 £599

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

LOUDSPEAKERS ACOUSTIC RESEARCH

AR18S 1978 £125

Yank designed, British built loudspeaker became a budget staple for many rock fans, thanks to the great speed from the paper drivers, although finesse was most definitely not their forte... BBC LS3/5A

1972

£88

Extremely low colouration design is amazing in some respects – articulation, stage depth, clarity – and useless in others (both frequency extremes). Came in wide variety of guises from various manufacturers building it under licence. Partner with Rogers ABI subwoofers

HH ELECTRONICS TPA-50D
AMPLIFIERS 1973 £110

for an extra two octaves of bass!

Simple design with easily available components, solid build quality and fine sound make for a surprisingly overlooked bargain. Not exactly stylish, however.



LOWTHER PM6A

£18 EACH

This seminal full-range driver is still manufactured. High sensitivity, as fitted to many classic horn designs.

TANNOY WESTMINSTER

1985 £4500

1957

Folded horn monsters which certainly sound good if you have the space. Not the last word in tautness but can drive large rooms and image like few others.

JR 149 1977 £120

Infamous cylindrical speaker that was ignored for decades but now back in fashion! Based on classic KEF T27 / B110 combo as seen in the BBC LS3/5a. Doesn't play loud, needs a powerful transistor amplifier, but rewards with fine clarity and imaging,





SPENDOR BCI 1976 £2

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

QUAD ESL57 1956 £45 EACH

Wonderfully open and neutral sound puts box loudspeakers to shame. Properly serviced they give superb midband performance, although frequency extremes less impressive. Ideally, use in stacked pairs or with subwoofers and supertweeters.



KEF RIOS

1977 €785

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

£550 **IMF TLS80** 1976

Warm and powerful nineteen seventies behemoth with transmission loading and a mixture of KEF and Celestion drive units. Impressively physical wideband sound but rhythms aren't its forte.

MAGNEPLANAR SMGA 198X £800

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



MISSION 770

1980 €375

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



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

1984 £350 **CELESTION SL6**

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



LEAK SANDWICH EACH

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



OUAD ESL63 1980 £1200

An update of the ESL57, with stiffer cabinets. Until the 989, the best of the Quad electrostatics



YAMAHA NS1000

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

1977

£532



MISSION X-SPACE

1999

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





MISSION 752

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



CLASSIC CONTACTS

£39

When a classic goes 'pooof' your troubles have just started, but there may be a good ending. Replacing failing parts can improve the sound, so here is a short listing of all these companies who specialise in getting a classic up and running again after its deposited a small ring of soot on your ceiling!

GT AUDIO

(Graham Tricker, Bucks) Leak Troughline specialists. Also Quad and most classic tuners, radios and amplifiers restored, repaired.

Tel: 01895 833099 Mob: 07960 962579 www.gtaudio.com

TECHNICAL AND GENERAL

(East Sussex) Turntable parts - wide range of spares and accessories, plus and cartridges. Tel: 01892 654534

CARTRIDGE MAN

(Len Gregory, London)
Specialist cartridge re-tipping service and repairs. High quality special cartridges. Tel: 020 8688 6565 Email: thecartridgeman @talktalk.net www.thecartridgeman.com

AUDIO LABORATORIES

(Phil Pimblott, Leeds) Renovation, repair and restoration. Specialist in valve hi-fi, radio transmitters, cinema amps, kit building, Tel: 0113 244 0378 www.audiolabs.co.uk

OUAD ELECTROACOUSTICS

(Cambs) Quad's service department, able to repair almost all Quad products, from the very first. (Also Audiolab, Mission & Wharfedale). Tel: 0845 458001 I www.quad-hifi.co.uk

Dr MARTIN BASTIN

(Shropshire) Garrard 301/401 restoration, renovation and service. Special plinths; rumble cures, etc. Tel: 01584 823446

(Northumberland) Specialist in repairs, restoration and modifications to all amplifiers, valve or solid state, ancient and modern. Tel: 01670 829891 Email: arklesselectronics@btin ternet.com

TRANSFORMERS

(Brian Sowter, Ipswich) Large range of audio transformers for valve amps, cartridges, line drive, interstage plus all associated services. Tel: 01473 252794 www.sowter.co.uk

WEMBLEY LOUDSPEAKER

(Paul MacCallam, London) Comprehensive loudspeaker servicing. Tel: 020 8 743 4567 Email: paul@ wembleyloudspeaker.co.uk www.wembleyloudspeaker.com

ARKLESS ELECTRONICS EXPERT STYLUS COMPANY

(Wyndham Hodgson, Surrey) Stylus replacement service for all types of cartridge. Including precise profiling for 78s Tel: 01372 276604 Email: w.hodgson @btclick.com

ONE THING

(Coventry) Specialist in electrostatic panel manufacture and repair. Can refurbish ESL 57s and 63s as well as Leak Troughlines and Quad Ils. Email: one.thing @ntlworld.com www.onethingaudio.com

LORICRAFT AUDIO

(Terry O'Sullivan, Bucks) Garrard 301/401 and their own 501 repair, spares and service.: Tel: 01488 72267 www.garrard501.com

HADEN BOARDMAN

Repair, service & modifications; classic & modern, Collection available. Redundant / faulty equipment purchased, selected new equipment available. Tel 01942 790600 www.audioclassics.co.uk

LOCKWOOD AUDIO

(London) Tannoy loudspeaker parts, restoration and repair, Also Epos and TDL loudspeakers. Tel: 020 8 864 8008 www.lockwoodaudio.co.uk

CLASSIC NAKAMICHI

(Paul Wilkins, Worthing, West Sussex). Restore, Repair & Service Nakamichi Cassette Decks. Tel: 01903 695695

Email: paul @bowersandwilkins.co.uk www.bowersandwilkins.co.uk

OCTAVE AUDIO WOODWORKING

(Bristol) Unit 2, 16 Midland Street, St Phillips, Bristol. Tel: 0117 925 6015 www.octave-aw.co.uk

REVOX

(Brian Reeves, Cheshire) Revox tape recorder spares, service and repair. Accessories also available. Tel: 0161 499 2349 brian@revoxservice.co.uk www.revox.freeuk.com

CLASSIQUE SOUNDS

(Paul Greenfield, Leicester) ESL-57s restored, rebuilt, fully renovated or improved. Leak, Quad valves amps etc. Tel: 0845 123 5137/ Mob: 0116 2835821 Email: classique_ sounds@yahoo.co.uk classique

Studio Sound

Tim Jarman lays down (with) some tracks on hiSoundaudio's PDAA-1 Studio MP3 player...



he Oxford English
Dictionary defines an oxymoron as 'a figure of speech
or expressed idea in which
apparently contradictory
terms appear in conjunction'. Along with favourites such as
'military intelligence', 'mature student'
and 'family fun', hiSound Audio have
now added 'Audiophile MP3 Player'.
Yes, really! This is what's inscribed
on the lavishly embroidered rear



Standing bold in black and gold; if cult 'flat earth' British hi-fi brands had been making MP3 players in the mid 1980s, this is surely what they would have looked like!

panel of their new PDAA-1 Studio

Hold that thought and imagine the audiophile at home, moving mountains and breaking banks to achieve the perfect enjoyment of recorded sound. How likely then are they to use a format that on the basis of some unseen algorithm discards substantial chunks of the music? Actually it's not that bad, as the Studio can handle WAV and FLAC files too, along with WMA and MPI, 2 and 3, so there are some sweeter sounding options to choose from if your computer can support them.

Before grappling with the audiophile concept however, the first thing that you will encounter as you open the Studio's slightly kinky black vinyl covered presentation box is the size and the solidity of the unit: itself. Current design trends amongst the more mainstream brands are towards wafer-thinness, light weight and touch controls, as evinced by Apple. Against this, the Studio is housed in a single block of CNC machined aluminium which is big, thick and heavy in an undeniably 'old skool' eighties Sony sort of way! This design gives the instant impression that the unit is carefully hand made; indeed if you are a dab hand with a milling machine you could probably make one yourself! The detailing is

a bit crude but the quality is top drawer; compared to this an iPod Classic feels like an empty margarine tub. Its styling is almost an 'anti fashion' statement, being diametrically opposed to almost every other digital portable on sale in its girth and weight – although I rather fear this was unwitting and not intentional!

As well as offering a useful set of file options, the Studio also uses the 'drag and drop' method for loading music, as any decent modern player should. The software execution in this area is not perfect; amongst the music files you'll find things like the initialisation values for the built-in FM radio which could easily be accidentally deleted, something that could end up being a nuisance to sort out. The internal memory is 8GB, small these days, but a Micro SD card can also be used, giving more capacity (approximately £10 per 8GB at the time of writing) and the benefit of exchangeable media. As well as being a digital music player and an FM stereo radio (which is okay, but nowhere near as clean sounding or as easy to use as the one in the Philips GoGear Muse) the hiSound Studio can also be used as an amplifier for another line level source, the input being a 3.5mm jack socket.

The onboard display is a tiny OLED type, similar to that used in

hiSound's cheaper RoCoo model. The display is small for the size of the unit but would be big enough for the purpose it serves, were it not for the needless and oversized icons that regularly appear on the left hand side, obliging the software to truncate the rather more useful text on the right. As this section contains useful things like track titles

and function names this shortcoming makes the Studio more awkward to use than is necessary, as do the unmarked control keys and some not especially well worked

to use, so high-end turntable fans at least, will surely love it! "It's housed in a single block of CNC machined alloy which is big, thick and heavy in an 'old skool'

above the current rather flaccid sounding iPod but despite all its

the Sony Walkman X Series and

MZ-RHI. On the other hand the

engineering is fascinating and it can at times be frustrating and awkward

obvious get up and go it failed to win

me over from my current favourites,

out menu sequences. Changing the volume also sometimes results in a glitch where the sound is briefly lost, so the firmware could definitely benefit from some more development...

SOUND QUALITY

Time to test those audiophile claims. Just like the RoCoo which I reviewed last month I'm not completely convinced by the 'Class A inside' claims; the impressive 100 hour battery life only goes to further support this view. Like the RoCoo though, this is a tidy sounding piece of kit with plenty of volume available to drive the headphones. The character of the sound is rich and lively compared to the iPod Classic; it reminds me of the older sort of personal CD player, back when they were still an expensive luxury product. Playing back WAV recordings demonstrates a fine ability to convey detail, although careful headphone matching is a must because the treble can be searing sometimes if the ones you choose are on the bright side, like the B&O A8s I tried.

Bass, a traditional failing of digital personals, romps along nicely and although in the final analysis the Studio lacks the poise of the class leading Sony X-Series in this respect it could still be regarded as way better than average. MP3 playback lacks the drama of WAV, the sound softens noticeably and the soundstage contracts, just as one would expect. This taming influence suits the character of the audio stages in a way; there is a useful synergy at work here.

Is the Studio an audiophile player? Well, it's at least a league

Basically it's a chunk of metal with some holes drilled to fit the electronics inside!

DP SAYS:

eighties Sony sort of way..."

DP SAYS:
I've been intrigued by this oddball portable since it first arrived on my desk a few months ago. It looks and feels quite unlike anything else that's going on in the market right now; it's so different that it could unwittingly become an anti-style statement, a bit like a Trabant! But whilst it looks like it has come from another era, it does not share the Trabbie's build, I'm happy to say. In fact it's the absolute opposite; I'm minded to think that, should the worst ever happen and the bomb goes up, the only thing surviving on the surface of planet Earth would be cockroaches and hiSound PDAA-1 Studios. Be warned that it's solidly made that if you're in the wrong place at the wrong time with it then you could find yourself on a charge of carrying an offensive weapon; something that could hardly be said of any of its price

The irony is that the thing most likely to cause offence is the sound of most of the hiSound's rivals, which is generally no better than mediocre. This can't be said of the Studio, which is a far more incisive and powerful performer, able to deliver deafening levels into Sennheiser MX550s or PX100s (earbuds and headphones respectively) where the latest generations of Apple iPods struggle to provide enough welly to compete with bees flying past (well, I exaggerate for effect here, but you get the gist?). Also, it's actually quite nice to whack up the volume should you wish to listen at serious levels, because the sound is very clean and clear. Rather like a Sugden A21a amplifier, it's quite bright and very incisive but there's very little in the way of grain, so listening at high levels won't force your early surrender. Playing back uncompressed 16bit 44.1kHz 'WAV files it really did seem to offer an extra layer of detail, subtlety and atmosphere to even the superb Sony NW-A845; I was impressed.

The ergonomics, as Tim politely alludes to, are appalling. Given the unmarked transport keys it's easy to not know exactly what your

The ergonomics, as Tim politely alludes to, are appalling. Given unmarked transport keys it's easy to not know exactly what your chine is doing, and turning to the display for enlightenment won't help either. Trying to read this was the first moment of my life, in my early forties, that I realised my close-up eyesight is beginning to deteriorata. It's a lovely OLED affair but is so small that it might as well be on a microfiche. Overall though, I think this is a glorious machine; it's so different to what else is around that you just have to like it. and it also sounds very good in its way. As Tim says, it's important to match it to the right sort of headphones, but this done you'll really enjoy listening to it, and there's the added bonus of having a portable that all your friends just cannot fathom. It reminds me of Sony's classic Walkman Professional cassette player in this respect; a big solid chunk of metal that neither looks cool or shrinks into your luggage, but really delivers the sonic goods.



Fascinating, oddball player for the connoisseur; fine sound but needs work in other respects.

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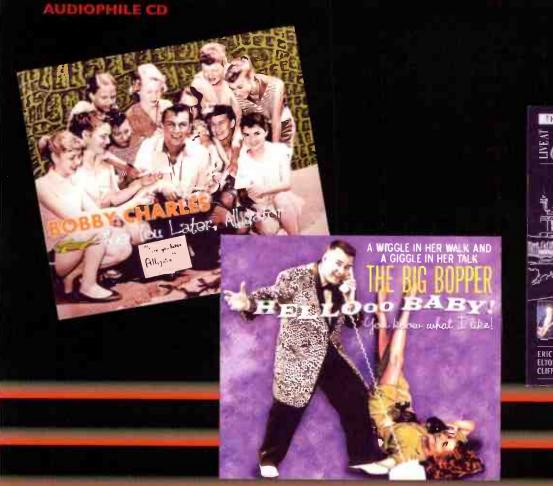
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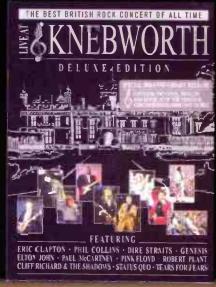
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BOBBY CHARLES

THE BIG BOPPER Hellooo Baby! You Know What I Like! Bear Family

When listening to a song, I tend to listen to the music and ignore, for the most part, the lyrics. However, there are some songs whose lyrics, once in your head, just refuse to leave, even entering the English language as part of everyday use. The first comes from Bobby Charles. Charles used to have a pet Alligator in a pond in his garden in Louisiana, USA. In fact many locals raised them for their leather and meat. One night, after leaving a local twenty-four hour restaurant one evening, he shouted to a colleague, "see you later, alligator!" It was a girl, also present in the same restaurant, who, amused by what she heard, shouted out, "After a while, crocodile!" Charles heard it, smiled and ran home to write 'Later Alligator' and a legend was born. This CD features all of his Chess recordings.

The Big Bopper was the man responsible for the song, 'Chantilly Lace' including the oft-repeated words on the CD title and the lyric, "A wiggle in her walk/A giggle in her talk". Just as famous for his death as well as his life - he

perished, alongside Buddy Holly in the infamous plane crash in 1959 - he was surrounded by myth and fantasy. Rumours surrounded the circumstances of the crash. For example, Jiles Perry Richardson Jr, his real name, was always thought to be six foot three inches and weighed 300lbs when, in fact, he was five foot ten inches and never weighed more than 200lbs! His release includes rare recordings, tributes and sequels. Both of these CDs are excellently mastered, are packed with information via thirty to forty-page booklets and are presented as hardback CD digipaks.

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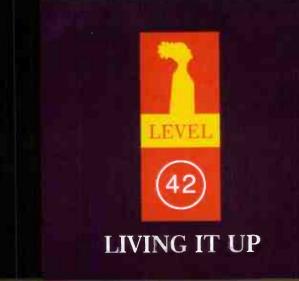
I'm cheating a bit here but there's a good reason for it. This box set is, ostensibly, a DVD collection of the twentieth anniversary of the concert that took place on 30 June 1990. Around 120,000 fans squeezed, cheek by jowl, to see a whole host of legends perform live on stage including Paul McCartney, Robert Plant and Jimmy Page, Genesis, Elton John, Dire Straits, Cliff Richard & The Shadows, Eric Clapton, Status Quo and Tears for Fears plus a very rare outing for Pink Floyd. All of the artists performed for free to

support the Nordoff-Robbins Music Therapy and the Brit School For Performing Arts. To that extent, the guest list was quite strict. Only performers who had won the Sliver Clef Award presented annually by Nordoff-Robbins Music Therapy for outstanding services to the British Music Industry were invited.

The concert arrives on two DVDs plus, because this is a special edition version, replicas of an original programme plus a ticket are included. However, to qualify for inclusion into this column, the box also includes two CDs providing a complementary aural accompaniment. I say 'complementary' because the CDs provide tracks that don't appear on the DVD and vice versa. For example Pink Floyd only sing 'Shine On You Crazy Diamond' on the DVD version and 'Comfortably Numb' on the CD. Elton John only sings 'Saturday Night's All Right (For Fighting)' on the CD and 'Sacrifice' on the DVD while Robert Plant only sings 'Liar's Dance' on the CD and 'Rock And Roll' on the DVD.

This package provides excellent value for money because you can buy the DVD and CD portions of it separately and, even after Internet discounts, it's still cheaper to buy than the CD and DVD packs individually.





TEN YEARS AFTER

Think About The Times: The Chrysalis Years (1969-1972)

EMI

This is just one of a few new CD sets that EMI is releasing to provide fans with multi-album collections for a reasonable price. The British band, formed in 1967 and initially signed to the Decca label, were active from 1968 to 1973. Anyone who has managed to see the classic Woodstock film will remember the band ripping up the stage, especially with Alvin Lee's explosive guitar work. In fact, the album the band released around the time of that breakthrough appearance, 'Ssssh' (1969), their third album release at the time and a great introduction to British blues rock, is just one of the five albums present here that are squeezed onto three separate CDs.

Other albums include 'Cricklewood Green' (released in 1970) featuring their chart hit, 'Love Like A Man' and a production that resulted in arguably their best studio release of all, 'Watt' from 1971, 'A Space in Time' which introduced more acoustic fare after the band moved labels to Columbia and the single, 'I'd Love to Change the World' and 'Rock'n'Roll Music To The World' which was recorded in 1972 that mixed rock'n'roll with blues.

As a collection, it is an ideal

entree to any budding blues rock fan as it gives you a cross section of this classic band. However, the box set will also be of interest to diehard fans because each album includes extras such as B-sides, A-side single edits plus live tracks. Also look out for ex-Procol Harum guitarist, Robin Trower's five album set: 'A Take Untold', that examines his solo career from 1973 to 1976 also on the Chrysalis label plus blues rock specialists The Groundhogs' 'The Liberty Years', another five album retrospective that covers 1968 to 1972 on the Liberty label.

LEVEL 42

Universal Music

When I was at school, 'Top of the Pops' had a tremendous cultural influence on us fourteen year-olds. Through that programme, we were introduced to varying types of music, fashions and celebrities. I remember the shock and awe the morning after Blondie's Debbie Harry appeared on the show, for example. I also remember the effect Mark King had on many a budding guitarist. Fronting his group, Level 42, this was the first time that many of us had ever seen a musician play bass with a 'slap' style. King was not the first to initiate the style; people like The Brothers Johnson's Louis Johnson and Sly And

The Family Stone's Larry Graham had that honour, However, King was the king for us whippersnappers; his catchy melodies drew us in.

Now, Universal is releasing a thirtieth anniversary box set to celebrate the group. Spanning four discs, this collection covers all thirty-four A-sides. I didn't realise that they had produced so many of the things. They include 'Lessons in Love', 'Running In The Family' and the ballad, 'It's Over'. These tracks are spread over the first two discs and include some intriguing songs such as the US-only release, 'World Machine (remix)'. Disc three features an array of rarities such as the previously unreleased 'Spirit Groove' and 'Brazil 99' plus unreleased demos such as 'Take Care Of Yourself'. Disc four includes an unreleased acoustic studio album featuring tracks such as 'Seven Days', 'Lessons Im Love' and 'Starchild'. Some box sets are designed to be

designed to be nothing more than glorified greatest hits packages that offer fans little more than a single rare track, for example. This particular set is far more interesting and comes highly recommended to followers of the band.



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VERDICT ---









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Hi-Fi World Room Analyzer Review

"Highly effective "For a lot less money acoustic analysis than most loudspeaker upgrades, this brilliantly conceived product fills a real niche and is highly recommended."

- Hi-Fi Choice Room Analyzer Review

Jimmy Hughes uncovered one of hi-fi's best kept secrets - XTZ. Here are just some of the comments from the exceptional Hi-Fi Choice (Issue 333) system review:

"An amplifier and CD player with this sort of finish and build quality for just £600 and £365 respectively? Unbelievable!

- Hi-Fi Choice

"Musically, the presentation is clear and unpretentious - a very nice system that's a pleasure to listen to."



VERDICT CO

"The player itself tips the scales at a healthy 9kg and some of the features found on it are, again, astonishing considering the price.

"Superbly built and with an impressive sense of pace and weight, the CD100's performance belies its affordable price taq."

- Hi-Fi World

VERDICT OCCO

"...l settled down to do some serious listening, still half convinced that there should be another digit in front of the price tag..."

"At £600 (with a decent quality DAC and phonostage built in, along with the Class A option) it offers superlative performance at the price."

- Hi-Fi World A100D3 Review

HiFi just doesn't get any better than this for the price!

SUPRA SWORD JUMPERS £175

Not everyone is a fan of biwiring. It's one of those debates that is so subjective, and so prone to other variables, that it's pretty much unsolvable as an issue. As a result, people simply go with their own preferences. One thing that's not so subjective however is the sound of the links that manufacturers supply with biwirable speakers. Obviously, if you've got biwired cable then you simply discard them (or in my case lose them), but if you're singlewired then they suddenly become vitally important. And interestingly, they really do contribute to the sound. Long ago I gave up on bundled brass items (they made my Mission 752s sound hard and brittle), only to make my own jumpers with high quality speaker cable. That's effectively what Supra's Sword lumpers are, albeit using the very best wire and termination. The 28cm cables are made from twenty four conductors, with twelve wound one

way and twelve the other. When terminated (in the factory) great care is taken to ensure that all 24 conductors are in correct electrical and mechanical contact with the terminations, for zero inductance. They come with CombiCon spade connectors at both ends. The improvement they bring is subtle but real; if you have a high quality pair of biwirable speakers and run them monowired you'll hear more better detail, more atmosphere in the treble and a welcome improvement to the sweetness of the upper midband and treble, along with slightly better image precision. Obviously, if you're running entry level speakers, the price can't be justified, but for £1,500 boxes or more they're a good value upgrade. DP

[Contact: +44(0) | 1223 | 441 | 299, www.wavelength-distribution. com]



soundbites

FURUTECH ALPHA PS-950 £1,495

Quite possibly the most expensive power lead we have ever reviewed in Hi-Fi World magazine, the Furutech is the sort of product that has one asking questions about the meaning of life, universe and everything. After all, it is more expensive than many families' cars and could likely sustain an entire village in a famine-hit part of Africa for a month. When you've parked the ethical issues, and taken the product on its own terms, it doesn't seem quite so objectionable. Given that a good number of people run systems stretching up to £100,000, the Furutech is but a mere bagatelle, and lives or dies by the quality it offers. In terms of apparent construction quality, it's about the best made I've ever come across, and is exquisitely finished; so much so that it makes your average high end cable feel like it came bundled with a kettle purchased at Argos. That's the intention, I suppose. Internally, its Powerflux conductors used are 68-strand cryogenically treated, demagnetised OCC copper twisted and sealed with special PE dielectric,

surrounded by an inner sheath of RoHS-compliant PVC incorporating carbon powder to enhance damping. This in turn is covered by a full Alpha conductor wire braid shield, and another flexible PVC outer sheath and a Nylon braid jacket finish the job.

The Furutech sounds expensive, in the way it seems to make every

other cable in your system apparently seem riddled with colour, mush, hash and grunge. I am not famous for my love of cables (I'd rather spend the money on the electronics),

but even I had to admit that the sheer translucence of the PS-950 is obvious. Use it and it just works, letting the hardware get on with the job, then go 'back' to a lesser power lead (even a very expensive one)

and suddenly it feels like there's a blockage somewhere, with a loss of definition, smoothness, openness and speed, plus an associated addition of grain and hardness. In my system the effect it had was profound, so if you're minded to spend such a sum on a single power lead then you simply must try this. If you have other things to concern yourself with (life,



children, making ends meet), then don't worry, be happy and forget you ever read about it. **DP**

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V

"would I be beguiled by today's technology in the same way I was thirty five years ago? I'm sorry to say that I doubt it..."



david price

must have been about eight years old when I first got into 'stuff'. No, not that wonderful magazine with the penchant for putting pictures of pretty young ladies on its cover, but the generic term for all other things in life that guys like. To an inquisitive young mind, yet to be sullied by adolescence, the prospect of electrical gadgets that whizzed, whirred and lit up, or just generally did things, was an utterly enthralling one!

Of course, it was the nineteen seventies. In those days (cue the music from that classic Hovis commercial) we had far fewer gadgets than now. The ultimate object of desire for an eleven year old in the school playground was not in fact Rachel Welch but a Pulsar digital watch. The very notion of yours truly walking through those school gates, proud as a peacock in my shoulder length hair, polyester blazer and trousers crackling with static, wideopen collared white shirt and tie with enormous knot (think Tucker from Grange Hill, circa 1978), sporting a pukka Light Emitting Diode timepiece (controlled by quartz crystal, no less) was simply 'too cool for school'! The only better moment I could envisage would have been to roll up in a The Spy Who Loved Me white Lotus Esprit, just as all my friends (well, both of them) passed by...

Digital watches, I suppose, were the affordable objects of desire for kids, a bit like phones are now. But we didn't stop there, oh no. The cognoscenti of the First Year, myself the (self-appointed) leader (in a gang of one), had a *Top Gear*-style 'Cool Wall' of objects which we were always adding to in our minds.

Alongside that original 'Time Computer' Pulsar, we'd have Raleigh Chopper Bikes (Purple with orange graphics), supercars (Esprit, Countach, Pantera, Khamsin, AM Lagonda, Panther Six), calculators (Texas Instruments TI30 if you please), computers (the stuff of science fiction, but my cousin had an 8K Commodore PET and thus was a God amongst men), and last but not least, open reel tape recorders...

Yes, for any technology-obsessed ten year old, if ever there was an object that was the epitome of high tech cool, it was a huge, massive, towering reel to reel. Here was the very embodiment of man's mastery of nature, technology at its audacious best.

Open reels were amazing things purposed with the most pure and noble task - to record music. Whether it was Sad Cafe, Exile or Renaissance, everything in the Radio One Top Twenty had been recorded on one, and that was surely enough to achieve immortality? For an eight year old in search of a hobby, that sure as hell beat rabbits...

I went to my local Laskys, where I'd gaze longingly at these massive monsters (open reels, not rabbits). I'd decided on an Akai 4000DS, as it was the most affordable. To someone on a pound a week pocket money, it would still take me two hundred and ninety nine weeks to afford one, although I soon discovered that if I went to Comet I could get one almost a year earlier. Then I found that a friend of my father's owned one, and it turned out he was using it for the annual amateur dramatics production of Arthur Miller's 'The Crucible'; I volunteered, just to get the chance to carry the Akai from the back of his car to the village hall. When he plugged it in, I found myself enamoured by the sound, its big whizzing metal reels, the 'peak dB' meters and the clockwork precision of it all. Could anything ever in life ever be cooler?

Now, I sit here as the proud owner of a Sony TC765, lovingly

restored by a good friend. It's a deck from the 1978 Sony range that I'd always longed for, but had simply dismissed outright - at the tender age of twelve - on the grounds of unaffordability. Quite understandable of course back then, as the '765 was only a few pounds short of a British Leyland Mini 850 (and substantially better built, too, I might add)! These days, you can easily spend more on a budget CD player; it's funny how the relative value of things change.

But look at these dinosaurs of 'The Hi-fi Age' and you can't help be bowled over by the amazing build quality, the sheer ruggedness, the brilliant finish (that would disgrace almost anything made by anyone today) and the fact that – despite being full of motors and gears and belts and clutches – the blooming things still work. Not optimally I grant you (the rigours of age and the dubious stewardship of previous owners have seen to that), but they're still close to perfection nearly forty years later.

As the world moves ever closer to media-less music, filing it all onto their hard drives (and indeed very soon, solid-state and/or 'clouds'), there's something quite amazing about the tactility of open reel; those big wheels moving, something you can see going past something else you can see, to make music from magnetism. Those VU meters flicking, those big brushed aluminium level knobs poised at particular positions for a reason, that tiny revolving wheeled tape counter slowly scrolling ever onwards. With digital, all this is gone and forgotten...

I often wonder how I'd feel if I was eight, nine or ten years old now? Would I be enamoured, enraptured, seduced and beguiled by today's technology in the same way I was thirty five years ago? I am very sorry to say that, somehow, I doubt it.

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"most producers have a transparent signature, making it their mission to get the best out of the artist in front of them..."



paul rigby

hen you listen to your favourite music, do you get any sense of the record producer's influence? You know, the guy behind

the studio glass?

Probably not, and often with good reason. Most producers have a transparent signature, making it their mission to get the best out of the artist(s) in front of them and no more. That has not always been the case, however. There were producers of such prodigious talent and/or forceful personalities or both that, no matter what they did, no matter how delicately they touched a piece of music, their fingerprints would be all over the result. Sometimes this was because they also provided their own songs to their adopted artist but there were plenty of songwriters out there who, again, had no immediately definable signature.

Those individuals who did stamp their own immediately recognisable creativity on their work have been celebrated by a series of CDs from Ace. Called loosely 'The Producer Series', it sits alongside its sister series, 'The Songwriters Series'. Both tap into well known and rare cuts from talents who might have produced music for other artists.

One of the principal compilers of the series has been Mick Patrick. "I do tend to go with the ones who have an identifiable sound: Phil Spector, Brian Wilson, Sly Stone, Jack Nitzsche and James Brown all have their own distinctive sound. In a way, they're kind of the artist", he told me.

With Brown and Spector especially, despite the fact that they chose talented artists to work with, the artists were often nothing more than pawns on a chess board. Even

the more fragile producer, Brian Wilson, demanded respect due to the radiance of his talent.

The fascinating Phil Spector CD, 'Early Productions', was as Patrick explained, "a little bit untypical because we focused on those early years. Yet, you do get to hear that sound evolving. The 'wall of sound' as he termed it with lots of instruments, echo and so on. People have said that he used overdubs but I don't think he did actually, just lots of musicians. Many of his tracks were also recorded at the same studio, Goldstar, which helped him achieve that legendary sound. Before he started his own label in 1961 other companies were footing the bill, so he reigned his natural 'wall of sound' vision back."

So the studio itself helped to produce that recognisable sound? As an aside, that only goes to confirm our regular assertion that the room itself should be a factor when buying your own hi-fi!

Then there's Brian Wilson, who also offered his artists his own songs. In Ace's 'Pet Projects' CD, you can also hear that Wilson was obsessed with the Phil Spector sound while recording songs for the likes of The Honeys, Sharon Marie and Glen Campbell."With this CD you can hear the mix of Spector and the Beach Boys sound," said Patrick. You can also hear the songwriter's personality in the two CDs that feature the early songs of Randy Newman ('The Early Songs Of...' and 'More Early Songs Of ...'). Here was a man who was a staffer, in the early sixties, working for a company who supplied songs to order for stars such as Nilsson, Gene Pitney, Fats Domino and Alan Price. And yet, Newman's 'voice' can increasingly be

heard through the mouths of these stars. In fact, for Newman, singing star to be, this was a perfect way to experiment, to test material, tweak and modify. Because, before he began his own solo singing career in earnest, he could hear his words emanating from other mouths, see how they sounded and adjust accordingly.

Some songs were actually written by Newman and others such as Goffin & King, who also appear on this series over two volumes (with a third on the way), for specific individuals. That meant that often. the song would be specially modified or restricted in some ways to cope with a certain singer's deficiencies in certain parts of their vocal range or to suit their tone and timbre. "So. for example, we've heard demos of Carol King writing a song for, say, Bobby Vee, practicing that song using the male lyrics and also in a guy's voice! Even trying to impersonate the artist." Sometimes however, a certain song, written for a particular artist never become a hit but a later cover version did - keeping, of course, those vocal restrictions for the earlier artist.

The one impressive aspect of all these CDs - and I really must trumpet this sometimes overlooked detail - is the fact that each CD is multi-licensed. How many times have you seen a collection or 'Best Of...' from a major artist whose career has spanned multiple labels only to find that a portion of his best work is not available because the supporting company can only obtain permission to publish, say, a third of their works? Not Ace. If it means waiting years to obtain multiple permissions and do the job properly, then years it will take. If only major labels had this sort of passion.







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"Ofcom was wise to hush up such a laughable report..."



steven green

arlier this year, it emerged that Ofcom had paid for a cost-benefit analysis to be undertaken into digital radio switchover, which they chose not to publish. Ofcom has since published the document (http://tinyurl.com/digital-cba), and now that I've read it I can see why they wanted to hide it!

I'll start by listing the costs and benefits given in the report. The benefit to consumers that can't already receive DAB would derive from being able to receive it, was deemed to be worth £1.1 billion: and a penefit of £53m was due to 10MHz of FM spectrum being freed up that the Government could sell off. The total costs to consumers consisted of just £42m for replacing or converting home audio equipment (an average cost of less than £2 per household!), plus £761m for in-car equipment. The costs and benefits for the broadcasters consisted of a total cost of £75m on marketing and admin, and a net benefit of £141m due to savings on transmission costs. The overall result, which is calculated by subtracting all of the costs from the benefits, is that digital radio switchover would produce a net benefit of £437 million over the period from 2009 to 2030, and the net benefit would turn positive by 2026.

The DAB industry itself provided most of the data for the report's authors to work from, so it should come as no surprise that the overall result was favourable to DAB – and the authors of the report commented that, "the results suggest that there are relatively few upsides to the estimates, and several significant downside risks". I actually consider that all of the above figures apart from the value of the FM spectrum

(which I have no view on) are completely wrong, they all just so happen to favour DAB, and if realistic figures were used the overall result would be very deeply in the red...

Firstly, the £42m for the "nonvoluntary" replacement cost of home audio equipment is a huge underestimation of the true cost to consumers. The assumptions made here were that only 4m out of the 90m pieces of home audio equipment that contain a radio tuner would be replaced non-voluntarily, and that the average cost of DAB equipment would be £20 - £25. An average cost per household of less than £2 is clearly ridiculous, and considering that the public spends around £750m on audio equipment that contains a radio each year, I'd say their estimate is at least a billion or two too low.

The report also halved the average price of both home and incar DAB equipment, because they said that consumers would derive a benefit from owning the equipment. At a stroke, this conveniently wiped £803 million off the cost to consumers.

The £1.1 billion benefit that consumers would derive from digital radio's supposed "enhanced experience", was based on the fact that they concluded that households that can't already receive DAB would be "willing to pay" £25 per year in order to do so. However, the BBC's digital-only radio stations only account for 2% of all radio listening, so I fail to see why the report concluded that households would be willing to pay a sixth of the value of the TV Licence Fee to receive these stations (the last few percent of the population would only be able to receive the BBC's stations on DAB, because it wouldn't be commercially viable for commercial radio to

provide coverage).

Furthermore, the public already pays for the BBC's digital-only radio stations via the licence fee anyway, and the BBC spends less than £100 million per year on the digital-only stations plus DAB transmission costs, so I fail to see why the benefit to consumers was valued at £1.1 billion – especially when we're talking about providing coverage for less than 10% of the population that can't already receive the BBC's DAB multiplex.

The report also made the astonishing assumption that listening to radio via the Internet or via the digital TV platforms wouldn't increase at all in future, so everyone who currently listens via FM would switch to listening via DAB! This assumption maximises the benefit derived from rolling out the BBC's national DAB multiplex, so it's clear why the DAB industry suggested using this assumption. But the fact that they were happy to suggest something that's so obviously incorrect speaks volumes about the quality of the other assumptions they put forward to be used in this cost-benefit analysis.

Another issue with this report is that it simply took for granted that the public was in favour of digital radio switchover happening. But Ofcom's market research has shown that over 90% of people are "satisfied" with what they could already receive on the radio, and I would suggest that the vast majority of people are actually opposed to switchover taking place. The report also considered the issue of power consumption for DAB versus FM radios. The result? You guessed it: DAB radios don't consume any more power than FM radios. That's what the Pure Digital website said, so it must be true. Ofcom was wise to hush up such a laughable report.

Some things in life just speak for themselves



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"I'm rather enjoying going technologically forwards to go artistically backwards..."



noel keywood

dly walking home along a sunny tree lined street recently, on a balmy summer's evening one of those funny disconnected thoughts popped into my head; whatever happened to Robin Trower? (I have no intention of entering the Brain of Britain contest). This month's Blu-ray group test provided the answer, it was great listening and viewing and, well, when music hits you it's a wonderful experience.

What hit me was Robin Trower playing 'Bridge of Sighs' some thirty six years after its original release, and talking about the guitars and effects he uses. You can find it on YouTube: just search for 'Robin Trower talks guitars, amps and effects 2009'. This isn't one of those slightly whiffy re-runs like Peter Green trying to recapture something that he has definitely lost. Robin Trower has stayed right with what he always practised but refined it into a gentle electronic dream, a lullaby of long drawn out notes gently bent with Wah Wah.

Once sharing a world with Hendrix, Santana and other luminaries he was originally compared to them, but times have changed and Robin Trower has now matured into his own music form, much like Carlos Santana. Listening to him playing and talking about his instruments and the effects he uses on YouTube was engrossing. I was intrigued to hear a song so old replayed in what I would arguably say was better than ever form; the essence of the piece seemed distilled out by an interpretation just a bit more slickly presented than the original. As you might expect from an artist thirty six years older, there was less raw energy, but a little more interpretive depth. James Dewar's rich, rolling tones weren't there, more's the pity, but then I wasn't watching Blu-ray - I was watching

YouTube! Which made the original, with James Dewar singing, just a click away.

There have been noises in Hi-Fi World Towers to the effect that we don't want AV in this magazine! Quite right too. But my plea to anyone who thinks Blu-ray is solely AV is to give it a chance. It is AV of course, but it is also a wonderful music experience and now that players like the Sony and Samsung in this month's group test come with YouTube a whole world of performance has become available on the TV in the lounge, sound courtesy of the hi-fi. Now I can switch effortlessly (I'm dreaming a little here - switching anything in an AV system is a nightmare) between a top resolution 24/192 Blu-ray and a bottom resolution YouTube sound track in 96kbps, mono, no less. Oh, heaven!

I'm no telly addict but there's still a lot to watch, from the inevitable top choices like Till Death Us Do Part, through Steptoe and Son to Some Mothers Do Have 'Em, which reduced me to tears of laughter the other night by its simple yet ridiculous situations and script. YouTube usually distills out the best scenes so I don't have to take root just to see them. And although Robin Trower goes back a bit, YouTube I'm told by another member of the household also has great skateboarding videos, Crysis cracks and other things that I'm not meant to know about at my age. I feign puzzlement of course!

YouTube audio is usually shaky because the people that upload the material use conglomerations of budget crud that Currys and Dixons wouldn't recognise, large amounts of audio Sellotape and a few prayers to get a result. The Robin Trower material sounded good because it was a commercial promo sponsored by the manufacturers of his instruments and had been profes-

sionally recorded, in AAC at 128kbps I would guess. Yes, it is hardly high fidelity but it is listenable and not everything can be, or even need be, in pristine digital. Irrespective, I had no trouble stretching out on the settee and enjoying a modern 'Bridge of Sighs'. It sounds great on my much played LP, its sleeve in tatters, but it also sounded wonderful replayed from YouTube, MP3 sound quality and all.

I suspect we all have our own favourite YouTube videos, there's so much up there, but for music it seems to have just about every obscure song or performance imaginable and instead of wondering what happened to Robin Trower I now realise he's very much still in business, so it did its work in marketing the man to me, and I'm glad to be all the wiser.

At home I run entirely separate hi-fi and AV systems for most of the time. But then whilst people expect me to run a "a perfect hi-fi setup" as if I live in a demo room, and indeed many reviewers do seem able to manage this, perhaps under wifely pressure, the NK household is a bit more - er - experimental! A number of rooms have systems in them, of different hues, and I'm lucky enough to run two modest sized living rooms, so I have no need to integrate my Garrard 401 into an AV system. And as crashing guitar solos and manic drumming go down well with the iPod aficionado of the house, and valves are hopelessly outdated and fuddy duddy (a bit like the museums I like to visit now and then!), I'm afraid to admit that YouTube, Blu-ray and the flat panel TV get a good electronic airing and go down well all round in my home.

So for the time being at least I'm rather enjoying going technologically forwards to go artistically backwards. There's still so much music to enjoy, and a bit of video does no harm at all.

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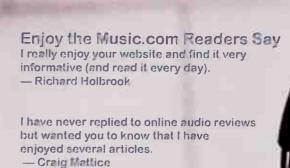
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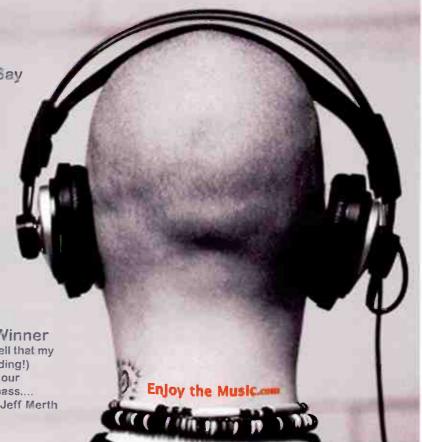
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What a great review! - Paul Kittingerk

Enjoy the Music.com Contest Winner In fact, the Axiom Audio EP500 works so well that my wife and I both stood mouths open (not kidding!) as it shook the rafters and window glass in our house. Amazing! Love that palpable, tight bass....
Thank you again for the awesome prize! — Jeff Merth



"it's the music that matters, whether you're listening on a precision hi-fi system or your old Medium Wave radio..."



adam smith

n the seemingly never-ending pursuit of audio excellence, it is all too easy for the avid hi-fi enthusiast to temporarily lose sight of the goal of a good hi-fi system; namely the reproduction of music. Anecdotal comments crop up in hi-fi magazines from time to time of dedicated audiophiles who own thousands of pounds worth of equipment, but play a handful of test discs and Dire Straits albums on it. Indeed, I've personally encountered more than one person exactly like this!

Of course, if this is what floats their boat, then good luck to them but I know that my own hi-fi system is a means to an end – without music there would be no point in having it at all [oh, I don't know... Ed.]. The Smith turntable collection is a completely different kettle of fish and is indeed more of an obsession than anything else, but I digress...

It was these thoughts that kept buzzing into my mind a couple of weekends ago as I, my wife, sister, brother-in-law and niece all sat perched on our chairs in a field in Hampshire at the Wickham Music Festival. For those of you who have not heard of this, it is an annual music festival, mainly folk-based, that offers the music enthusiast a chance to dip his or her toe into the waters of the festival-goer, but for whom the likes of Glastonbury is either too far, too expensive, too overcrowded with hippies or too muddy; it's a sort of Glastonbury-lite if you like.

We all had a great day and thoroughly enjoyed the music on offer, with one or two notable exceptions particularly in the case of one band that seemed to spend half of their hour-long slot tuning their instruments and the rest of it playing different tunes to each other.

During my time enjoying the

sounds on offer though, the thought that kept creeping back to me was how different the presentation of a hi-fi system can be when compared to the sound of a real instrument, heard up close. The guitar strings really can be quite lacerative when you're stood only a few feet away from the player, the scrape of violin bow across string is often far more noticeable than most recordings and home reproductions would have you believe and, as for a drum kit, it seems that unless you have some seriously big woofers, you haven't a hope in hell's chance of capturing its essence!

In fact, the memory of an acoustic concert that I attended in Chichester Cathedral a couple of years back remains vivid in my mind to this day, as I found myself sat in the third row of seats, at the side of the layout that put me around fifteen feet from the drum kit. The drummer in question was a far more gentle soul than the likes of, say, John Bonham or Animal from the Muppets, and made no attempt to beat the living daylights out of the skins, but I was absolutely captivated by the way in which the bass drum seemed to be attempting to push my kidneys out of my body via my lungs, and every time he hit a cymbal it was like a small explosion going off in front of my right ear - amazing! Even more interesting was the unmiked double bass that sounded bloated, woody and deliciously resonant; in fact the sort of sound that one could easily criticise when listening to through a big pair of loudspeakers as being hopelessly inaccurate.

Of course one has to realise that the sound of a jazz quintet playing in a cathedral, or a folk band performing outdoors on a stage in the middle of a field, is completely different to the setup offered by a recording studio when the pressing of an album is at stake. When that live band hits a duff note or forgets the words then that is all part of the charm and atmosphere of the live event but this is something that would soon have the critics reaching for their poisoned pens if it became too regular an occurrence on a studio cutting.

The sound we hear from the CDs and LPs that we buy has generally been buffed, tweaked, polished and compressed before it is committed to any form of storage media. Heck, if the album in question happens to come from the latest talent free girl-power/boy-band X-Factor wannabe then it has probably been through no end of processing and equalisation in order to generate something resembling a cogent tune. It's no wonder that half of what we listen to at home sounds so very different in the flesh!

It seems to me that the message here is one of caution. As I said at the beginning, it is the music that matters and a good song is a good song whether you're listening to it on a precision hi-fi system that bears a price tag that looks more like a telephone number, or on your old Medium Wave radio. I personally find that it's all just so much more enjoyable when it's reproduced properly, but I think we all owe it to ourselves to be reminded every now and then what 'properly' actually sounds like.

So go on, whether it is Glastonbury, Wickham, Wembley Arena or your local music venue, I implore you to make that effort to go out every now and then and remind yourselves just what real instruments sound like. Good music done really well and unimpeded by technology, whether this technology improves it or ruins it, is something that we should never give up on.

vinvi section

NOTTS. ANALOGUE HYPERSPACE 100

Rafael Todes is beguiled by this affordable high end turntable.

SOUNDBITES 105

Adam Smith samples the Dino-Lite AM211 USB microscope and the Avid cartridge alignment gauge.

SUTHERLAND 20/20 106

Tony Bolton tries a high end American phonostage.

ORIGIN LIVE SILVER 3C 109

David Price gets into the groove with this affordable new tonearm.

SOUNDBITES | | | 3

Paul Rigby reviews the Blue Horizon record mat and the Furutech SK-11 electrostatic brush.

NAT SIGNATURE | 16

Tony Bolton powers up this battery powered, all triode phono stage.

news



MO-FI FIVE

Audiophile outfit Mobile Fidelity (www.mofi. com) has just issued five new releases in gatefold sleeves. Madeleine Peyroux's 'Bare Bones' maintains the high standards of her previous three LP outings. Featuring co-written and self-penned titles, they feature her usual, classic Billie Holiday style.

The Cars' 'Shake Up' was their fourth album release in 1981, introducing a more synth-based pop sound. It features the upbeat title track and the downbeat, 'Since You're Gone'.

Produced in 1978, Elvis Costello's 'This Year's Model' featured The Attractions backing band for the first time. Grittier, rocking and more paranoid in their approach, the album features tracks such as 'Pump It Up' and 'Lipstick Vogue'.

Also look out for Linda Ronstadt's 'Simple Dreams' (1977) that oozes adventure and

variety plus Little Feat's 'Dixie Chicken', their third, and now Lowell George-dominated, LP that introduced that recognisable Little Feat 'sound'.



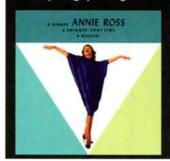


MY PLEASURE

Amongst the four new releases from Pure Pleasure (www.purepleasurerecords.com) this month is jazzman, Charles Mingus's 'Let My Children Hear Music'. This frankly brilliant 1972 release is plastered with beauty. An inspired production and one of Mingus' own all-time favourites...

Contemporary bluesman Keb' Mo's 2004 LP, 'Peace: Back By Popular Demand' is a covers album of sixties and seventies protest songs. Not the best interpretative outing, but the fans will enjoy it.

Also look out for jazz singer Annie Ross's 'A Gasser' with Zoot Sims and Russ Freeman from 1959 plus a rare Art Farmer & Jim Hall pairing on 'Big Blues'. It's an almost restful yet highly intelligent album.



OHE MINGE





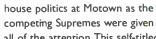
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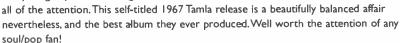
Four new releases on the Doxy label include 'Give Him The Ooh La La', actually a reissue of jazz singer Blossom Dearie's 1958 Verve LP.A top notch album that includes one or two rarities such as Cy Coleman's 'The Riviera'. Next is Miles Davis's overlooked gem, the original soundtrack reissue for the 1957 film, 'Lift To The Scaffold', a French movie in which Davis fronts a European outfit. Also look out for Serge Gainsbourg's 'Du Jazz Dans Le Ravin', the man's sixties experiments in the jazz genre. There's some ho-hum stuff on the album peppered by works of pure genius.



SPEAK TO ME

From Germany's Speakers Corner (www.speakerscorner. de) and featuring Gladys Horton, Wanda Young and Katherine Anderson, The Marvellettes (who'd had a recent hit with 'Please, Mr Postman') suffered from in-





Also look out for The Tempations' excellent 'Cloud Nine', which turned the group to a funky direction, plus Duke Ellington & Johnny Hodges' 'Back to Back: Play the Blues' in which the legendary band leader combined with the equally legendary alto-sax player on this septet, 1959 outing of loose blues tunes.





BEFORE THE TRAGEDY

Taking a rare live cut, 'Live In Montreux 1972' the Sireena label (www.sireena.de) has featured Stone The Crows, featuring blues vocalist Maggie Bell. This is an important cut as it was recorded just weeks before guitarist Leslie Bell was electrocuted at the Swanage Ballroom, triggering the outfit's break-up.



FAME SCHOOL

Just released via Ace imprint BGP (www.acerecords.co.uk), is Georgie Fame's 'Mod Classics: 1964-1966'. A two-LP collection, it features Fame's mod-related works, a whole two years before the mods would adopt The Who and Small Faces. Featuring his Columbia cuts, Fame features songs via Oscar Brown, Booker T & The MGs, Detroit Spinners and William Bell. Well mastered, this is highly recommended collection.



CONTEMPORARIES...

New out is the third album from Leeds band, The Lodger. 'Flash Backs' (Apricot; www.apricot-records.de) resembles a latter-day Belle & Sebastian in its homely approach to rock. A developing outfit that promises much. The Victorian English Gentlemens Club's 'Love On An Oil Rig' (This Is Fake DIY; www.thisisfakediy.co.uk) continues the leftfield, (now) 4-piece eccentricisms from this Cardiff-based outfit. Their second album, pushes lo-fi pop to almost anarchic levels.

The new RX Bandit's LP, 'Mandala' (Sargent House; www.sargenthouse.com) is, on the whole, fast, energetic, skateboard rock - a breathless cacophony with a few introspective sideswipes for variety. There's something decidedly retro about the new album from Ganglians. 'Monster Head Room' (Souterrain Transmissions; www.souterraintransmissions.com) sounds like the Beach Boys in a garage rock phase. Harmonic sparsity in a reverb wilderness. Giuseppe Lelasi's new album, 'Aix' (Minority; www.minorityrecords.com), combines a music concrete philosophy with funk-based rhythms plus jazz introspections, industrial samples and... well, there's lots going on, put it that way

In a similar vein is Erik Friedlander's 'Alchemy' a seven-track EP on 10" via Hronir (www.hronir.de). A skilled cellist, this outing features soundtrack-a-like works and rich, moody pieces. Next is 'Iris' and 'Retina' (Leaf; www.theleaflabel.com) from Wildbirds & Peacedrums, two separate yet connected 12" LPs. Both form a limited edition two-disc set. Featuring vocals over distinctive percussion, electronica, samples and even a choir, they're a sort of alt.folk... kind of. Katie Melua's new album, 'The House' (Dramatico; www.dramatico.com) is particularly impressive, with stand-out track 'The Flood' reflecting in epic manner as it shifts time signatures. A restrained, yet effecting release.

















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Interstellar

Space cadet Rafael Todes flies to the moon with Nottingham Analogue's Hyperspace turntable...

nilst at a good friend's house for dinner recently, he announced that he wanted to play me some of his 78s he had retrieved from storage, on his 1936 E.M.G. model 10B Acoustic electrically-driven gramophone. He took out some specially made scissors, and cut a stylus out of a fibre needle, whose life-span was to last the 4 minute duration of the recording of the Griller Quartet made in 1947, playing the Mozart G major Quartet which he put on. Wnat came out of the paper-mâché horn surprised me, being the turntable snob that I am: it was like listening to music delivered from a heavenly cloud, the sound perfectly-formed in mono, floating through the air. A

create a minimum of interference with the music it is playing, rather like that vintage E.M.G. but writ on an altogether larger scale...

The deck itself is an evolution of the Hi-Fi World Award winning Spacedeck, effectively taking its basic design and removing any cost-based compromises that were present, to let the purity of the design shine forth. The high mass platter sits on three legs, one housing the armboard, and the other two adjustable in height, a task made easier by the inclusion of a handy spirit level. The turntable is supplied with a vial of oil and a pipette, which you squirt into the main bearing, which is said to be the result of many years of research and

have two arms running concurrently for comparison. The whole outfit has an air of Art Decco and looks like a statement piece in its own right.

Nottingham Analogue make their own range of arms, the Ace Space arm, and the

"a fine, delicate, open and lyrical device that beguiles more than it impresses..."

beautifully light airy sound with real presence, albeit with an obviously limited bandwidth...

The Nottingham Analogue
Hyperspace is one of a series of
turntables made by the team at
Nottingham Analogue Studio. NAS
seemed to have built up a cult
following producing a deck with a
simple philosophy. A turntable should
be simple to set up and use, and

development, and sports a conical tip. Also supplied, are three rubber rings, which circumnavigate the platter to provide damping.

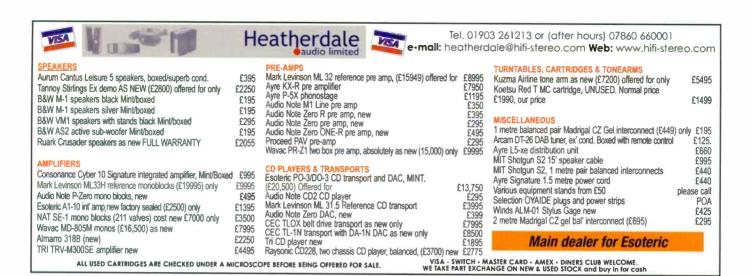
The material used for the platter, split into two, is alloy for the bottom half, and painted graphite for the top half. The motor is a separate unit, which drives a rubber belt which could be taken for one of the dampening rings. Speed change is manual, and perhaps the most eccentric feature of the deck is a lack of any on and off switch. To start the platter spinning, you give it a push, and you brake it gently with your hand to stop it. A slight annoyance comes when you lift off a record to change it, and this triggers the motor to stop - still I suppose minimalism has its price! The turntable and motor sit on a freestanding plinth elegantly finished in a black lacquer. There is the scope to fit two armboards and therefore to

Ace Anna, but for this review I used predominantly Len Gregory's Conductor arm, an air-bearing parallel tracker, and of course the ubiquitous SME V. When ordering, you need to specify which arm you intend to use, as the armboard needs to be dedicated to the type of arm used. The two columns that support the mounting unscrew easily, and may be swapped for pillars of a different height. The arm change took around fifteen minutes to effect. Overall, this Hyperspace is not a conspicuously complex deck, which makes it a pleasure to set up and use - unlike some altogether more fussy designs.

SOUND QUALITY

The essence of the Nottingham Analogue Hyperspace is its sense of ease and naturalness; rather than stamping its authority on everything it touches, branding its character on the music, it leaves no *imprimatur*. Rather, it lets the original recording breathe, and assume a life of its own. Some won't like its lack of forcefulness; especially those who love the vice-like grip of the Garrard 401 for example, but the Hyperspace













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chord were out of tune. It's not a night and day difference, but adds to the enjoyment and realism of the recording.

I often find that large choirs present turntables with their greatest challenges. The volume of sound generated by hundreds of shrieking over-enthusiastic singers creates transients that can sound harsh and distorted and sometimes painful to listen to, particularly on CD. With Haydn's late work, 'The Creation', the Hyperspace dealt with these problems with aplomb. With the vast soundstage that it generated, it managed to resolve the details thrown up by the choir without pain. The beginning of the work, the moment of creation shows off beautifully the deck's ability to keep different textures and spaces separate, making for gripping listening.

Listening to the great violinist Heifetz on a rather dry recording of Mozart's Fifth Violin Concerto, you really have a feeling of the violinist's presence in the room, the detail extracted is phenomenal. It is even possible from the microtonal variations in his tone colour to discern which fingers he is using on which string, to create the famous trademark sound. You can even hear when the great man brings his bow slightly too close to the bridge for comfort, pushing his Guarnerius violin to its limits!

Rubenstein was a pianist from a previous era, and I have never much been a fan of the RCA recordings which represent his legacy. His album taken from the film 'L'Amour de Vie' on the Hyperspace with the Wave Mechanic PSU, provides the rock-like speed stability, which seems to catapult his playing into a more modern era. The slightly honkytonk wow-ridden sound that colours my earliest memories of hearing the piano on record seemed to disappear. His playing is light and charming, imperfect, but never heavy. His subtle

rubati are beautifully showcased by the confidence of the deck's own timing.

Swapping arms to the venerable SMEV, the last movement of Mahler 6 seemed to ooze with detail. The arm really seemed to keep order in the orchestra and have superb grip on the wide range of textures Mahler uses. Particularly in the climaxes, the arm never lost control of the sound. Tonally, the smoothness of the Conductor was replaced by a more gutsy, metallic sound, more Garrard-like, less Hyperspace. It's a striking, gripping, enthralling sound alright, but I am not sure it was necessarily an improvement.

CONCLUSION

As a performer, I have noticed two distinct types of audience member who come to concerts. There are those who like music to be presented in a slightly detached way, leaving them to make sense of what they hear on their own terms. There is however a second category, those who want to be served the music in their face, and for the music to affect

REFERENCE SYSTEM

Garrard 401 (Bastin modifications)
Len Gregory The Conductor tonearm
Ortofon Kontapunkt A MC cartridge
Icon PS3 Signature phono stage
Audio Research SP9 mk2 preamplifier
VAC Auricle Musicbloc power amplifier
B&W 802D loudspeakers
Isotek G2 Vision mains conditioner

them and almost tell them what to think. I have noticed that a group who plays music in category one will not be appreciated by category two and the converse. In some cases they could leave the concert with violent feelings towards the performers! I think the same distinction applies to the Nottingham Analogue Hyperspace and the Garrard 401.

The Hyperspace deck, then, has the best qualities of the EMG Model 10, the beautifully airy quality along with a laid-back, calm, highly detailed charming presentation, which contrasts greatly with the Garrard 401's thrusting, aggressive but highly electric style. If you like your music on the edge, the Hyperspace is probably not for you, but if you enjoy listening to music, then it is well worth an extensive audition. It's a fine, delicate, open and lyrical device that beguiles more than it impresses, and for this reviewer that makes it a truly excellent turntable.



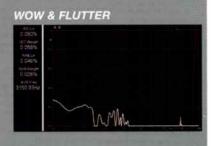
MEASURED PERFORMANCE

The small variable speed control worked smoothly to alter speed and was better than many in this respect. Speed variation was minimal, our IEC unweighted measurement showing just 0.08% in the analysis – a very low figure. Not surprisingly, weighted wow was also very low, measuring 0.046% and the Hyperspace was almost unbelievably free from higher rates of wow that affect this measurement, offering one of the best performances we have measured.

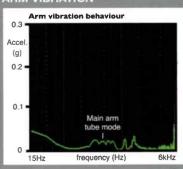
we have measured.

The SME V arm fitted to the review sample is equally free from vibrational effects, measurement with an accelerometer shows. This is attributable both to the tapered magnesium arm tube and also to a headshell webbed on both sides, a feature that dramatically reduces higher frequency modes, making this the most rigid arm available by a large margin.

by a large margin.
This is a fine combination, our measurements show. NK



ARM VIBRATION



VERDICT ••••

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DINO-LITE AM211 £100

The vexed question of how best to examine stylus condition is one that crops up regularly on our letters page. It seems that suitable magnifiers are becoming harder and harder to obtain and, even with the increase in popularity of vinyl once more, no manufacturer has yet gone as far as emulating the likes of the old Colton Stylus Viewer. However, as with so many things in life, technology has the answer in the form of a USB microscope.

These handy gadgets, as the name suggests, simply plug into the USB port of your computer and, once their software is installed, you have a handy way of examining whatever you like in minute detail. There are several models around, starting from around £40, but the one I prefer

is a little higher up the range and offers a commensurate increase in usability and picture quality. Made by Dino-Lite and called the AM211 it

> consists of a neat and sturdy tube containing a short focal length lens with adjustable magnification from 10 to 70 times, plus

> > a super-

detailed 200 times setting. Included is a basic cradle stand and the 'DinoCapture' software which allows snapshots to be taken and then subsequently saved, cropped and tweaked in a few handy ways. Also built in are four white LEDs which provide excellent close illumination of the item being viewed, so there is no need to worry about external lighting and how to focus it in the right place.

With the software installed on my PC, I was very impressed by the quality of the pictures available from the AM-211 and an example of the stylus on my Bang & Olufsen MMCI cartridge is shown - always nice to know it's in good health! The basic stand is acceptable but an upgrade to something a little sturdier that can hold the unit a little further away from the subject being viewed when using the higher magnification ranges is a worthwhile investment if you don't have incredibly steady hands, or a helper who can click the 'capture' button whilst you hold everything still.

All in all, though, the AM-211 is a very handy piece of kit and, if you work DinoLite CD scratch your way through as many turntables and cartridges as I do, offers peace of mind that your latest acquisition does still resemble a stylus and not a chisel! One final note regarding pricing though; do shop around for the AM211 if you fancy one, DinoLite microscope detail as it seems to vary wildly in



DinoLite record grooves





price on the internet; I have seen as low as £60 and as high as £170.

[Contact: www.dino-lite.eu, +31 20 6186322]

soundbites

AVID LINN ALIGNMENT GAUGE £26

All vinylphiles are well aware of the importance of correct tonearm and cartridge alignment, so it might not be unreasonable to consider that the world needs another cartridge alignment gauge like a hole in the head. However, as part of their plan for increasing world domination, the very nice people at Avid have come up with not one, but four of the blighters. "Yawn", I hear you cry, "big deal". But hold on a minute; these items are a little different from the norm, particularly in the case of three of them...

These actually came about when Avid were designing their own tonearm (which I am told will be making an appearance some time in the near future) and looking into the process of alignment, null points and other such worthy aspects of arm design. This led to a new

universal alignment gauge, which the company describe as "very accurate" but also to three



Rega, SME or Linn mounting geometries. As my Alphason HR-100S is designed around the latter, I couldn't resist grabbing one to have a play.

The gauge itself is very reasonably priced at £26 (£24 for the Universal type) and has a lovely

mirror finish that attracts fingerprints like crazy. However, it has a bonus that I had not considered before, namely that it gives a very good underside view of the cartridge and headshell. This may seem a trifling matter but if you have a headshell with enclosed sides, making sure the cartridge is straight can be a tricky chore. Popping the gauge briefly onto my Empire 598 and checking the Denon DL103 mounted therein showed that it was indeed a little askew. Moving onto the Alphason on my Garrard 301, the gauge showed that it was ever so slightly out in alignment terms, even though it had been set up using a good quality universal gauge. Correcting this added a surprisingly obvious extra frisson of clarity to my vinyl replay and so proved very worthwhile. All in all, a very neat little vinyl gadget that won't break the bank even if, like me, you really need one of each! AS

[Contact: www.avidhifi.co.uk +44(0)|480 4573001



20/20 Vision

Tony Bolton casts his gaze at the new Sutherland 20/20 phono stage...

couple of months ago I mentioned that I like to approach a review with as little prior knowledge of the product as possible. Unfortunately in this case that was not possible. To start with there was a great big stars and stripes flag, and the logo 'Made in the USA' on the box, and I happen to know that designer Ron Sutherland has a long standing presence in the hi-fi industry, being one half of the partnership that created the Martin Logan range of loudspeakers. The somewhat idiosyncratic approach to the design of these speakers should give the reader some idea of Ron's ability to approach a design issue

from an unusual angle, and here, with his latest product, the 20/20 phono stage he has taken the concept of a dual mono design possibly to its limits...

There are a lot of 'dual mono' phono stages and amplifiers around, but I know of no other that takes that concept as literally as having two completely separate units, each having its own separate power lead, and whose only connections to each other are the lid and front and back panels of the casework which houses them. Sutherland refer to this as 'two mono'.

The casework is reassuringly substantial, a lot of the 11lb (5kg) weight being accounted for by the 14 gauge cold rolled steel chassis. and the 1/2 inch thick anodised aluminium front panel. The unit measures 17 x 2 1/4 x 12ins (w x h x d) so should fit onto most racks without any problem. The front is ornamented by the name and a pair of gently glowing pale orange LEDs that signify power is present. The back is nearly as sparse with a centrally mounted earthing post, and two sets of gold plated, Teffon insulated phono sockets for the signal input and output. Power comes from a pair of 'regulated tabletop power supplies', that seem to be a step up from the more usual 'wallwart'. These have an IEC socket at one end and a captive lead which plugs into the phono stage at the other. To do this, the inside of the phono stage has to be accessed (easily done by undoing the four plastic knobs on the sides of the cabinet, and lifting the lid off).

Once inside, the power sockets are located at the front of the circuit board. This rather unusual approach ensures that there are no power leads running inside the shielding

casework, to minimise any risk of interference with the signal carrying circuitry (or as the manual puts it, "on your car the gas (petrol) cap is very near the gas tank. It is not located at the opposite end of the car"). This is the fourth phono stage that Sutherland have made, and it is claimed to build on the knowledge gained in making the battery powered PHD, PH3D and Hubble units. The idea being to provide an AC powered unit that behaves like a battery powered machine, for those who don't want the hassle of batteries.

The power then goes through ten cascaded stages of passive RC filtering using Wilma Polypropylene capacitors, before meeting the IC gain stage itself. This is well specified with Dale/Vishay 1% metal film resistors and custom wound 1% polystyrene capacitors in the equalisation circuit. All of this is mounted on heavily plated fibreglass circuit boards. At the back left of the boards are a set of jumpers, these control the gain (five options from 40dB to 64dB are available) and the cartridge loading, 47.5 kOhm to 100 Ohm, again in five steps). Once power is supplied it takes about ten seconds for the unit to become live, at which point it automatically un-mutes itself and listening can begin.

SOUND QUALITY

The unit arrived configured for 100 ohms and 64dB of gain so I

started listening using the Ortofon Kontrapunkt a on the Clearaudio Master Solution playing Amy Winehouse's LP 'Back To Black'. By side two I was thoroughly immersed in the sound, enjoying the detailing of the backing instrumentation. It wasn't pushed forward in the mix, but had its own place alongside the singer, making subtle little details more obvious than they sometimes are. Here I felt that the vocals were placed within the mix, rather than standing slightly proud as is often the case, making for a very balanced rendition, Indeed the midband smoothness and detail proved more akin to that of the NAT Signature battery powered valve phono stage than I would normally expect from a solid state device. The size of the image was smaller than that of the NAT, but equally well furnished and spread convincingly into the room, with a feeling of air and effortlessness that helped with the illusion that I was listening to a performance not a recording.

Having aired Amy's slightly

and unassuming way. I found I was just enjoying the music, rather than focusing on my job of analysing the sound.

Several hours later and I had musically wandered back to the nineteen forties, via an eighties compilation of 'The Andrews Sisters Live'. These tracks were recorded for broadcast on Bob Crosby's 'Club 15' radio show between 1949 and 54, so benefitted from the recent introduction of tape into the studios, resulting in a true high fidelity recording, albeit in mono. I rapidly forgot about the equipment that I was listening to and got lost in the vivacious approach that Patty, Laverne and Maxine had in front of an audience. They weren't quite present in the room, but pretty close to it, with the orchestral interplay with the vocals beautifully displayed.

At this point I moved the 20/20 to the upstairs system to see how it responded to the MusicMaker III, moving iron cartridge on the Sondek. After a quick lift of the lid, and resetting the jumpers to the

he was just a little more dexterous in his fingering of the notes -Rubenstein famously described the concerto as unplayable when it was first published in 1901!) and I felt that I was able to look far enough into the recording to follow the different strands of the orchestra and be aware of Rachmaninov technique and mastery of the keyboard. In short, it was totally absorbing.

CONCLUSION

Looking back through this article I see that I have used words like 'immersed' and 'absorbing' quite a lot, because the Sutherland 20/20 is a very persuasive piece of equipment. I could be hyper critical and comment that the edges of the higher frequencies didn't have that gilding smoothness that only comes from valves, or that I have heard bigger and possibly more open soundstages from other phono stages, but I come back to the point that the 20/20 persuades the listener in a very subtle, almost subliminal way, of the 'rightness' of the sound emanating from the speakers. I felt it was well balanced, with a tight and seemingly accurate description of the sounds relayed through it, and an almost hedonistic delight in that hard-todefine essence of music. I enjoyed listening to the Sutherland 20/20, and I would certainly put this high on the auditions list if you're looking for a flexible and musical phono stage. Although not cheap, it's surely well worth the money invested in it.

Well engineered, smooth sounding phono stage with a charm of its own.

SUTHERLAND 20/20 £1,999 Musical Design Company () +44(0) 1992 573030 www.mdc-hifi.co.uk

FOR

- natural flow to rhythm
- engaging midband
- MM and MC

AGAINST

MEASURED PERFORMANCE

- lacks tube smoothness
- low gain for low output



melancholic view of the world, I moved to the rather more romantic strains of Renaissance's 1978 LP 'A Song For All Seasons'. I'm not a great fan of 'long-haired guitar twangling', but have always loved the track 'Northern Lights' since I first heard it on Top of the Pops when first released as a single. I remember being hooked by the vocals and the groove of the bassline which has continuing prominence throughout the tune. Because of this, I find the record quite sensitive to the speed and accuracy of the bass. It can very easily sound rather draggy. Here, I am pleased to say, it had a sprightly skip to its step, and was so absorbing that I just had to play it again!

Finding myself in a vaguely folky mood I dug out the soundtrack of the 1986 John Hughes film 'Some Kind of Wonderful'. Most of the tracks are a bit rocky for my taste, but I love the version of 'Can't help Falling In Love' by a group who rejoiced in the name of 'Lick the Tins'. This starts with an Irish folk influenced solo drum, which then is joined by guitar, flute and penny whistle, before the vocals start (as you realise, this bears little resemblance to the Presley original). The performance was captivating, being tightly timed and thoroughly explored, but in a very effortless

40dB and 47.5 kOhm positions and I settled down to Rachmaninov playing his Second Piano Concerto, accompanied by Stokowski and the Philadelphia Orchestra. The original performance was cut to wax on April

10th and 13th 1929. and transferred to this LP in the late 1950s by HMV. Even for the period the recording quality wasn't great, but here full credit must go to the Sutherland. It avoided the twin pitfalls of either sounding very thin and flimsy, or going too far in the opposite direction and trying to beef it up, resulting in a rather cloudy rendition. Instead I was left aware of the fact that this as an old recording, but then my mind's focus moved back to the important bit, the music

Anyone used to a modern performance would find this one quite strange. The composer's pacing of the piece is a lot faster than seems currently favoured (or maybe

The RIAA equalisation accuracy of this phono stage was very good, so it will sound well balanced tonally. There is no warp filter and gain extends right down to d.c. it appears, so whilst bass will sound strong, aided by warp info, cone flap will be an issue with warped records when using reflex (ported) loudspeakers.

The gain values quoted were met exactly, lowest gain for MM cartridges being a useful x100 (40dB) and highest gain for MCs a modest x1585 (64dB). Very low output MCs could usefully do with more than this to avoid volume being turned right up at the amplifier so the Sutherland will not always suit. Overload was set by the usual silicon chip limit of 9V rms, making input overload 9V (use 9000mV) divided by the gain, so with x100 gain for MM it is 90mV and with max MC gain it is 5.7mV, satisfactory values. Noise was reasonably low, low

enough for MMs and high output MCs like Ortofon Cadenzas. However, an equivalent input noise value (IEC A weighted) of 0.095uV is around 4dB

noisier than many top MC stages so it is not ideal in this role. The Sutherland is very accurately engineered, which is how it should be with modern CAD programs. It is good, if possibly not ideal for top quality MCs.

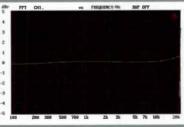
Frequency response (MM & MC)

1Hz-31.5kHz >100dB 0.06 / 0.6uV Separation Noise (e.i.n. A wtd) Distortion 0.0018%

Gain (MM/MC)

x100 /40dB, x1585/64dB

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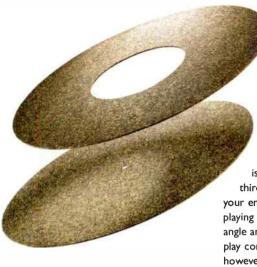
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BLUE HORIZON RECORD MAT £64.95

As our editor underlined during his own improvements of his Technics SL1200 Mkll, a turntable's performance can be greatly improved with the right mat. These things come in varying sizes, are made from weird

and wonderful materials and, if matched correctly, should deaden any platter resonances. The new effort from Blue Horizon is intriguing because it arrives as a two-piece affair, in order to minimise any tonearm height issues. That is, if you place a standard thick,

third-party mat on your deck, your entire arm may suddenly be playing your records at the wrong angle and will require adjustment to play correctly. The Blue Horizon mat however, minimises such VTA errors. For standard records, you use the entire two pieces which interlock seamlessly. For thicker audiophile examples, you only need one piece. This reduces the mat height and helps to maintain a more consistent vertical tracking angle.

Made from a mixture of cork, leather and India rubber, I replaced

the weedy felt mat to be found on the recently released budget deck from Pro-Ject, the Essential (£150). Spinning a variety of vinyl, I found that the Blue Horizon mat brought order to the sonic chaos, Bass not only had structure for the first time but also a measure of breadth and depth. In addition, vocals were far more engaging and sincere while general midrange duties revealed a greater sense of detail and a less flustered quality. Obviously, results vary from deck to deck but if you're convinced your record support is not as good as it should be, and VTA is a real issue for you, then the Blue Horizon mat is a no brainer upgrade. It's decently affordable, so it's great for budget decks, but should yield fine results with higher priced models such as the Technics, too. PR

[Contact: +44 (0)1276 501 392, www.bluehorizonideas.com]

soundbites

FURUTECH SK-II ELECTROSTATIC BRUSH £104.95

If I've learned anything from Furutech, it's to expect the unexpected. After all, this is the company which gave us the turntable-sized demagnetiser and the disc flattening device. Now, Furutech is back and is offering an electrostatic brush for an obscene amount of money. Okay, as you might expect, there are brushes, and then there are brushes from Furutech. The idea behind this one is to dissipate the commonly heard (and felt) static electric charge that builds up on your vinyl LP during play. A charge that hangs around during storage too. Of course, static electric charges are commonly known as a 'bad thing'. They attract dust like a magnet attracts iron filings, coating your record with muck that can quickly become audible, never mind the click and pops of the static itself transferring

to the stylus. Then, when placed back in its sleeve, the static remains, continuing its job of attracting rubbish into your precious vinyl grooves...

To eradicate this annoyance, the SK-II is constructed with a rare goat hair combined, so I hear, with strands of delicate copper. Does it work? Yes it does - and that's all you can say about this sort of gadget; it either works or it doesn't! An ideal replacement or alternative to the Milty Zerostat, the Furutech SK-II not only removes the static charge but then quietens your record play and adds longer life to your records by neutralising the charge while the LPs sit within their sleeves. For many people, such performance and peace of mind will be well worth the not inconsiderable amount of money they're asking. PR

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Back To Black

t's nearly thirty years since the Rega RB300 was launched, so perhaps it's time we blew its trumpet, so to speak. I can't think of any tonearm that's been as successful, long lived or indeed ubiquitous. It has made a massive impact on the British audiophile scene, and remains far better than pretty much anything at its price point. You could say that it brought a taste of the high end, to the best of the low end. Since its introduction in autumn 1983, the tonearm world hasn't look the same again...

Amazingly though, it took a good fifteen years for the aftermarket modification scene to really spark up. I don't think Origin Live would ever claim to have started the ball rolling, but it's certainly true to say that they really kicked the game off. Their 'structural' counterweight modification made more difference to the arm's performance than any number of rewires, and signalled just how good things could get.

The issue that's always surrounded the Rega was, and is, musicality. In stock form it was always taut, tight, detailed and crisply etched, but it just felt like there was an invisible hand holding the arm back from where the musical action is - a sort of emotional rev limiter, if you get my drift. This has caused a number of people to militate against it; Hi-Fi World's own Adam Smith is a vociferous opponent, and prefers many rival budget arms that I feel

simply aren't as ultimately capable as the Rega. But I know just what he means; the R200 tonearm (Lustresourced) that preceded the RB300 wasn't as good in absolute terms, for example, but it was still somehow nicer to listen to...

All of which brings us to the present day, and Origin Live's latest Silver 3c. Think of this as the culmination of everything Mark Baker has learned about modifying Rega arms over many years, and he's arguably done more of this than anyone else, Rega included! His higher end arms have nothing in common with the RB300 platform, and the budget OLI arm is simply a straightforward modded RB251. The Silver inhabits a sort of Never Never Land where it hasn't grown out of its body but isn't the same thing nevertheless. It's kind of like saying how great your car is, now you've reshelled it, swapped the engine. diff and transmission, and replaced the suspension, brakes and interior. Errm, hang on, it isn't the same thing anymore, is it? In the case of the Silver, it looks like a Rega RB251 but has very little in common, and just to underline the point the Silver is now, errm, black!

Origin Live says "all critical components" are upgraded using advanced alloys and innovative techniques, including a new and superior armature manufactured from a different material and specially

treated. They also have the three-point base fixing that all current Rega arms possess. Just as no clever chef would give away his recipes, Mark Baker, arch tweaker that he is, is understandably reticent to furnish me with any more details, lest others decide to reap the benefit of his thousands of hours of development work for their own sakes. Suffice to say that the original recipe, namely of the arm weighing 448g and having an effective mass of 12g, remains the same!

This £599 device feels 'well hand built' at the price (for that's precisely what it is), although as ever the packaging and instructions aren't exactly a life enhancing experience. In defence, Mark points out that he could happily provide SME-levels of presentation, but that the price would rise accordingly. It's important to remember that Origin Live is not the hi-fi equivalent of Matsushita, but rather it's a small specialist company run to provide maximum sound per pound; all else

follows... The Silver now uses the Rega 3-point mounting, and went easily on to my Michell GyroDec. I've always thought that the Rega-based Origin Live arms work particularly well on Gyros, one of the key reasons being their relative lightness which doesn't tax their soft springs, and also because their relatively dry and 'upfront' sound suits the Michell's gentle, slightly euphonic warmth. So what of the new arm?

SOUND QUALITY

Crouch-

style 'robot

dance'. There was also

Listening started off after a quick spin with a stock Rega RB251, which is a good thing at the price, but still I wasn't prepared for the order of magnitude of improvement the new Silver 3c bought. It is night and day, the latter investing the music with a wonderfully sprightly bounce and boogie, making the stock Rega feel like it was

doing a Peter

I found myself hearing little snippets of detail which were there with the 2, but somehow less obvious; that electric piano sound, for example, had richer harmonics and an altogether greater physical presence.

The Byrds' 'Have You Seen Her Face' showed the new arm's greater fluidity. Rhythm guitars had great emotion, while tambourines were delivered in a more supple way. I felt the arm picked through the great 'morass' of sound that was the Byrds, with their densely packed instrumental work and soaring harmonies, with real skill. Their recordings can sound quite tonally brittle, especially via digital, but the Silver 3c alleviated this sense with great effectiveness, even with the 'up and at 'em' Audio Technica AT-F3/III in its clutches. Underneath all that grunge, distortion and general mush lurks beautiful music that's surprisingly well recorded given the right replay equipment, as the new Origin Live arm showed.

It was no

a wealth of detail that the stock arm simply missed; hearing the Silver 3c is like opening a dirty, cobweb covered window to find it's actually a beautiful day outside. Of course, it's not a fair comparison price wise, but it's an interesting start-point. The real interest for me though was how it compared with the Silver 2, which I've had on my Sony TT-S8000 for a couple of years now...

The Mark 2 version of the arm occupied a strange position in life, inasmuch as it was so good that you could listen to it in isolation and easily conclude that upgrading was pointless, yet you still wanted more if the truth be told. The trouble was that to really better it, you had to spend the equivalent of a superb moving coil (think Ortofon Kontrapunkt b, at the time of its launch). The 3c offers a subtle but real upgrade, at the same price, as Scritti Politti's 'Perfect Way' showed. The difference the new arm made was audible from the song's opening electric guitar strums, which sounded less brittle, pulling out of a 'blacker' background. When the first verse kicked off, Green Gartside's falsetto vocals sounded more intimate and more delicately phrased, and their interplay with the sequenced electronic backing was more distinct.

less impressive with the surgical precision of Kraftwerk's 'Tour De France Étape 2', an immaculately well recorded piece of mid noughties electronic music seemingly recorded in a sterile 'clean room' rather than a studio. Here the new arm showed its poise, able to gently and accurately render the original material with no

fuss, and seemingly no coloration. Here I was simply struck by the difference between the inexpensive Audio Technica and the premium priced vdH Frog cartridges; the Silver 3c proved amazingly self-effacing as it highlighted their starkly different characters. The former was tight and forward, the latter louche and fluid, while the tonearm itself just sounded very neutral. Interestingly, this new armtube really takes the Silver away from the Michell TecnoArm, itself another heavily

'breathed on' Rega variant; I sensed that the Michell was a scintilla more tonally neutral, but obviously more rhythmically constrained; I preferred the Michell with the AT cartridge, the OL with the vdH.

Certainly the Silver 3c's new tube has taken away its predecessor's glassy quality; on my Sony TT-S8000 the old arm could be a tad strident with the wrong cartridge, but seems more forgiving now, whilst having lost none of the former's get up and go. The zing has gone, the swing hasn't. as cueing up a classic BlueNote pressing of Lonnie Smith's 'Think'

showed. The new OL arm set up a massively expansive recorded acoustic (helped in no small part by the GyroDec, which is exceptional in this respect), and 'locked down' the precise location of the instrumentalists in the recorded

REFERENCE SYSTEM Michell GyroDec turntable Origin Live Silver 2 tonearm Michell TecnoArm a tonearm van den Hul Frog cartridge Audio Technica AT-F3/III cartridge A.N.T. Audio Kora 3T Ltd phono stage Musical Fidelity AMS35i integrated amplifier Yamaha NS1000M loudspeakers

acoustic, yet allowed them to breathe musically. The result was a beautifully flowing but technically excellent rendition of this classic 'cool jazz' track.

CONCLUSION

The new Silver 3c is a worthy upgrade to the previous Origin Live mid-price arm, tightening up the bass a tad, adding a little more subtlety and musical momentum. It's a handy package of improvements then, to what was already one of the very best arms at the price, in my opinion. Our measurements do show it's quite lively however, so careful matching to a smooth sounding deck and cartridge is of course recommended.

VERDICT mid-price tonearm.



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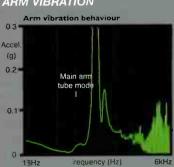
Our vibration analysis shows the tube of this arm has a very strong modal resonance at a high 450Hz, but this is related to a small peak at 225Hz which is in fact the arm's main bending mode. In most arms it is the main mode and its third harmonic, in this case the peak at 675Hz, that dominate when harmonically related components exist. The main bending mode has been well suppressed in the OL but the peak at 450Hz is off the scale in our standard analysis, suggesting a lively quality at least, especially as the area under the curve is large, suggesting significant energy exists in vibrational activity.

Like most arms with a flat, mechan-ically well defined headshell, there is a forest of small high frequency peaks that suggest the headshell is a little lively. Only with cartridges clamped

direct to arm tubes do these disappear.

The OL1 arm tube is stiff in its main bending mode but it rings strongly at 450Hz and this may well be due to the proportioning of the counterweight, the stiffness of its support stub and its distance from the bearings. NK

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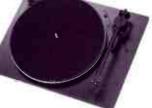
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Natural High

Tony Bolton tries out a most organic high end phono stage, the all triode, battery powered NAT Signature...

ere at World Towers we try to cover as wide a range of equipment as possible, from both well known names and newcomers to these shores. Based in Kragujevac in Serbia, NAT introduced their first product, the Utopia Line Stage in 2001. The name stands for Nikic Audio Team, after designer and co-founder Dejan Nikic.

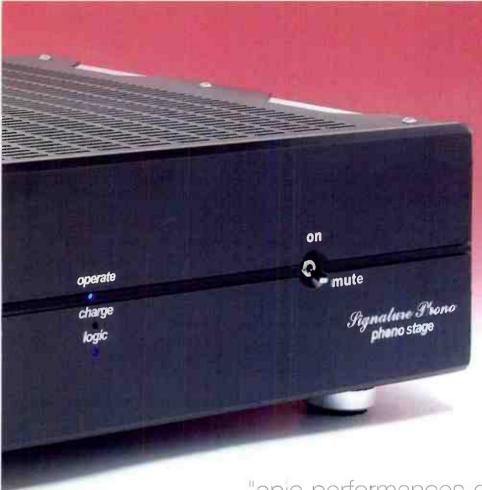
The Utopia has since been followed by amplification, AC power conditioners and the Signature battery powered phono stage under review here. Although this was first marketed in 2004, it has only been brought into the UK since 2009 by Somerset based Alternative Audio.

Powering phono stages by batteries can be very appealing. The lack of any risk of mains noise hopefully giving music a quieter, blacker background, and less high frequency grain. Valves are also popular because of the subtle texture and body that they can impart to the reproduced sound, and, a lot would argue, the very naturalness of the way they describe music. However it is unusual to see both combined in one design. The main reason is surely the thermionic valve's desire for electricity tends to be prodigious!

With the Signature phono stage, NAT have risen to the challenge and produced such a device using six military grade 6N23P-EV double

triodes (6DJ8s or E88CCs to civilians) powered by a bank of five lead acid batteries housed in a rather large and heavy alloy cabinet. The casework measures 483x560x145mm, which meant that it was just too big to fit onto the shelves of my equipment rack, so it found itself sitting on the top shelf (which it filled). With the allowances needed for cables and ventilation, this needs a generous amount of space around it - and a strong rack to cope with the 27kg weight.

The 13mm thick front panel comes finished in either black or silver with the side panels matching. Both choices combine black and silvery grey on various panels to



"epic performances of epic pieces were shown off, whereas intimate pieces were just that - a close and personal thing between listener and performer..."

a nineteen fifties

mono LP of

good effect, to some extent masking the bulk of the bodywork. The controls are simple. The left hand switch on the front is pushed up, then 45 seconds later the centrally placed blue LED labelled 'Operate' comes on and sound can flow. Beneath this light there are two others designated 'Charge' and 'Logic'. The latter is lit all of the time that the IEC mains lead is connected to the socket on the back panel. The 'Charge' light however, only came on after about four days usage, and never, over the two weeks that this has been resident in my sitting room, at a time when music was being played. Charging of the batteries is automatic. The only other control on the front is a switch labelled mute.

The back panel is similarly sparsely populated, with two sets of gold plated Teflon insulated RCA phono sockets for the MC Low and MM/ MC High inputs, with a switch to choose between them. Near the middle are two more phono sockets for the output. Beside these are two recessed banks of dipswitches for setting the resistance and capacitance according to your cartridge's needs. Attached to the IEC socket is a little rocker switch. This has nothing to do with the mains power, but lifts the ground connection, allowing the user to experiment to get the best sound.

The internals are separated into sections with the charging circuit and mains powered items at the front, the batteries in the middle and the phono stage circuit at the back. This is a single ended pure Class A design with absolutely zero feedback. The batteries supply power to the anode circuit. The RIAA equalisation is passive as is the MC step-up via a lensen transformer.

SOUND QUALITY

The sheer size of this unit prevented it being installed in the upstairs system so the Sondek, armed with the MusicMaker MkIII Moving Iron cartridge made a brief visit to the downstairs system. Otherwise all of the listening was done with the Ortofon Kontrapunkt a cartridge and Clearaudio Master Solution turntable as the source.

The thing that I felt became most apparent was the even-handed way in which it responded to the two types of pickup. I would describe the sound as very honest, but in an unfussy way. The punch and get-up-and-go

as did the smooth good manners of the Ortofon. Both sounded very impressive, with a large, open soundstage that spread right across the room, and seemed to reach back through the wall and forward across the carpet. Large scale orchestral music such as Schubert's 9th Symphony in C Major (The Great) had just that: a large scale even when played from

REVIEW



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Toscanini conducting the NBC Symphony Orchestra. The honesty extended to showing up the unfortunate hardness to the sound that was a result of recording in Studio 8H at RCA Victor's Camden establishment, but it also dug out the subtleties and details buried deep in the grooves. Surprisingly, despite the openness of the sound, surface noise was virtually non-existent unless the circuit was really provoked. Stereo recordings gave a perception of even greater space and air between the

performers, creating quite a realistic

Several evenings of listening

later and I was quite happily lost in

the sixties, appreciating the velvety

being amused by the "yeah, right"

textures of Nancy Wilson's voice and

attitude that she put into the lyrics of

'You've Got Your Troubles'. There was

a sassiness to her delivery that I find

everything hang together realistically.

Later that evening I'd worked

Warner Brothers stereo 'Peter, Paul

valve phono stages seem to show

off. Part of the enjoyment was the drive and speed of the beat, making

my way along the record shelves

and had dug out some American

and Mary' LPs. The three singers

were cohesive entities, standing in

men in front of each speaker, with

front of me, Mary in the middle, the

the harmonies of vocals and guitars

moving and merging with each other.

altogether different and more upbeat

musical mood that found R.E.M.'s

'Green' being played. This lead onto

more electric guitar driven sounds,

culminating in a rare Jimi Hendrix

that things were not quite as good

as I was used to. I came away from

listening with an almost subconscious

feeling that I'd been slightly inappropriate in my choice of music. It had

been replayed in fine fashion, but

seemed to have a little bit of edge

missing, almost as though the music was a touch too uncouth for such

moment taking place. Here I felt

The following day found me in an

image of the performance.



a sophisticated sounding machine. There was no lack of drive to the sound, but possibly a little lack of aggressive punch.

Another day, and another musical

mood saw me continuing to work my way through a recent auction purchase of several hundred jazz LPs (they worked out at about 10p each!). Amongst them was a pile of Lew Stone recordings (the Stone and Ambrose Orchestras being generally regarded as the two hottest British bands of the nineteen thirties).

One of them is a collection of tracks played on his weekly radio show transmitted from the Monseigneur Restaurant in London's West End

between 1932 and 35. The detail and atmosphere that the Signature managed to drag out of such and old recording was very impressive. I was aware of odd little sounds from the audience alongside the interplay between the musicians. The only slight downside were the obvious restrictions of the original recording. This phono stage will not flatter recordings, in fact I found it to be perhaps a bit too honest in that area for some of my records to be heard at their best. However, fed with anything that's recorded well and the effect was very satisfying.

CONCLUSION

There's no doubt that the NAT's £5,633 premium is a lot of money, but in this case it buys a very well made and thought out design that transmits music and, more importantly, musicality by the bucketload. Most musical genres seemed to be played in a very engaging manner, especially classical, jazz, folk and pop. Yet I didn't feel that it was at quite at its best when playing more aggressive sounding music, especially when electric guitars were wailing, but everything else, including the more melodic branches of modern electronica seemed to be handled very well. Epic performances of epic pieces were shown off, intimate pieces seemed to be just that - a close and personal thing between you, the listener, and the performer. All this was accompanied by a smoothness and a tactile quality that showed off the combined benefits of driving valves with batteries. If you're in the lucky position to have this much money to spend on a phono stage, and err towards more genteel musical styles, then the NAT Audio Signature is an essential audition.

VERDICT



This sophisticated sounding, intelligently engineered phono stage charms with smooth source material but lacks bite for stemer stuff.

NAT AUDIO SIGNATURE

£5,633

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FOR

- smooth and musical sound
- inky black background
- superb with classical & jazz

AGAINST

- soft manner not for all
- price

MEASURED PERFORMANCE

Frequency response of the NAT rolled down at low frequencies, measuring -1dB at 40Hz, and up at high frequencies, +0.7dB at 20kHz, as our analysis shows. However, the low frequency gain loss was in the 318/ 3180 time constants; absolute circuit gain below 20Hz was high enough to maintain output down to 5Hz, -1.5dB. So although the Signature may sound a little leaner than some it should have penty of low end kick.

Equivalent input noise through the MC transformers was very low at 0 06uV, so hiss will not be a problem. However, gain for MC was very low at x1000 (+60dB), hardly enough for any MCs except Ortofon Cadenzas, unless that is, an accompanying amplifier has plenty of gain (better than 200mV input sensitivity). Similarly, for MM gain was again low at x100 (40dB). Our DIP switches came unmarked and the manual page was missing, but measurement showed 63k input resistance with all switches off, 8k,4.5k,1.6k,1k,400 Ohms with 1 to 5 consecutively On, and more useful 98, 45 and 10 Ohms with 6-8 consecutively On. The MM input is marked as suitable for MC but it does not have enough

Maximum output was a very low 2V (1% distortion), giving just 20mV input overload for MM and 1mV for

MC, both very low. Valve phono stages can swing 40V or so out, so why the Signature manages just 2V is hard to understand. Most solid-state stages swing 8V or so out. However, because overload was very 'soft', producing second harmonic it will not be easily detectable even with high output Ortofon 2M Series MM cartridges that can produce 28mV. The NAT Signature needs to be

used with a sensitive accompanying amplifier, because of its low gain. Otherwise it measures well and will likely give a good sound. NK

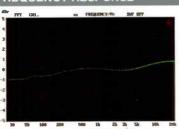
Disc MC

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95dB 0.06 / 0.6uV 0.5% Gain (MM / MC) x100/40, x1000/60dB Overload 2V out

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	Krell Showcase DVD x-demo	3698	1499	Attacama Europa Reference 83 tier S/H	550	299
	living Control Music Box 3 BNIB	2887	1499	Apollo 80cm single column Stands S/H	149	99
	living Control Room Box4 BNIB	1712	999	BCD set of 3 Cones black with 8mm threads X-demo	149	75
	Primare CD30.2 CD player S/H	1500	749	Cardas Cables Golden Cross 3m speaker cables	1999	999
				Cardas Cables Golden Cross 8m set of RCA interconnects	3198	1499
	Analogue			Eichmann Express 4 interconnects BNIB	80	49
	Koetsu MCR-1 Transformer S/H	3333	1399	Electrocompaniet ECS1 M6 feet x4 BNIB	189	49
	Kuzma Stabi S/ Stogi S double arm version Xdemo	2795	1750	JPS Ultra Dual bi wire 2x8 Spades to banana S/H	549	279
	Kuzma Stogi Tonearm x-demo	1390	799	Jadis KT90 Valves x 4 BNIB		300
	Lehmann Black Cube Twin Phono stage x-demo	900	599	Madrigal MDC1 1m AES/EBU 110 ohm Digital Cable S/H		199
	Mark Levinson No320s Phono Module x-demo	995	649	MIT MH-750+ 2x15ft Speaker cables S/H		349
	Roksan Xerxes DX2/XPS/DSU Standard Power Supply	800	640	Siltech HF9AES/EBU 1m Digital S/H		199
	•••			Spectral MI-350 20ft interconnect S/H	2100	899
	Preamplifiers	2400	1200	Stereovox 2x2.5m HDXV speaker cable S/H	350	169
	Audio Research SP16 Phono Preamplifier S/H	2499	1399	Stereovox HDVX 0.5M digital S/H	199	75
	BAT VK 52-SE Remote Controlled/Balanced Preamplifier S/H		5999	Transparent Balanced Reference 2x30ft x-demo	6345	3499
	Conrad Johnson Classic Phono x-demo	2400	1750	Transparent Reference SC 2x10ft x-demo	6192	3399
	ECS Finestra Preamplifier Phono S/H	N/A	399			
	NVA passive preamplifier 4 input S/H	N/A	119	Tuners & Tape decks, power supplies		
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	Graaf GM100 Power amplifier re-valved S/H	5999	2499	Siemens, Mullard, Brimar, Jan Phillips etc. Ring for prices	s and list.	
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B&O CARTRIDGE: SP 14A

- 15micros 8905432. I have the above cartridge in original box with descriptive leaflet. Styli appears to be in servicable order. Anyone interested? Best offer secures. Fits Beogram 1000/1200 /1500/1800/3000. Tel: 01298 814

INNER SOUNDS Isis Electrostatics for sale. Mint condition. Reluctant sale. Too big for lounge. £1,100. Buyer to collect. Phone after 6 o'clock. Tel: 0116 291 0415

CELESTION DL8 Series 2 speakers. Atacama stands. £125. Roksan Kandy CD player Mk3, boxed, unused. £250. Marantz PM8200 integrated amplifier, silver, as new, boxed, £165. Tel: evenings please 020 7386 9177 (London)

REVEL F32 floorstanders, maple veneer. Unmarked. Original packaging. £1500. Tel: 01243 582 411 (West Sussex)

VINYL CLEAROUT Part Two. Some collectables. Phone for details. Collect only. I'm talking to you who lost out last time - lost your number - Doh! 01570 471 422 Cleaning undertaken if required (machine)

METAL CASSETTES sealed 4x Sony XRC90, 3x That's MGX90, 2x TDK MA90. Open to offers. Also Laser Discs. 6 titles including Clapton 24 Nights. Offers Cheap? Tel: Jim 01563 538 727 (Kilmarnock, Scotland)

WANTED: AIWA cassette deck AD-F990B or AD-F770B Tel: 01752 661 100

NAIM NAIT 2, chrome bumper. Unmarked condition with all packaging. Full Naim service 2008. £285 ono. Tel: 01639 641 043

ROKSAN RADIUS V Perspek Nima arm, Ortofon MCI0 Supreme £600. Eclipse TD508-II speakers, Eclipse TD510-II matching white amplifier, extras, £600. NAD C525BEE CD player, £125. Together £1000. All excellent. Tel: 01834 813 199

DEMANDING BUYERS, Almost new McIntosh MDC201 SACD/ CDP, 24/192, remote volume drives power amps beautifully, balanced/RCA's, headphone socket, doubly boxed, (4k) accept £1600. Ensemble Masterflux RCA interconnects. Wanted: Dynaflux Balanced. Tel: 07951 553 091

ORACLE PARIS turntable £450. Audio Note ANV interconnect, £145. Edison Twelve (HFA12) £350. Audio Note Kit One, £750. Snell K's £225. Tel: 0113 255 9475

WANTED: BATTERIES for Sennheiser Wireless RS85 headphones battery No. BA515. Tel: 07976 208 855

AUDIO RESEARCH: LS2b preamplifier. Original box/paperwork £780 (£3000). Theta Pearl transport and Probasic 3a DAC £1250 (£4750). Wanted: Transparent ultra/reference s/e interconnect, finite Elemente rack. Tel: 07973 220 663 (Leicestershire)

REGA EXON-3 monoblock amplifiers (2) black, £695 the pair. Rega P5 turntable with RB700 tonearm, never used, £395. Tel: 07972 650 581

ORACLE DELPHI mk v, graham phantom ,transfiguration phoenix £5100, nagra pl-p £3800, audiovalve baldur monoblocks £1800, missing link cyro ref cables and power leads call for prices. All in excellent condition. Can dem. Tel: harry 07904813796. Email harpass@hotmail.com (London).

ART AUDIO 'Diavolo' S/E amplifier. Polished s/steel chassis with gold anodised transformer caps and volume knob, £1700. Living Voice Avatar loudspeakers (94dB) £400. Owner downsizing. 01454414361 (Bristol) Email: beedeel@yahoo.co.uk

MICHELL ISO phonostage upgraded to Tom Evans Microgroove Plus, £350. Grado SR60 headphones £40. Russ Andrews I metre interconnect Crystal CU £80 Tel: 07790 717 820 (London)

NAIM 92/90 £300. Pre X £275. Rotel RB 991 power amp £275. All ono. Pontefract area. Tel: 01977 609 839

SONY TA-N55 ES power amplifier, 150 watts into four ohms,. Variable volume to match any pre-amp speaker switching ES quality build £175. Email: ealesgordon@hotmail.com

PS AUDIO Phono pre-amplifier, I year old, immaculate condition, manual, remote, boxes. Purchased from new. Can be demonstrated. £495. Very light usage. Tel: 01737 779 938 or 01306 884 107

WANTED: CYRUS CD6s and Cyrus 6vs2 at a reasonable price. Tel: 01753 523 350 or Email: jamesd_jd@yahoo.co.uk

GOODMANS MAXIM speakers. Original 1969 model, immaculate condition £250 ono. Goodsell 1960's tuner amplifier £30. Target turntable wall shelf £25. Target spiked speaker wall brackets £25. Tel: 01708 457 691

PRE CHERISHED turntable;rega 3 full ISOKINETIK MODS no arm buyer collects, £250.00. phone for details, cheshire tel 01606784767

WANTED: MISSION 767 loudspeakers. Condition relatively unimportant (within reason!) but must be in good working order and preferably complete with original LFAU amplifier. Email: audiolaurel@yahoo.com Telephone: 07906 336176

FOR SALE. Ruark Paladin floorstanding loudspeakers c/w boxes and spikes. Very good condition in beautiful walnut cabinets. Pictures on request. Original price £1200. £400 ovno. Will swap for Quad 606 Mk2 power amp or good quality power amp. Contact Steve on 07791314269. Or e-mail me at info@progmeister.com

NAD C545BEE as new / boxed £200 Castle Harlech SI, Mahogany finish / as new / boxed £400 Kef iQI , black / as new /boxed £150 Contact dave.nolan23@yahooo.ie

KUZMA REFERENCE Turntable with Triplaner and Benz LP with matching tom Evans 'Groove' £5000 complete. Velodyne DD10 subwoofer £1000 Magnum Dynalab MD 108 £2000 Nick 01373 463780 Frome Somerset

WHARFEDALE DIAMOND 8.2 active speakers built in amplifiers and crossovers. Black finish. volume control on each speaker. Boxed with manual. Located in South Devon. £125. Email: ealesgordon@hotmail.com

ROTEL RA930AXII amp, Rotel RCD930AX cd, NAD33 turntable, Infinity Ref! I speakers. Excellent condition, Barely used. £299. Tel 0151 342 7860

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SONUS FABER Cremona much loved floorstander loudspeakers, very good condition in natural maple with original accessories £2800. Buyer must collect from Berkshire near J12 M4. Tel 0773 4015195 (Paul) e-mail pferguson@pds-test.co.uk

KIMBER MONACLE x speaker cable 13feet (approx 4metres) pair with wbt slant bananas at both ends(new approx £1600) selling for £675 tel 01933405875 (wellingborough, n/hants).

DENON DCD 1500 Mk 11 immaculate copper lined great sound boxed with manual and remote only used for 3 weeks £150 contact rich 07751537148

SONY CDP 555esd late 80s very good condition small scratch on case top heavy 15kg the modal with 2 tranformers bolted to back very good sound quality £225 ono rich 07751537148

WANTED - ALCHEMIST Forseti APD20a MkII power amp and CD drive. Please call adrian on 07799 415123 or Email adrianjones 123@hotmail.co.uk

GARRARD 401 turntable in SME 2000 covered plinth with SME series 11 3009 arm and literature. Truly pristine original condition. Mostly stored under wraps. £700. Telephone 01932 342978.

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CHORD 4000 pre amp and one pair of 1400e power amps silver integra legs all as new with boxes and remotes may split or p/x £8500.00 07885900133/01142449736

SONY ES amplifier, seven inputs including MM/MC phono. Original box and remote. 100 watts channel. Weighs 20kg. Model TA-FA 50 ES. Located in South Devon. £225. Email: ealesgordon@hotmail.com

FOR SALE Sansui AU-X501 Amp. £85 (50w Per Ch.) Offers. Tel: 020 8950 0658 (S. Herts.) E-mail michael.stewart5@ntlworld.com WANTED A faulty or non working Quad 405 power amplifier. Also required Quad 44 input modules. Contact Mike 01758 613790.

NAIM NAP 300 mint condition late 2005 all cables and original boxes £2,750 ono Tel 02380470107 lesliestubbs@tiscali.co.uk .

MONITOR AUDIO Radius 270 slimline floorstanding speakers with matching Radius 360 subwoofer, silver finish, 2 channel or A/V use. Cost £850. Acept £250. Collection from South Devon. Email: ealesgordor@hotmail.com

WANTED:Top quality Hi Fi seperates and complete systems, Naim,Linn,Cyrus,Meridian,Arcam etc,fast,friendly response and willing to travel/pay cash Please call me on 0781 5892458

B&W DM3 speakers, 1970 vintage, white with black grilles, faded finish but in full working order. £150 or reasonable offer. Tel: 01415831884 or stewartdou@googlemail.com.

FOR SALE 45 boxed pre recorded classical music reel to reel tapes. World Record Club Ltd. Email: janicephillips2810@msn.com

NAKAMICHI CASSETTE DECKS CR7 £775 Dragon £750 (inc blank quality unopened tapes) nait 2 amplifier £350 and Stax SR5 with SRD6 £125 excellent condition. Owned from new Buyer collects Alan 0121 602 1067 evenings.

NAIM AUDIO Hiline interconnect in immaculate condition, boxed. Suerb upgrade. £395 Tel Andy on 07970078653(Worksop, Notts)

REGA ELA speakers Very good condition, used from new in Naim system.£120 (buyer collects). Tel.01723 850800 Pickering , N. Yorks

PROMITHEUS PURE 4n silver hand-made speaker cables-3m pair with 4mm banana plugs £150 ono + Ipair pure 4n silver interconnect cables (I.5m pair with phono plugs) £35 ono. 01483 271669 (Surrey)

MUSICAL FIDELITY A1000 class A amp, excellent condition boxed with manual £450 ono; also Arcam CD 82 very good condition, offers to Andrew 07791529128

SPECTRAL AUDIO, DMA 150 Mk2 power amp excellent con box and manual. great opportunity to upgrade £3650 ono. Notts 01159126424

QUAD 44 Preamp Grey finish. Brand New, old stock. Boxed, manual, lead. £475. Rare Technics RS1700 R-T-RR. new condition, Piano Black Cost £4,600. Phone for Photos. £2,900 01202-891073 Bournemouth.

TWO 18 foot lengths of Chord Company Carnival Bi-Wire for sale. A little grubby but a must if yourve just made a serious purchase. £75 Contact Wayne 07769 666233.

WAD 6550 power with volume control. £500 of upgrades - Blackgates, Tung Sol /Mullards £545.00 Metaxas Ikarus integrated s/s. Stainless steel Australian £2260 new 50 hours use £599.00 0121-707-8083 micklawley@darkbluemail.com

MUSICAL FIDELITY A1 CD Pro Player Two years old, mint, boxed. Philips Pro 2 mechanism 24-bit 192k DAC.Top loader. £650. Original Pi Foundation Stands circa 1990. 18" high, top plate 7 1/2" square, sand and shot filled, brass topped floor spikes. Good condition. £150 buyer collects. Ian on 07789 712775 (Hampshire)"

Q ACOUSTICS 1010i 5.1 pack for sale new but unboxed. Comprises four satellite speakers, centre speaker and sub. Stands and wall brackets included. £225.00. Chandlers Ford 02380253540.

MJ ACOUSTICS Ref I Subwoofer, 10" downward firing driver, D.A.M.P amplifier technology.Hi/low inputs, variable crossover with digital readout, Expensive option finish in red cherry, mint multi award winning sub. Cost £800, sale £400. 07876 705266 (West Yorks)

PYE HF25 power amplifiers. Matched pair fully and meticulously overhauled by professional valve specialist, excellent avo tested matched gec kt66, mullard gz32. Superb, effortless, detailed sound. £2,150 01842 812895 (Suffolk).

FOR SALE Nordost Flatline Blue Heaven speaker cables. Stereo pairs 1 x 4.5m and 1 x 2.5m. Cost £1030 and £630 respectively. Unused/new. Offers invited. Email: deregle1@aol.com or Tel: 01945 463077.

CYRUS CDX-T CD TRANSPORT (Quartz silver) mint as new condition, little use, boxed, £325 ono.(N.B. transport only - requires dac) Also Cyrus PSX-R power supply (Quartz silver) as new, boxed, £295 ono. 01483 271669 (Surrey)

TWO MUSICAL Fidelity X10D's and one X-PSU,cylindrical models.Both X10D's are boxed as new,one has NOS Mullards fitted. X-PSU is as new,no box,all leads.£100 each. 07876 705266 (West Yorks)

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LINN KAN II plus MK I stands £200. REL Strata III subwoofer black £400. Heybrook Solos plus heavy stands £150. email glenwarminger@me.com (Norwich)

NAIM AUDIO NAC102 preamplifier. In mint condition with original box/packaging and black snaic. 2001 model, superb. £450 ono. Contact David 07736 280018 or davidp.warren@ntlworld.com.

GRADO PS 1000 (Brand new) unwanted prize, Retail price £1650 accept £1300.Tel Derby 01332 233011/ 07796912295 Email.

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NAIM ARIVA loudspeakers RRP £1400 Quality floorstanding Excellent condition - Cherry finish 100W Original grills, plinths & cartons but collect best option £849 (Bristol area) Steve 07595 218 695

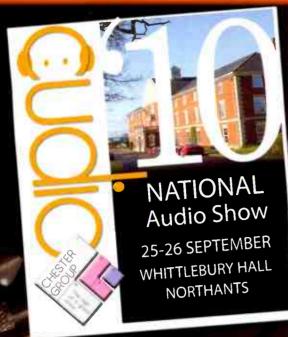
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FOR SALE: Garrard 401 and PSU, Arcam 9P power amplifier, SEAS 25FEWRX Bass Drivers, Maplin amplifier boards, AudioTechnica ATTIE cartridge, AvonMusic JLH ClassA PSU, Toroidal 500VA 45V-0-45V Tel: 0207 4998729

AVI S2000MC CD player with universal remote control and AVI S2000MI integrated amplifier both in perfect working order and in good used condition. Bargain at £350 the pair. 020 84433950. brilliant.sub@gmail.com."

ARCAM FMJ CD23 cd player. dCS RING DAC CHIP. Excellent condition. Silver. Boxed with manual. Sounds great. Can demo. Upgrading. £325. Tel.07816 686943. Can deliver short distance or buyer collects. (Bedford, Beds).

WANTED: AIWA cassette deck AD-F990B or AD-F770B Tel: 01752 661 100



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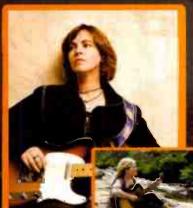
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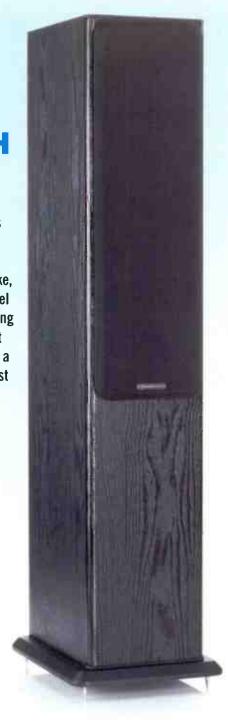
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NEXT MONTH

As the final flourish of summer fades, so the hi-fi season resumes, and Hi-Fi World duly has lined up a wide range of products for your delectation. From the Technics SL1200-lookalike Audio Technica ATLP120 USB turntable (here's hoping it sounds alike, too!) and intriguing Revolver Screen 3 panel loudspeakers, to Funk Firm's super sounding FXR tonearm and Electrocompaniet's great new EC1-5/II integrated amplifier, we have a massive mix of kit to read about. Here's just some of what we hope to bring you in the November issue:

INTEGRATED AMPLIFIER SUPERTEST:

AUDIO ANALOGUE VERDI CENTO, PATHOS CLASSIC ONE MK III & UNISON RESEARCH SECONDA ELECTROCOMPANIET PI-1, ICON AUDIO 40/3, MOON i-1, CYRUS 8XP.





ELECTROCOMPANIET EC1-5/II INTEGRATED AMPLIFIER
MONITOR AUDIO BX5 LOUDSPEAKERS [pictured]
DIY: DESIGN BUILD LISTEN PICOLO AMPLIFIER
ESOTERIC C-03/A-03 PRE-POWER AMPLIFIER
AUDIO TECHNICA ATLP120USB TURNTABLE
BENZ WOOD SL MOVING COIL CARTRIDGE
OLDE WORLDE: BRAUN AUDIO 2 SYSTEM
GENEVA SOUND MODEL S IPOD SYSTEM
REVOLVER SCREEN 3 LOUDSPEAKERS
TASCAM 202/5 CASSETTE DECK
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B&W 804D LOUDSPEAKERS
FUNK FIRM FXR TONEARM
REGA RP1 TURNTABLE

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GALAXIE 500 THIS IS OUR MUSIC 1990

hy this band has not been paid more attention is beyond me, as during the eighties this post punk outfit was highly

OUR GALAXIE 500 MUSIK

influential for the shoe-gazing groups to come; Galaxie 500 bridged both camps. The outfit consisted of Dean Wareham on vocals and guitar, bassist Naomi Yang and Damon Krukowski on drums. Together they released three superb albums during their brief career; 'Today' (1988), 'On Fire' (1989) and 'This Is Our Music' (1990).

Each subsequent release didn't so much show massive improvements in content – that was already established from their debut – as investigate sonics in lateral terms to add focus to what was already there. By the time 'This Is Our Music' was issued, the band had honed their skills to a tee. In conjunction with the production via Kramer, who utilised just enough reverb to add a distinct flavour, each member of the band upped their game to new heights.

Domino recently released CD issues of all three albums but, to the delight of analogue fans, has now also issued all three albums on vinyl. In fact, the three have been taken from the original US issues, released by the band's own label 20:20:20 last year.

The history of the masters is an interesting one and puts the original issues and subsequent reissues in context: useful if you happen to own them. The original albums were produced via Rough Trade and pressed as DMM discs; Direct Metal Mastering — quite an esoteric process back then. CD issues of the original vinyl were also issued by the label but without direct involvement via the group and as more of an afterthought

"this does what all reissues attempt but often fail to do; to not so much exceed the sonics of the original as trounce them in every way..."

by the label. Those masters were subsequently lost and Rough Trade went bankrupt. Fortunately, the group managed to retain the original master tapes. The Galaxie 500 catalogue was then licensed to Rykodisc in the mid-nineties. The band was allowed to oversee a new set of masters for CD, both Kramer and a mastering engineer, named Alan Douches, directly oversaw the digital remastering of the entire catalogue. Then Rykodisc was sold and the group took ownership of their master rights once more.

Speaking from his home in the USA, drummer for the group, Damon Krukowski takes up the story."This time we thought, let's do vinyl, no vinyl has been done since those Rough Trade originals. We decided not to go back to the original analogue mixes but to the digital remixes instead. The reason was two-fold The first was because we felt that the digital remixes were an improvement. Secondly, the original analogue tapes were pretty much shredded and compromised by the quality of the infamous Ampex 'sticky' which had quickly deteriorated. My feeling was that it was too risky to depend on those tapes and they wouldn't have come out any better."

Krukowski fortunately sent the digital mixes to one of the most experienced and talented mastering engineers in the world for the new vinyl issues — RTI's Kevin Gray. Sonically, the original vinyl issues are of their time, very 'American

indie/rock' which means a narrow soundstage and a midrange-dominant presentation. The original CDs sound poor, they retain the same presentation of the vinyl but with an added metallic, unforgiving sound; Krukowski agrees that they're "harsh and ugly". The CDs sound great on the radio and the vinyl sounds wonderful on a cheap and nasty hi-fi but audiophiles can forget them.

For the new releases, the group used the identical CD masters utilised on Rykodisk's issues. The bass is now broader and fuller while the high-end seems to reach much higher than before with added upper midrange detail. "There's no more ridiculous extremes with the ceiling and the floor for the new recordings. They are loud but we didn't squash them with compression."

For vinyl, Kevin Gray created a much fuller and focused sound than the original vinyl pressings with a far wider soundstage.

A special mention must be given to bassist Naomi Yang, who took a series of excellent and technically proficient photographs of the original sleeves for use on the reissues, complete with correct bleeds, no blow-ups and even a slightly darker tint to the 'white' on the cover to give that reissue 'feel'.

This, like the other releases in the series, does what all reissues attempt to do but often fail at, they not only exceed the sound quality of the originals, these reissues soundly trounce them in every way. PR

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