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What's the best system in the world? People often ask me that question, in the not unreasonable belief that – what with yours truly being editor of a hi-fi magazine – I might have an inkling. Trouble is though, I don't. My problem isn't with having to reel off a long list of esoteric makes and model names, but with the question in the first place. You see, I really struggle with the concept of 'best'...

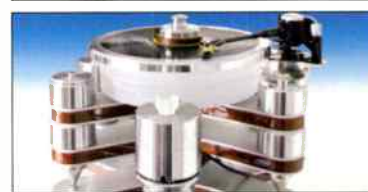
Best for *whom* or *what*? Best for Aunt Vera to play her James Last tapes, or best for my little brother and his Metallica CDs? Best for me with my love of electronic music and a medium sized room? Or best for my friend Raj and his large house and reggae records? Suddenly we find life getting in the way of such a pure and noble concept!

Personally, I can think of several dream systems, all of which that would do me very nicely – but if the dream ever became reality, I wonder how I would get on with them. We've all heard about people who bought their dream Ferrari then couldn't drive it because of their bad back, or the born again biker with a beautiful new Triumph in the shed that he never rides because it's too big. How to avoid the same happening with hi-fi?

Well, this month we set ourselves a challenge – three writers assembling 'ultimate' systems quite different to the ones we ourselves run. If it proved anything, it showed just how closely you can tailor a hi-fi system to its intended purpose. Cost wasn't a consideration, but size and sound were. Read about it from p15...

There are some other 'bests' in this issue too - from Musical Fidelity's new AI integrated amplifier with its superlatively sweet sound (p10) to Naim's great sounding, easy to use HDX hard disk music server (p28). We've also been impressed with Q Acoustics' new I050i loudspeaker with its 'old skool' big and warm sound (p37), Icon Audio's PS3 valve phono stage, which is one of the best of its type at an unexpectedly low price (p111), and Martin Logan's innovative The Source electrostatic loudspeaker (p40).

Well you never know; because the quality of certain select new hi-fi products is so high at the moment, it's possible that one of the above might even become *your* personal best. Enjoy!
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* reviews.



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- ● MEDIOCRE
- POOR
- £ VALUE

- simply the best
- extremely capable
- worth auditioning
- unremarkable
- seriously flawed
- keenly priced

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UPWARDLY MOBILE

Arcam have upgraded their entry-level DiVA range of hi-fi separates to upmarket FMJ status, with no increase in price. The new FMJ models offer better sound and build and the FMJ Five-Year Guarantee, the company says. The new range includes the

FMJ A18 amplifier (£450) which replaces the DiVA A70, and FMJ CD17 CD player (£500) which replaces the DiVA CD73. The former sports the latest Wolfson 8741 24bit DAC with ultra precise clocking, while the latter boasts 50W RMS per channel and a flexible logic controlled preamplifier. Both units have the so-called 'Mask of Silence' & 'Stealth Mat' damping to control resonances and toroidal transformers. FMJ stands for 'Full Metal Jacket',

which was the internal company code name for the design project that led to the first battleship build quality FMJ Hi-fi products. It stuck! Both models are available in black or silver finish. For more details, call Arcam on +44(0)1223 203 200 or click on www.arcam.co.uk.



AFFORDABLE ICON

Icon Audio's new £499 Stereo 25 delivers a wide bandwidth, smooth and natural dynamics and a very musical performance – at a low, low price, says the company. In common with other Icon Audio amplifiers, the basic design is a hand-built, point-to-point silver wired circuit, inspired by those of the late HJ Leak. The combination of carefully selected modern and classic audiophile components and custom hand-wound transformers produce "an exquisite amplifier set to please the eyes as much as it will delight the ears", it is claimed. The Class A triode front end feeds an output stage which uses EL34 output valves operating in 'Ultralinear' mode to deliver 30W RMS, capable of driving the majority of loudspeakers to impressive levels with grip, authority and a very natural musicality. Icon Audio offer a range of options including a 15W triode output version, "Jensen" copper foil in paper and oil capacitors, and the Stereo 25 can use a wide range of output valves: 6L6, EL34, 6CA7, KT66, KT88, 6550. Vital statistics are 215x320x310mm and 15kg. For more information, call +44(0)116 244 0593 or click on www.iconaudio.com.



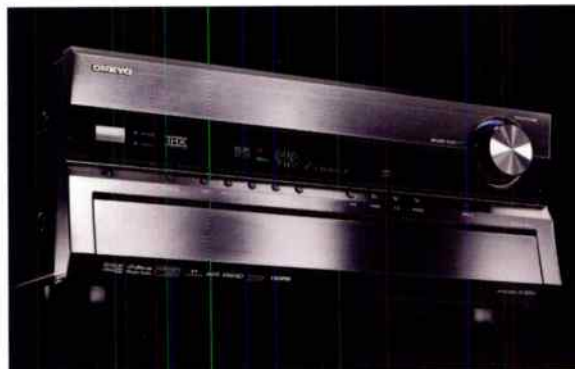
SMALL PLEASURES

Tangent's new Ampster amplifier is designed to bridge the gap between portable digital music players and high-quality loudspeakers. It can be used with almost any player delivering a line out signal, features a USB connection that lets users charge their players, plus two sets of banana plugs for hi-fi loudspeakers.

See www.tangent-audio.com.

CINEMA VERITE

Onkyo's new £800 TX-SR806 is a 7x180W home cinema receiver, "purpose-designed to deliver a truly cinematic HD audio/video experience", it's claimed. The company's first AV receiver to carry THX's new Ultra2 Plus certification, it features five HDMI v1.3a inputs (and one output), 1080p video upscaling capability, and new THX Loudness Plus technology. Like the acclaimed TX-SR805 that it replaces, the new model features Onkyo's Push-Pull amplification design, internal high resolution audio decoding, Audyssey MultEQ automatic calibration. There's also onboard decoding of Dolby TrueHD, DTS-HD Master Audio, Dolby Digital Plus and DTS-HD, 192kHz/24bit Cirrus Logic DACs for all channels and a Music Optimiser function for MP3/AAC tracks. The new THX Ultra2 Plus Certification means the receiver meets "the highest performance standards" in



rooms of 3,000 cubic feet (85 cubic metres) and at a screen distance of 12 feet (3.66m). The TX-SR806 also includes a quality AM/FM radio tuner and a newly redesigned learning remote control. Finally, set-up is even easier thanks to the newly designed Graphical User Interface. For details call +44(0)1494 681515 or click on www.onkyo.co.uk.



FOUR PLAY

Denon has four new home cinema receivers out, said to "give consumers clever, powerful and simple ways to enjoy the best performance from today's advanced home entertainment formats". The new line-up features leading-edge image and sound-enhancing technologies, such as HDMI 1.3a capability with support for Deep Color, as well as advanced connectivity. The range includes the AVR-2809 (£799.99) and AVR-2309 (£599.99) as well as the entry-level models AVR-1909 (£449.99) and AVR-1509 (£279.99). All offer

upconversion and scaling to 1080p from all analogue sources, as well as support for Dolby TrueHD and DTS-HD Master Audio decoding, except the AVR-1509 which has a 1080p video pass-through function, as well as Denon's proprietary High Picture Quality Circuitry to enhance the enjoyment of existing DVD collections. Click on www.denon.co.uk or call +44(0)1753 680568.

LUCKY NUMBER SEVEN

Audio Research's new DAC7 digital-to-analogue converter (£2,545) is expected to be "an extraordinary and immediate success" by its maker. A fully balanced solid-state design using a new direct-coupled FET output stage and generous regulated power supplies, its separate audio and digital power transformers are mounted to boards made of the same material used in Audio Research's reference products. The Burr-Brown DAC is 24/192-capable and uses passive I/V conversion for best sonics, it is said. Although initial development was focused on the USB input, the intention was to provide greater flexibility and allow it to act as a hub for multiple digital sources. As such, the DAC7 has five digital inputs including; USB, XLR, RCA, BNC and Optical (Toslink). Operationally, the DAC7 is also "quite flexible", being housed in a preamplifier chassis its front panel functions include power, mute, invert and input select. There is also an LED to indicate whether the selected input has a digital lock. The supplied remote not only controls power, mute invert and (discrete) input select, its HID (part of the USB protocol) controls the play/pause, stop, track up and track down functions of the USB device to which the DAC7 is connected. See www.absolutesounds.com or call +44(0)20 8971 3909.



NEW REVOLUTION

Tannoy's new Revolution series offers "loudspeaker design of unrivalled sophistication and unmatched value". It unites the company's highly regarded Dual Concentric driver technology with a new ultra-rigid trapezoidal cabinet, offered in hand finished Light Oak or dark Espresso real wood veneers. Magnetic grille mounts are installed below the veneer for a graceful appearance. The Revolution series comprises floorstanding, standmount and dedicated centre-channel models. New high-power, wide-bandwidth drivers combine a titanium domed tweeter with neodymium magnet system at heart of a multi-fibre paper-pulp bass driver for true point-source musical integrity and exceptional accuracy. The Revolution DC4T floorstanding model and Revolution DC4 LCR centre-channel speaker also feature a supplementary 4 inch bass driver using matched paper-pulp cones. Rigid diecast driver chassis and multi-point fixings further enhance sound. The crossover network uses low loss, laminated core inductors and audiophile-grade polypropylene capacitors throughout. As well as silver-plated OFC internal wiring, careful consideration has been given to the layout of the crossover to minimise signal losses.

The compact standmount Revolution DC4 and DC4T floor standing model are designed as stereo pairs for music fans while addition of the voice-matched Revolution DC4 LCR centre-channel offers a simple add-on path to room-filling surround sound. The Revolution range is complete with a powerful AV subwoofer that marries a high-output 10 inch long throw driver with a 160W amp in a compact ported cabinet. The Revolution Sub 10 is finished in matching real wood veneer to ensure the beauty of the range can be appreciated even as a potent 5.1 channel set-up. Prices range from £249.99 to £499.99 per pair. For details, call +44 (0)1236 420199 or click on www.tannoy.co.uk.



WALL OF FAME

The new Media Wall from Quadraspire is "a beautiful modular furniture solution for all music and cinema components". It can be customised to individual requirements to transform any room into a self-contained home cinema, and is suitable for all Plasma and LCD screen sizes - an optional fixture discretely accommodates a projector screen for a true home cinema experience. It comes in different sizes and storage options - the large capacities for all entertainment equipment and software are ideal for anyone with sizeable systems

and substantial CD and vinyl collections. Media Wall can accommodate built-in loudspeakers and screens and is suitable for most loudspeaker sizes and designs. The base units have optional retractable doors to reveal loudspeakers for use. It can be ordered with comprehensive storage options and is adaptable and upgradeable to meet changing needs. Media Wall in the UK is available exclusively at House of Linn in Manchester, in cherry, maple, light oak, dark oak, rosenut and black finishes. Special premium finishes to order include birds-eye maple, white and piano black, and prices start at £2,000. Click on www.houseoflinn.com or call +44(0)161 766 4837.



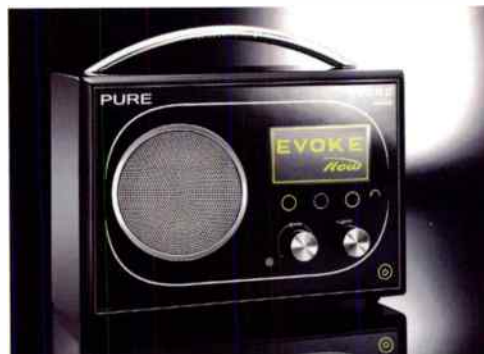
UBER SAMPLING

Gryphon Audio Designs' new £12,600 Mikado Signature CD player "focuses exclusively on CD playback with no compromises and no concessions", says the company. It's said to breathe new life into the Compact Disc with "groundbreaking 32-bit/192 kHz asynchronous sample rate conversion". Fully balanced throughout the digital domain, it sports twin two-channel Digital-to-Analog converters per channel in full dual differential mode with separate regulated power supplies. The transport is a heavily

modified version of the legendary Philips CD-Pro 2 top-loading floating suspension transport with diecast, all-metal frame and specially designed dual master clocks, an ultra-low jitter oscillator near the DAC's and a local master clock to control the transport. A complete update programme is available for existing Mikado owners converting their player to full Mikado Signature spec. Further information can be found at www.gryphon-audio.com.

GOING WITH THE FLOW

Pure's new Evoke Flow is an interesting new product for radio fans. Described as "the first truly connected radio", it combines DAB digital radio with Wi-Fi technology and FM to give many different ways of listening to audio - including Internet radio stations, DAB digital radio, FM, podcasts, listen again content and media streaming from local PCs or network storage. It offers a powerful online search engine to easily find the required station and content without relying on a PC, and provides a two-way flow of information between the radio, the web portal and the broadcaster. This enables new and varied features involving listener interactivity which include feedback, voting and advanced services such as music download and tagging. New features and services on EVOKE Flow will be made available through automatic software upgrades. Click on www.pure.com or www.thelounge.com, or call 0845 1489001.



RECORD BREAKER

Linn Records is thrilled to announce tenor James Gilchrist's acclaimed recording 'On Wenlock Edge' has been nominated in the Solo Vocal category of the 2008 Classic FM Gramophone Awards. The collection of works by Vaughan Williams, Gurney, Bliss and Warlock was highly commended upon its release, with the sought-after recitalist James Gilchrist being greatly praised for his vocal performance. *The Scotsman* described "a deliciously fresh account" while BBC Music Magazine stated that the singer's "elegant, shapely phrasing soars through it all like a bird" and *The Times* noted "as an interpreter of English song, Gilchrist is often in a class by himself". The nomination is also a great honour for Scottish label Linn Records for whom this is the second consecutive nomination. At the 2007 awards, the celebrated recording of Handel's Messiah (Dublin Version, 1742) was named winner of the Baroque Vocal category - performed by another Linn Records artist: Dunedin Consort. James Gilchrist and Linn Records will be returning to the studio in September to record a recital of works by Kenneth Leighton and Benjamin Britten. For details click on www.linnrecords.com.

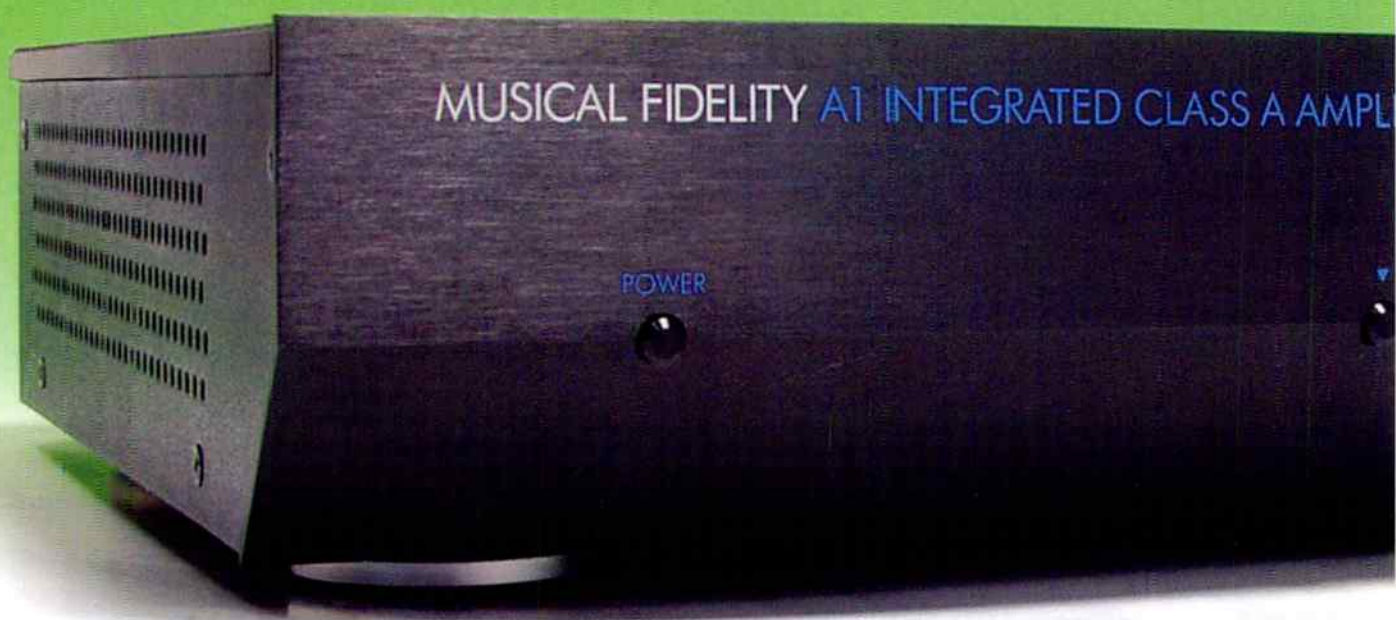


ROUND ABOUT

Monitor Audio's Radius HD is a new range of ultra-compact sat/sub speakers that replaces the acclaimed Radius series. Promising "sharp new styling and driver technology, easy-fit brackets, luxury finishes and even better performance, Radius HD marks a comprehensive upgrade of a classic design", the company says. The nine-strong HD range uses a further refinement of MA's Metal Matrix Polymer and Ceramic-Coated Aluminium Magnesium cone technologies developed for Monitor Audio's award-winning high-end Platinum speakers. Radius HD offers a greater dynamic performance and a wider bandwidth than the original Radius designs, the company says. The cabinets are available in Walnut and Rosemah real-wood finishes, plus Black, White and Silver piano lacquer with flush mounted grilles to present a clean, elegantly contoured look. Prices start at £180 per pair for the R45HD up to £600 to R270HD. For information, see www.monitoraudio.com.

LINN DROP-IN

Gilad Tiefendbrun, creator of Linn's superb Klimax DS network music player, will be at House of Linn in Manchester at their next special event on Thursday 16th October, from 2pm. To reserve your ticket, email info@houseoflinn.com or call 44 (0)161 766 4837, but be quick!



The Comeback

Is it ever as good as the first time? David Price wonders if Musical Fidelity's new A1 can compare with the greatness of the original nineteen eighties full Class A integrated...?

These days, when the indie charts are full of carbon copies of seventies post-punk new wave acts like Blondie and early eighties Human League copyists, the cultural zeitgeist is to look towards the old (or should I say, "classic") and reproduce it in a modern, cutting-edge way. And that's precisely what Musical Fidelity have done with the integrated amplifier you see before you here.

Whereas many manufacturers may choose to forget their dim and distant past, the original 1984 A1 caused a stir. A visually arresting combination of eighties modernist styling and distinctly retro full Class A circuit design, even today it's one of the most characterful products ever to be sold through a hi-fi dealer. Selling for just under £250 in 1985, it was pitched just slightly above Naim's original NAIT and Mission's Cyrus 2 – which were both formidable opponents.

It had several aces up its sleeve however – first it looked incredible. A

delicious combination of semi circles and hard, eighties-style straight lines, there was something very 'Bauhaus' about its aesthetics. The (then) stylish black casework allied to rather risqué powder blue silk screened fascia legends made it all the more striking. Next was its build. That casework was a joy to behold – the perfect combination of form and function, the heavy grooving on the cast aluminium top plate was the unit's only form of heat sinking. Reaching temperatures of between 55-60 degrees Celsius, some said it could have done with a little more help!

Musical Fidelity, as you might expect, agree. Indeed, Antony Michaelson says the original has been "sorely missed by the musically inclined audio enthusiast". Indeed, I suspect that whenever he meets the hi-fi buying public, someone always takes the opportunity to tell him how great the A1 was, "and why can't you bring it out again?"... Well now he has, as the cornerstone of the new A1 range, including the FBP (Fully Balanced Preamp) and A1

CD Pro we've reviewed in the past couple of issues. Now, with a little help from a friendly dealer, we have a sneaky early look at the integrated.

Having been a one-time owner of the original A1, I dutifully volunteered for the task of reviewing this new incarnation. Pulling its (440x77x290mm) case out of the carton was like *déjà vu* all over again (to paraphrase George Bush), my mind instantly warping back in time to all those years ago when I used to agonise about keeping all those cooling fins clean! This was my sole criticism of the original – the fine fins on the top of the case used to fill up with dust, which the amplifier promptly baked on!

Of course, the new A1 isn't a carbon copy of the classic version, although it's fair to say it borrows heavily in terms of aesthetics. You'll notice that those odd half moon controls have been changed to small push-buttons working with a backlit alphanumeric LC display. In my view, this system isn't as nice to use as the original, but then again it would have



been harder to offer remote control with the original user interface. The buttons feel of good quality, but – I've said it before and I'll say it again – are fiddly. Along with the usual line inputs and moving magnet phono stage, the new A1 features a USB input, taking the digital datastream straight off a PC or Mac motherboard and bypassing its soundcard.

Whilst the new A1 remains full Class A, it's not quite the same circuitry as the original (as you'd expect – as componentry has changed much in the intervening twenty five years). Antony Michaelson says, "unlike the original, the sound of the new A1 does not get 'muddy' as it nears full power. It remains clean right up to its power limit." This is borne out by our measurements [see MEASURED PERFORMANCE], which shows a useful 32 Watts into eight Ohms (Musical Fidelity claim 36W, while the original A1 mustered just 20W). This shouldn't be prohibitively low powered for most people's listening rooms – but we'd still recommend efficient loudspeakers such as Revolver's RW45. I used my reference NS1000Ms (which have a sensitivity of 91dB) and a pair of classic Mission 752s (92dB), both of which went perfectly loud for my needs. Musical Fidelity can also sell you their 550K or 750K Supercharger, which will – shall we say – remove the limited power issue from the equation!

SOUND QUALITY

That iconic styling is one thing, but what really set the original A1 apart was its full Class A operation; running the output transistors permanently

"the original was a tad temperamental, obviously underpowered and quite coloured too. The new A1 is none of these..."

on to eliminate sound degrading switching distortion. And so it is with the newbie too, and By Jove you can hear the difference. This amplifier is one of the lowest for distortion we've ever measured, and this manifests itself as wonderful, seamless clarity. Songs which would have me running for the 'volume down' button, even from some of Musical Fidelity's smoothest sounding rivals, came over with a curious lack of hardness in the upper mid. Exhibit One, your honour, is Felt's 'Primitive Painters', with backing vocals by the Cocteau Twins' Liz Frazier. Lovely as these are, they can strip paint off clean primer at fifty paces through almost anything under £1,500 – save perhaps Sugden's A21a S2. But it wasn't the case here – the A1 revealing her naturally stark sound for sure, but not grating or painful at high levels.

This track is a great torture track for wannabee audiophile amps, so I hit the repeat button and listened harder still. It's very compressed, meaning most of its signal is at a similarly high level, so to get 'inside' the mix an amplifier has to be truly transparent and coherent. The Musical Fidelity duly did the job, letting you hear right to the back of the recorded acoustic, delighting in all those Robin Guthrie-produced jangly Rickenbacker guitars at the same time. I heard a cleanly recorded drum kit with a super slick hi hat cymbal sound, and a pleasingly warm bass

guitar line that sounded like it was an integral part of the song. Great stuff!

Speaking of bass, this was the second most distinctive characteristic of the new A1, behind that 'hear through' midband. Like its illustrious predecessor, it is warm. Not quite as euphonically fulsome as the original perhaps, but by the standards of today's amps it is obviously sweet – quite 'old school' valve-like, in fact. This made Daryl Hall and John Oates' 'I Can't Go For That' quite a striking thing to set ears on. The opening sequenced bass is about as big as it gets in eighties pop, and sets up a wonderful groove that pulls this slick pop song along. The new Musical Fidelity carried it with aplomb, showing very little sign of being 'challenged' in the power output department, along with an infectious enthusiasm that set my feet tapping. Once again, the amp was particularly adept at soundstaging, pushing the song right out into the room and virtually writing down the dimensions of the studio's vocal booth for you. It also showed another great trait – its natural tonality.

Herbie Hancock's beautiful, minor key



MEGALINE
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CONCEPT
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World Radio History



masterpiece 'Speak Like a Child' showed the delicacy this amplifier is capable of. Flugelhorn is one of my favourite brass instruments, and here it's Thad Jones's playing that drives this classic 1968 modern jazz piece, with Mr Hancock tinkling the ivories louchely in the background. Trouble is, the Flugelhorn can sound more like a piece of tracing paper stretched over a comb with many sub-£1,000 amps, but it was not to be here. Once again the MF served up a subtle yet accurate rendition of the instrument's timbre, whilst hanging a wonderfully rich piano, dripping with harmonics, way at the back of the mix.

Can the A1 be used at your (or your son's) student party? Well, erm, not really. If it's a thumping iron fist you seek, then I'd suggest the likes of a Cambridge Audio 840A v2 to keep the party pumping all night. The A1 has more than enough power in a small to medium size room with efficient speakers, but it won't flap your flares or start knocking plant pots off the patio. And, like its predecessor this Class A amp runs hot. There is little leeway for cooling, so it needs to sit atop an equipment rack with nothing on top of it (even dust!). It munches 130W, but Guardian reading types can always turn a light or two off elsewhere in the house to feel better, and whatever your stance on global warming (or keeping the 'leccy bill down) you won't need any other heating in your listening room.

What modest power the little Musical Fidelity has, it utilises heroically, for while it won't physically blow you away, its limited force is wielded to dazzling effect. This means you can actually play loud rock music and enjoy, as Neil Young's 'Like a Hurricane' proved. It conjured up great scale, with a carefully hung-back vocal contrasting those crunching guitar power chords. It isn't quite able to offer the dynamic contrasts of £2,000 plus pre-power combinations of course, but you're rarely aware of compression or the little A1

running out of puff. Indeed it made The Police's 'Spirits in the Material World' an enthralling listen via vinyl – its phono stage is just a tad noisier than the likes of a Trichord Dino, but loses little in sound quality terms. The amp worked well via its USB input too, making an impressive fist of my HDD music collection via iTunes.

CONCLUSION

The original Musical Fidelity was a thing of beauty, but a tad temperamental, obviously underpowered and quite coloured too. The new A1 is none of these, meaning it's a little less striking to look at (but still special), obviously punchier and happier with 'real world' loudspeaker loads, and

REFERENCE SYSTEM:

- Marantz TT-1000/Origin Live Silver/Goldring G1042 turntable
- Note Products PhoNote phono stage
- Cyrus CD8 SE CD player
- Sugden IA4 integrated amplifier
- Yamaha NS1000M loudspeakers
- Mission 752 loudspeakers

on the warm side of neutral but not obviously sepia tinged. In short, it's an altogether more practical take on that classic formula. It offers beautiful sound considering its price point; in my opinion it's even sweeter than the Sugden A21 S2, if a little less transparent and incisive, and as such distils all that's best about Class A without tears. Factor in all those mod cons (remote control, USB input, home theatre pass through, LC display), and we have a thoroughly modern music maker with a dash of retro thrown into the mix.

MEASURED PERFORMANCE

The A1 uniquely has almost no high frequency distortion. At low to medium levels our THD meter showed there was a complete absence of crossover and the spectrum analyser was in effect reading noise when measuring 0.003% at 10kHz, 1 Watt, as shown. Few solid-state amplifiers can boast a distortion performance - or an 'absence of distortion' performance - like this and it suggests the A1 will sound smoother and more natural in its treble than usual. It may well also sound a little more cohesive, lacking the uncorrelated distortion patterns that most other amplifiers suffer and sounding a bit more "all of a piece".

Power levels were reasonable, measuring 32 Watts into 8 Ohms and 56 Watts into 4 Ohms. As most loudspeakers use 4 Ohm bass drivers these days the higher figure is more representative of what is available in real life. With good power supply regulation and a reasonably high damping factor of 29 the A1 will possess well controlled bass.

Frequency response stretched from 4Hz up to 55kHz, so extremes are reproduced fully. Input sensitivity was very high at 120mV, meaning the A1 will accept low output sources.

The MM phono stage has very high sensitivity of 1.2mV and a healthy overload ceiling of 88mV, so it will handle all moving magnet cartridges, even low output types. Equalisation

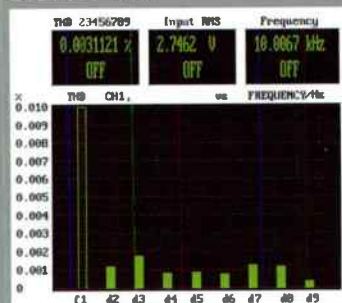
was accurate and noise low, so the input is fundamentally accurate and should give good results.

Under measurement aspects of the A1's performance look unique. It should give very good sound quality. NK

Power	32watts
Frequency response	4Hz-55kHz
Separation	54dB
Noise	-84dB
Distortion	0.003%
Sensitivity	120mV
Damping factor	29

Disc	
Frequency response	12Hz-27kHz
Separation	53dB
Noise	-74dB
Distortion	0.004%
Sensitivity	1.3mV
Overload	88mV

DISTORTION



VERDICT

Exceptionally sweet and open sound from this retro-styled, pure Class A marvel. Superb value for what it does.

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Ultimatum!

Hi-Fi World challenged itself to come up with three radically different dream systems, reflecting the writers' respective thoughts on what constitutes a top high end system.

David Price is your host...

People often ask me what "the best system in the world" is, and I'm always lost for words. Why? Because one thing this job has taught me - hearing vast amounts of systems of all shapes, sizes and prices as I do - is that there's no such thing as *the best*. Rather, the question should be asked in terms of "the best system for me".

What then would your dream, cost-no-object system be? Ask ten different people and you'd get ten different answers. And interestingly, it's often not just about pure, unalloyed sound quality. People put their dream systems together as pure indulgence, to suit their own personal circumstances. That's what makes life so interesting.

So we thought, why not get three *Hi-Fi World* scribes to do just this? The only rule was that they (we) couldn't come up with a long shopping list of our current kit. This was brought in to force us to think off the page, so to speak, and introduce interesting solutions to problems. Oh, and also to stop yours truly droning on about old Yamaha speakers and Noel about Garrard turntables and World Audio valve amps...

The result is that yours truly - who has vast amounts of sprawling kit at home - decided to come up with an 'ultimate compact system' using an iPod as a digital transport. Channa - an architect by day who leads a minimalist, ascetic life - went for precisely the opposite, fronted by a humungous Clearaudio Master Reference turntable. And Noel, who I'm sure has to step around ECC83 tubes when he gets out of bed, went for a hassle-free all-digital active special from Meridian!

So, this system feature was something of a walk on the wild side for all of us, producing as it did three radically different systems with suitably diverse sounds. Unfortunately, I felt compelled to pull editorial rank and reluctantly adjudge the winner. Read on to see if it was me...



DAVID'S SYSTEM P16
Wadia 170iTransport/Chord QBD76 DAC, NuForce P9/Ref 9SE
amps, Monitor Audio PL100 loudspeakers

CHANNA'S SYSTEM P18
Clearaudio Master Reference/Graham Phantom/Clearaudio
Goldfinger turntable, Aesthetic Rhea/Calypto/Atlas amps,
Kudos Cardea C30 loudspeakers

NOEL'S SYSTEM P20
Meridian 808.2i digital disc player/preamplifier, Meridian
DSP7200 active loudspeakers

Big Love

With size no object, Channa Vithana goes for a massive high end vinyl and valve hybrid system, fronted by Clearaudio's seminal Master Reference turntable...



There are many who simply can't understand why people try to assemble ultimate systems using a digital front end. After all, no amount of superlative amplification and majestic loudspeakers can recover all that ambience lost by converting the music to ones and noughts, then back again. No, good though high end digital is, for me things have got to stay in the analogue domain!

Whilst DP's 'ultimate system' had the emphasis on compactness, mine followed a different path. I went for the biggest, sweetest possible sound I could get, and I'm afraid this just happened to make for a not inconsiderably sized collection of components! Given that vinyl is capable of a scale that digital can't muster, I opted for a grandiose turntable from German specialist Clearaudio. Their Master Reference turntable is clearly their aspirational exemplar, with a three-motor drive system, honed 70mm acrylic-platter and exquisitely machined stainless steel construction. It is truly *grosse* (as in grand). For a challenge such as this, what else could be a better place to start?

At 53kg, the £12,900 Master Reference 'AMG Wood' featured here would look out of place on an Ikea coffee table, so 'in for a penny, in for a pound', thought I! To that end, behold Clearaudio's £5,600 Everest 'Wood' stand. At around 90kg, this is hefty enough to support the mighty Master Ref and its APG (Accurate Power Generator) power supply and speed-control just below. Like the deck, it uses 'Panzerholz' or 'tank wood', said to be bullet-proof thanks to its many fine plywood layers, bonded under immense pressure. Indeed it is apparently harder to machine than titanium, as a result. For Clearaudio the benefits of using Panzerholz are excellent damping and anti-resonance properties.

For pickup arm duty I have appointed the £2,540 Graham Phantom B44. Like the Master

Reference, it is a sophisticated beauty: a Lortig-ceramic detachable arm-tube is precision ground and progressively extruded to resist sound-degrading standing waves in the tube, then an attractive "proprietary-process glass overlay" is applied over the tube to suppress resonances. At the headshell area, phosphor bronze cartridge connectors are used and internal wiring utilises high purity silver with solid and litz construction plus Teflon and silicone insulation for transient speed, says Graham.

'Magne glide' technology is used for stability, where the arm is partially damped by neodymium magnets in the horizontal line from the pivot. It confers lateral stability, azimuth-adjustability, damping-assist, "true" vertical pivot of the stylus tip, and (thumb-wheel) adjustable anti-skate; VTA is also adjustable. As a result Graham states that unlike most unipivots, the Phantom doesn't 'wobble' when lifted. A Swiss-made matched tungsten carbide cup and pivot is used as the low-friction main bearing.

Last but not least in the turntable trio is Clearaudio's Goldfinger v2 moving coil, at a hefty £7,200. The nomenclature is no mistake, as the Goldfinger is resonance-controlled by - and made of - 16g of polished 14k gold. Internally it uses 24k gold coils and a 0.00016g HD diamond tip at the end of a boron cantilever.

My thinking with amplification was to find a hybrid one-make system. That way, I could retain much of the sweetness of valves with the wallop necessary to aspirate a pair of large floorstanding loudspeakers. This, in theory, would be the best way to chase my goal of size and sweetness. I found myself using the latest (£2,850) Rhea phonostage, (£3,200) Calypso line stage and (£5,950) Atlas power amplifier from American brand Aesthetix. The Rhea is rather unusual as it's a three input, finely adjustable, remote-controlled phonostage that uses five valves per channel where all the gain is achieved without



solid-state amplification. The remote controlled, fully balanced Calypso line stage incorporates six inputs and its gain remains via valves only. It uses a discrete resistor volume control which operates in eighty-eight, 1dB steps. Both are dimensioned at 457x447x111mm and weigh 17.5kg. The Atlas is a zero-global feedback hybrid power amplifier sporting bipolar output and driver stages, with valve gain stages and 200W/8ohms and 400W/4ohms claimed.

With the Clearaudio, Graham and Aesthetix combination hitting a stiff £35,000, my choice of the relatively low-cost £5,250 Kudos Cardea C30 loudspeaker may seem somewhat out of proportion. However, having been greatly impressed with the lower-cost Kudos standmount range I had no hesitation in auditioning the C30 amongst such high-end company. It uses a SEAS one-inch fabric-dome Crescendo tweeter, said to be amongst the Norwegian manufacturer's costliest units. The mid/bass drive units feature tri-laminate paper cones externally coated with Nextel that are internally damped, while the aluminium phase pug along with the pole-piece ring is said to reduce compression and eliminate resonance. The crossover uses Clarity Caps and Chord Company silver wiring. Each cabinet measures 200x270x1120mm and weighs 30kg.

SOUND QUALITY

It's rare that anyone gets the chance to audition a system as expensive as this, and you'd be forgiven for thinking it would emit a massively showy sort of sound, with incredible scale and intimidating dynamics. However, what really defined it was sheer natural ease. It was wonderfully musical, but not in the sense that it pinned me to my seat and assaulted

me with its brilliance. Instead, what was on the disc poured out in an unfettered way...

Music was not only effortless and detailed, but possessed precision, solidity and unflappable confidence. For example, Jeff Wayne's 'War of The Worlds' came over as highly complex yet utterly listenable, those exhilarating melodic flourishes sending chills down my spine. Another highlight was the usually compressed sounding 'Exile On Coldharbour Lane' by Alabama 3, where their melodically laid back mix of groove-pop-funk-blues was a joy - I forgot about the recording and kicked back to enjoy a massive, wide open sound without any sense of strain. I particularly loved the way the system 'unpicked' the song's many dense layers, making for a wonderfully natural feel.

Listening to 'Rimski-Korsakov: Scheherazade' (1960) by Chicago Symphony Orchestra, Fritz Reiner conducting was another textural, layered, dynamic delight. The sound effortlessly spread out into the room, where the individual instruments of the orchestra - as well as the power of the ensemble - could be heard in unison like live concert music.

Other highlights were Bob Marley's 'Exodus' and 'Kings Of The Wild Frontier' (1980) by Adam and The Ants. Marley had never sounded so good, with bass tunefulness, rhythm and expressive vocals, and musicality - it's a difficult call to make reggae sound this exciting and enveloping via a high-end system. Similarly Adam Ant sounded arresting, with the song's sophisticated drumming as clear as day. Normally this song turns into a raucous 'cacophony', as the source, amplification and speakers struggle to get a grip. Here though, things stayed together without the system so much as raising an eyebrow.

CONCLUSION

As you might expect considering its price tag, this was an exceptional sounding combination. The lion's share of the budget went on the turntable, showing that if there's anything that must be got right, it is the source (no matter how

DP SAYS:

For me its defining characteristic is its openness and ease - that monster Clearaudio vinyl spinner is such that no recording is ever too much trouble, and it simply fails to get flustered no matter you play on it. The amplification is sweet and smooth too; a big fist in a velvet glove giving an expansive and easy sound, yet with emotion intact. As for the Kudos speakers, they never once sounded out of their depth, turning in an extremely refined yet instinctively rhythmic sound. I was particularly impressed by their low price (in the context of this system), and the fact that they don't sport flashy, trick technologies yet work so effectively. A thoroughly designed and well honed transducer. My sole criticism of the system was actually the Clearaudio's clamp and stabilising ring - they work well, adding extra bite and insight, but are a pain to use, removing a layer of 'immediacy' that spinning a record normally has. Still, using the Clearaudio felt rather like worshipping an altar, so this was just another part of the holy ritual!

good the amp and speakers are, they're doomed without a serious front end). And it's true to say that the Clearaudio Master Reference, Graham Phantom and Clearaudio Goldfinger source provided the stability, dynamics, detail and intricacy that defined the basic sound. But this isn't to downplay the Aesthetix amplification that evoked the rich harmonics at the heart of the music, or the wonderfully self-effacing Kudos loudspeakers that delivered clarity and tunefulness in spades.

Along with that vast, expansive but easy sound, another facet of this system I appreciated was the way it looked. The top Clearaudio table is going to be a focus of attention in any room, something you cannot say of DP's iPod!

The massive Everest support makes it all the more striking, although many will buy it for its flamboyance rather than the sonic benefits it brings. Huge, expensive and striking looking, perhaps this system is not for everyone aesthetically but I adored its sound - few would want more.



Clearaudio Master Reference AMG Wood turntable	£12,900
Clearaudio Everest Wood turntable support	£5,600
Graham Phantom B44 tonearm (SME base version)	£2,540
Clearaudio Goldfinger V2 cartridge	£7,200
Graham IC70 arm lead	£570
Clearaudio Statement record clamp	£440
Clearaudio Duter Limit peripheral record clamp	£640
Clearlight Aspekt equipment rack	£640
Aesthetix Rhea phono stage	£2,850
Aesthetix Calypso preamplifier	£3,200
Aesthetix Atlas power amplifier	£5,950
Kudos Cardea C30 loudspeakers	£5,250
Merlin & Silvermann interconnects/cables	

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If it's a self-contained digital system of devastatingly high resolution you want, then Meridian's 808.2i/DSP7200 disc player/digital active speaker combo is in a gang of one, says Noel Keywood...

Lone Star

My system was entertaining even before it was unpacked. I puzzled over the natty packaging, a change from the usual crates we encounter, and was entertained by its novelty. Once Meridian's DSP7200 powered loudspeakers had been carefully extracted, I wondered why there were no signal input sockets, nor any power sockets. They must use a wireless link, I thought, and perhaps there's a mouse on a treadmill inside to generate power? So where does the cheese go then? The handbook, best consulted in times like this, said virtually nothing. It makes blandishments like, "if the display is not lit check AC power is connected". Oh, cheers, thanks. In my case it wasn't because there was no power socket - or not one I could see!

Meridian have their own way of doing things, which is one reason why this system is so *different* from anything else. The other is that the loudspeakers are 'active', meaning they have power amplifiers onboard, and digital signal processing is included, hence the DSP acronym. And it gets worse, my CD player was also a preamp! Before I confuse you any further let me explain...

Nowadays most sources are digital, and Meridian firmly believe in keeping it that way until the last moment, until the sound pops out of the loudspeaker. So the 808.2i

CD player feeds its signal to the loudspeakers in digital form through a single Ethernet cable that offers a balanced digital link, Meridian told me. Only one cable is needed between CD player and one loudspeaker. It goes to the Master (in my case, Left channel), then out and onward to the other, the Slave on the Right channel.

The missing input sockets were found by removing a cover held by Torx screws Meridian expect the system to be installed by a dealer that has received training by them. So he won't be puzzled like I was. Heavens, I couldn't even find the valves!

So the amplifiers are in the loudspeakers, but they are the last bit of the signal chain. The digital signal from the CD player is processed in the loudspeaker (equalisation, etc.) and then split into three frequency bands, one for each loudspeaker drive unit. Each is then converted to analogue and sent through a 100 Watt power amplifier - there are four per loudspeaker - coupled directly to its drive unit with no intervening crossover network. The benefit of keeping the signal digital is to avoid degradation by cables, connectors and intervening electronics. It also allows digital signal processing to be used to split the signal between the drive units in the loudspeaker, as well as effect tonal compensation, room boundary compensation, axis skewing and other tweaks.

Each loudspeaker has two 8in bass units, a 6in cone midrange unit and a 'composite' metal dome treble unit, sitting in a small depression that acts as a short high frequency horn. So the DSP7200 is a world apart from other active loudspeakers. And all this technology is controlled by a battery powered remote control unit.

The DSP7200 needs either a Meridian digital preamplifier, or in my case, the new 808.2i CD player with preamplifier facilities on board. This is a sophisticated new player that upsamples 44.1/16bit CD data to 176.4/24bit with 48bit internal precision, Meridian say. In conjunction with Apodizing Filters that preserve time domain pulse shape. The new 808.2i is a substantial piece of digital engineering. Being a preamplifier too, it has an analogue-to-digital convertor on board so you can feed in both LP from an external phono stage and VHF/FM radio if you so wish.

SOUND QUALITY

The sound of this combo is quite unlike that of most other systems. After sixty hours of gruelling run-in, it still sounded unusually dry and tight, but that's the nature of the beast, as I will explain. One reason is that the amplifiers exert so much control over the cones a fierce sense of grip permeates, but at the same time this does well reveal inter-transient details, so the constant beat of a kick drum doesn't overwhelm all

else around it, revealing a wealth of activity in a performance. Cue Steve Earle, chiming steel string guitars, solid kick drum and 'Even When I'm Blue' from Copperhead Road. With everyone out of the office building for the night I could wick the 7200s and they almost literally lifted off, delivering a wall of sound that, remaining clean, could be enjoyed loud. With pinpoint stereo imaging Steve Earle with his rich Southern drawl was as large as life - or perhaps even a little larger! - centre stage, whilst the drum kit shook our walls and guitars peeled like church bells.

I don't normally listen loud but the DSP7200s thrived under these circumstances and proved more adept at delivering high volume than anything except much larger Tannoy Yorkminsters. It was an exciting performance, tightly ordered and highly controlled to give a breath-taking sense of high fidelity. Opening kick drum of the following track, 'You Belong to Me', nearly blew me over the back of the settee; it was awesome. The DSP7200s were running in a 28ft square room and they needed all of this space I felt, plus a shortage of neighbours!

In spite of heavy running in I was happiest with the sound smoothed out a tad, with treble at -1.5 (-0.75dB) and bass at +2 (+1dB) to add warmth and body. In spite of what you might imagine the DSP7200s did not sound bass-heavy like this; I arrived at the setting to better hear the body of Nigel Kennedy's violin as well as soften string tone a tad (I suspect poor recording quality). Then they came alive at higher volumes when handling large orchestras, reminding me of the grand scale achieved by Yorkminsters. So in effect the DSP7200s are a medium size loudspeaker with the sound of a really big one.

Measurement showed output rolls down below 250Hz and it is this that makes the DSP7200s sound dry in their delivery, but very low frequencies extend down to 20Hz, giving a feeling of solid, deep bass. From the midrange up to 20kHz the DSP7200s measured unusually flat and smooth, on and off axis, showing just how good Meridian's own drive units are. Although high frequencies sound quite obvious from the DSP7200s, giving a strong presence to cymbals for example in Joan Armtrading's Down to Zero, the speakers actually measure perfectly flat. But the DSP7200s are like this: sounds can really jump out suddenly, such as the short sharp entry of strings in Jupiter, from Holst's Planets; they all but rushed at me then were

gone. Impressive stuff.

This unusually projective nature wasn't kind to poor recordings though, nor even average ones. They are revealing loudspeakers more than kind ones and this means revealing the harshness in many recordings. Ally this to a dry lower midrange that lessened the body of kettle drum and piano and you have a loudspeaker that comes across as taut and revealing but cool and analytical too.

The DSP7200s go very low and I have never seen our room's modal peak at 24Hz so excited when making measurements. This is why the Meridians seem to have seismic bass: it's because they do! Magic bullets have yet to be found in loudspeaker design and whilst the DSP7200s run deep and sound superbly tight, there is a little boomph to their bass; limited cabinet volume impacts bass quality. All the same, you'll not hear a performance like this from a passive loudspeaker, nor the sheer technical accuracy of the midband and treble either as few loudspeakers are so totally accurate across the high frequency range.

I was made very aware of this when I span a test CD from Revolver containing demo tracks. They are all top flight recordings and the DSP7200s lapped it all up and really shone: I sat there in awe of their rigour and control. Other loudspeakers could not track the dynamic shifts so effectively, nor hold onto a rhythm with such apparent grip by eliminating time domain equivocation and blur.

That's what you get from this super hi-tech combo: fantastic grip and insight, as well as awesome


DP SAYS:

There's nothing like a Meridian active system, but that doesn't mean it is for everyone. First, being a bespoke one-make system, it's lovely to use, the supplied system remote (if that's not too humble a term) being one of the best in the business. It's also highly accessible too - there's no faffing around with acres of cables and mains socketry. Once fully run in - and this takes a long time - you're greeted with a stark, spry sound with masses of detail. With great recordings like Donald Fagin's 'The Nightfly', the system is majestic; massively powerful and propulsive yet insightful and subtle too. But it doesn't forgive poor recordings and you find yourself listening to certain types of music above others. In some ways this was the most capable system; crank it up with a great disc and it's a showstopper. Others however will want the easier, more forgiving sound of Channa's vinyl and valve system, instead...

bass power with seismic subsonics. In a nutshell then Meridian's latest components offer a spectacularly modern sound from spectacularly modern technology.



MERIDIAN DSP7200	£17,495
MERIDIAN 808.21	£8,250
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World Radio History

This month's challenge was to define what each of us wanted out of our system and then assemble the best possible combination of components for the job. In all three cases, I think we've largely succeeded, but the process has taught us a thing or two about the products involved...

Starting with my 'ultimate compact' system, I have to report that the result was wholly positive. In absolute terms it is, I must admit, the least impressive sounding – but that's what you'd expect considering it was physically limited in scale by the Monitor Audio PL100 loudspeakers. These are superb little things, but up against large floorstanders (active or passive) being driven properly you can't buck the laws of physics. Ultimately, at very high volume levels you get compression, and in large rooms you're left wanting more bass.

Paradoxically though, this actually means in average UK listening rooms, the little Monitor Audio standmounters were happiest. To my ears, the Meridian DSP7200s need a largish room to get into the groove (they're the sort of speaker that sounds great when extended, and in most UK rooms you'd go deaf before you got them really into their sweet zone). Likewise but perhaps less so, the Kudos C30s aren't ideal for a smallish British front room. You're just beginning to push your luck in this sort of environment – and contrary to what you might expect, the C20s may well actually sound better, despite being an inferior speaker, simply because you can get them to give of their best.

So – the first lesson here is that, no matter what your budget, the room is the start point and the limiting factor on how good (or bad) your system's going to sound. There's no getting around this, so you simply have to pick the speaker that works best in your domestic environment and (I'd argue) work your way backwards.

This is precisely what I did. Given that my aim was to make a compact system for a small room, I chose the MA PL100s as my best working compromise and then assembled the ancillaries to maximise the speakers' impact. The result was a massively grippy, punchy and musical sound that has remarkable resolution. I put this down in no small measure to the Chord QBD76, which is surely going to figure in many digiphiles systems over the next few years. Even using an iPod as a transport(!) via the fiendishly clever Wadia I70i, the Chord fed the NuForces enormous

amounts of musical information, which they duly punched out of the MA PL100s with glee.

Channa's 'uber vinyl' system was a totally different kettle of fish. In absolute terms it had a far bigger sound than mine, thanks to the physical scale of both the Clearaudio front end and the large Kudos C30s. It was obviously warmer too, the slightly sweet and laconic sound of the Aesthetix hybrid electronics injecting some colour into the proceedings and making the speakers' natural stark clarity take more of a back seat.

The object of the system was to let the flavour flood out of analogue LPs without going for an olde worlde 'valves and vinyl' sort of sound, and in this respect I think the system succeeds. In isolation, the Clearaudio Master Reference is a dizzyingly analytical device. I don't mean that as an insult: merely that it tells you in no uncertain terms what's going on on the record, pulling no punches. I have heard 'distressed' vinyl pressings sound miserable, while immaculate audiophile discs give the sort of resolution that makes the Meridian 808.1 in 24/96 mode sound like AM

"no matter what your budget is, the room is the start point...."

radio. With this in mind, Channa's choice of arm was wise – the Graham Phantom is a beautiful device with a relaxed gait; specifying an SME Series V would I feel have made the front end sound a little too close to 'Compact Disc on steroids'.

The Aesthetix electronics did a great job of taking the analytical edge off the Clearaudio front end. They're not the most relentlessly transparent I've heard, but serve up clean and sweet power – just like a good valve/transistor amp should. They proved a fine match for the Kudos C30s, which would begin to ask questions of any lesser amplification. Instead, they just let the C30s get on with the job of playing music in their characteristically clean, monitor-like way.

Compared to my system, there was more bass (deeper, more extended and fractionally more tuneful), superior instrumental timbre (the brass on Wings' 'Band On The Run', for example, had a far more fruity rasp), and a greater sense of space – left to right and front to back. Still, I did feel the high treble was less open on this system, showing how superb the MA's ribbon tweeters are. I also think my

system was more detailed across the midband, perhaps due to the MA's lack of deep bass causing me to focus on the middle frequencies more, but it could also have been the very high resolution NuForce amps introducing less of a veil.

Speaking of resolution, Noel's system was probably the highest. As I found when I lived with its predecessor, it's hard to argue with digital active loudspeakers when they're made by Meridian. They have a distinct character, inasmuch as they painstakingly reveal what is on a recording, warts'n'all. To jazz fans, who love a mellow sumptuous 'vibe', this is something of an anathema, but feed them with classical music and you can suddenly see their purpose in life!

The beauty of the Meridian system was that it is 'high end without hassle'. Contrast the amount of cabling, racks and general messing around required to get Channa's vinyl system to give of its best against the easy set up of the Meridian, and it's chalk and cheese. The two systems would sell to completely different customers and give completely different results, so it's hard for me

to objectively adjudge which is better.

Playing something like the aforementioned Wings classic, recorded in Abbey Road Studios in the mid-seventies, with a bunch of chemically altered session men and a few virtuoso musicians, the vinyl system just works better – is just as nature intended. You can 'get it', listening to that old, dog-eared EMI LP. Play the CD reissue on the Meridian and all you can hear is how (surprisingly) lo-fi that recording was. However, stick Kraftwerk's 'Tour de France' remixes CD on the Meridian and the situation reverses completely: the vinyl system sounds a little cloudy and uncertain, whereas the Meridian active digital has taken you right to the mixing desk.

This epitomises the joy (and pain) of hi-fi. It isn't equal and it doesn't do the same thing any time, any place or anywhere. Instead, it's about putting systems together that do what you want done – in your house, with your music, in your way. This test shows how important it is to keep this in mind – three dramatically different ways of spending large sums with wildly varying results, yet each in its way is a success.



Kinetic Energy

Adam Smith exercises the new SE variant of Acoustic Energy's AE1 Mk3 standmounters...

Permit me, if you will, a small reminiscence. The scene was the Bristol Sound and Vision Show a few years back, and the location the Acoustic Energy room. I was pleased to walk in and see the brand new floor-standing AE3 Mk3 loudspeakers being unveiled at the show, resplendent in stunning gloss black and looking superb. Well, I duly took my seat, listened and was seriously impressed by the sound. Big, bold, dynamic and truly sophisticated, these were loudspeakers I instantly knew I liked, although I did think that decently sized floorstanders with a dedicated bass driver like the AE3s should have just a touch more low end grunt. The track ended, the lights were turned up and I nearly fell off my seat. You see, it wasn't the AE3s I'd been listening to, but the diminutive AE1 Mk3s sat beside them!

This was particularly surprising

to me, as I was never a fan of the original AE1s (the AE1 Classic as they are today). The AE2s possibly, the AE4s definitely and the long forgotten and rare original AE3s absolutely, but the 1s never really lit my fire in the same way that they did so many other people's. Times and designs change however, and the little AE1 Mk3s left a strong impression, becoming the benchmark by which I judged all small standmounters. Until recently, few designs came anywhere near the Mk3's heady combination of dynamics, speed and sheer 'how do they do that with such a small box?' factor.

Never a company to rest on their laurels, Acoustic Energy felt that their baby flagships deserved a makeover, and the result is the AE1 Mk3 SE. Ostensibly similar to the standard items, there has nevertheless been some tinkering going on under the bonnet. Most significant is a major crossover

rework that has reduced the component count from thirteen to six, permitting those six to be replaced by some more expensive items. These include a combination of ferrite and air-cored inductors, Welwyn wire-wound resistors and polypropylene capacitors. Internally, the AE1 Mk3 SEs are wired with PTFE-coated silver cable and sport a single pair of WBT connection terminals.

At the business end, the bass driver is still a 110mm (4.5in) hyperbolic aluminium coned device with rubber surround, metal dustcap and a 32mm voice coil, powered by twin neodymium magnets. The tweeter is the same 38mm high-tech ring radiator design that offers a claimed extension up to 40kHz. These items are fitted to a 12mm thick baffle plate and, together with an 18mm MDF cabinet lined with 4mm steel plate, this accounts for the SE's remarkable weight – they

are surprisingly heavy at around 12kg each. Standard finishes are now Piano Black and real Walnut veneer, plus the option of Pearl White or any other colour you desire, although these latter options will both set you back a hefty £750. The AE1 Mk3 SEs tip the tape measure at 295x180x255mm (HxVxD), so are still impressively compact.

SOUND QUALITY

Sat atop sturdy and weighty stands and run in thoroughly, my mind went back to that hotel room in Bristol, as I was still having difficulty reconciling the sound I was hearing with the small loudspeakers sat in front of me. In my reference system, in place of my much bigger and modified Ferrograph S1 loudspeakers, I could only sit in wonderment at the way in which Vivaldi's 'Four Seasons' was powering around me. I expect a really good small loudspeaker to work wonders on the likes of instrument clarity, detail and pinpoint imagery, and the AE1 Mk3 SEs certainly did not disappoint in this area. Violins soared out into the room with blistering clarity, and almost magical tunefulness, but without the slightest suggestion of any wiriness or screech. The AE's top end is a master class in pulling together sweetness, detail, insight and sheer atmosphere, and seemingly rarely puts a foot wrong.

Through the midband, the AE1 Mk3 SEs have an unerring ability to tell you exactly what is going on. Just as with those glorious violins, both acoustic and electric instruments leapt out of the mix to make sure than not the slightest inflection was missed. Lead vocals hung eerily between the cabinets, centred in an image that stretched well back behind their plane, and projected outwards into the listening room to develop a perfectly weighted soundstage; one that gave scale and depth without any sense of being artificially overblown. The SE mods have loosened the AE1's reins by just the right amount, allowing the midband to breathe better and add a touch of warmth that can sometimes be lacking in metal-based drive units.

So far so good then, but from here on in, things got even better. Flipping Vivaldi back into the rack and popping Pendulum's 'Propane Nightmares' on twelve inch single onto the platter put me straight into silly grin mode. This combines heavy metal with drum'n'bass and the AE1 Mk3 SEs loved it. The bass line punched out with heft and pinpoint timing to carry the track along in an addictive manner. A glance down at my feet confirmed they

were tapping very vigorously and I could feel the necessity for a spot of air guitar coming on! The urge to listen to my new 45rpm reissue of Metallica's 'Master of Puppets' was too strong to fight, so I didn't, and once again it was highly satisfying. Guitars came out of the AEs with raw rhythmicity and the only sign that a small loudspeaker was doing the work was the tiniest hint of low end compression when the volume control was pushed higher. This was still a pleasing result though, as many small designs would simply fall apart under such an onslaught.

Part of the issue however, seemed to be my Naim SuperNait amplifier, whose 80 Watts seemed not quite enough for the AEs. Transferring them to the business end of the Exposure MCX power amplifiers reviewed last month, that offer over 600 Watts into 4 Ohms, showed that this was exactly what they needed as they filled in the final missing piece of bass control at the very bottom end. The AE1 Mk3s were always notoriously power-hungry and the SEs are no different. Don't worry about overpowering them; they like lots of Watts.

CONCLUSION

Acoustic Energy have judged the SE modifications made to the AE1 Mk3 loudspeakers perfectly. They have taken an already superb small loudspeaker and conferred improvements where it might previously have been thought there was no room for any. Taken too far, the whole balance of the design could have been ruined, but the new AEs simply offer everything you would possibly expect from a small loudspeaker and add a host of aspects that you wouldn't. Solid, heavy stands are mandatory, but put a pair under them and feed them with plenty

REFERENCE SYSTEM

- Garrard 301 turntable/Cardas wired Alphason HR-100S arm
- Audio Technica AT-OC9MLII cartridge
- Anatek MC1 phono stage
- Marantz CD94 CD player
- Naim SuperNait amplifier
- Exposure MCX amplifiers
- Ferrograph S1 loudspeakers (modified)

of high quality power and, as far as I am concerned, the AE1 Mk3 SEs remain the definitive small monitor loudspeaker.



VERDICT ●●●●●
This iconic mini monitor goes from strength to strength – its updates are subtle but effective all the same.

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FOR
- astonishing scale
- sheer sophistication
- dynamic alacrity
- construction solidity

AGAINST
- power hungry

MEASURED PERFORMANCE

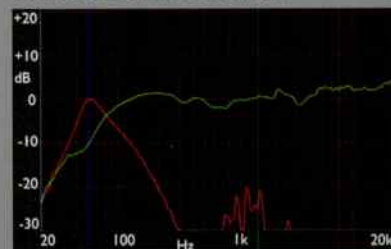
The AE1 Mk3 SE measures relatively flat across the audio band, our gated sine wave analysis shows. There is a small dip from 600Hz-800Hz but this is likely only to take a little body and perhaps projection from vocals. Otherwise the loudspeaker is nicely flat from 70Hz all the way up to 4kHz and should sound natural enough. Above 4kHz tweeter output lifts by a significant +2dB over a plateau all the way up to 20kHz and this will add sufficient energy to make the tonal balance quite obviously bright, throwing detail out too.

The small cabinet reaches down to 70Hz, after which the port supplements output at 55Hz and is quite sharply tuned, both our forward response and impedance analyses show; expect quite lively bass. Although reaching down to 6 Ohms minimum, which amplifiers can handle easily, the strong peaks in the impedance curve are indicative of heavy reactance in the load and greater affect on matching amplifiers, according to their feedback topologies. It's worth making sure any drive amplifier is a happy match, especially as it will be required to swing a lot of volts into what is an 8 Ohm load overall, our measurements showed. The relatively

high impedance helps limit sensitivity to a low 83dB, but all the same amplifiers of 60W-100W or a little more should generally be satisfactory.

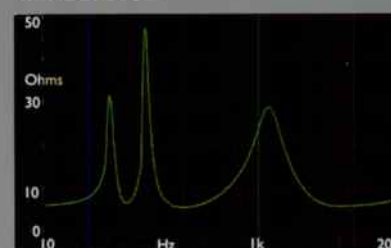
The AE1 Mk3 SE will have a bright balance and likely a fast, punchy sound, although deep bass looks absent. It's best used close to a rear wall, where it will likely sound entertaining. NK

FREQUENCY RESPONSE



Green - driver output
Red - port output

IMPEDANCE



Hard Times

Naim Audio tout their brand new HDX as "the world's first performance upgradeable audiophile hard disk music player", no less! David Price verifies their claim...



On one hand, many audiophiles are asking why on earth they need a hard disk-based music player like Naim's HDX – after all, what's wrong with proper high end silver disc spinner? On the other, there's considerable talk on web forums about why anyone would possibly want to buy a £4,500 black box given what it does can easily be carried out by a PC and a fancy soundcard, at a fraction of the cost.

It's into this fray that Naim find themselves tentatively stepping. But spend time with the HDX, and you begin to see that it really does make sense – both from a usability point of view, and a value for money one. Indeed, it works so well that I suspect all those detractors, nay sayers and general prophets of doom haven't actually tried it at all...

First things first, then. Why store your music on hard drive? Well, the idea is that you put all your CDs on HDD then forget about your physical media – potentially saving loads of space and gaining access to any one of thousands of your albums and/or tens of thousands of tracks at the press of a button, almost instantaneously. Many might not feel they need this, but believe me once you've got the facility it is actually quite liberating. For my money though, the greatest thing about hard disk music is that you're freed from having to stick to one format. While it's likely that most of your music will be 16bit, 44.1kHz rips from CDs, there's nothing stopping you recording your vinyl or tapes at 24/96, or indeed downloading music from several websites (including Naim's own) at that bitrate. Hard disk music has the potential to deliver all that lost promise of DVD-Audio and SACD.

Of course, this is all a no-brainer to those audiophiles raised with iPods and the like. They feel hard disk music is the norm and can't see

why anyone would possibly think otherwise. However, considering you can do 'computer audio' for the price of a dog-eared PC from 'flea-bay' and a few select peripherals from Maplin, why splash out on an HDX? Run a direct digital out of your PC via USB to any one of a number of high quality hi-fi DACs, and you've got a high quality hard disk music source haven't you?

Well yes, but the idea behind the HDX is to provide an *integrated* system with a huge variety of functions, around which you can build your entire music collection. Whilst it's true to say that you can also do this on a PC, the HDX brings it all into one box seamlessly, giving a 'user experience' that you simply won't get from a computer. Furthermore, Naim claim superior sonics to any conventional computer based solution, and it's also usefully upgradable, both in terms of the ways it can play music and the ways it can be improved sonically – you can plug everything from additional HDD storage to a Naim XPS or PS555 power supply in to it.

Okay, so it's an integrated hard disk-based music player, but what the exactly does this entail? Well, it's a standalone hi-fi separate in Naim's full size Classic-size (87x432x314mm) case, with twin built-in 400GB hard drives and a CD drive for ripping CDs to the hard drives. Alongside front panel buttons for power on/off and disc tray open, its fascia sports a touchscreen (the very same quality item used on Sony's PSP games console, reputedly) which offers a number of different menu options, selected by touching the appropriate 'button' on the screen.

It outputs a standard 2.IV line output via DIN and RCA phono sockets, and has additional rear panel socketry for a Naim XPS or PS555 power supply, plus Ethernet ports (for attaching to a broadband internet connection and Network

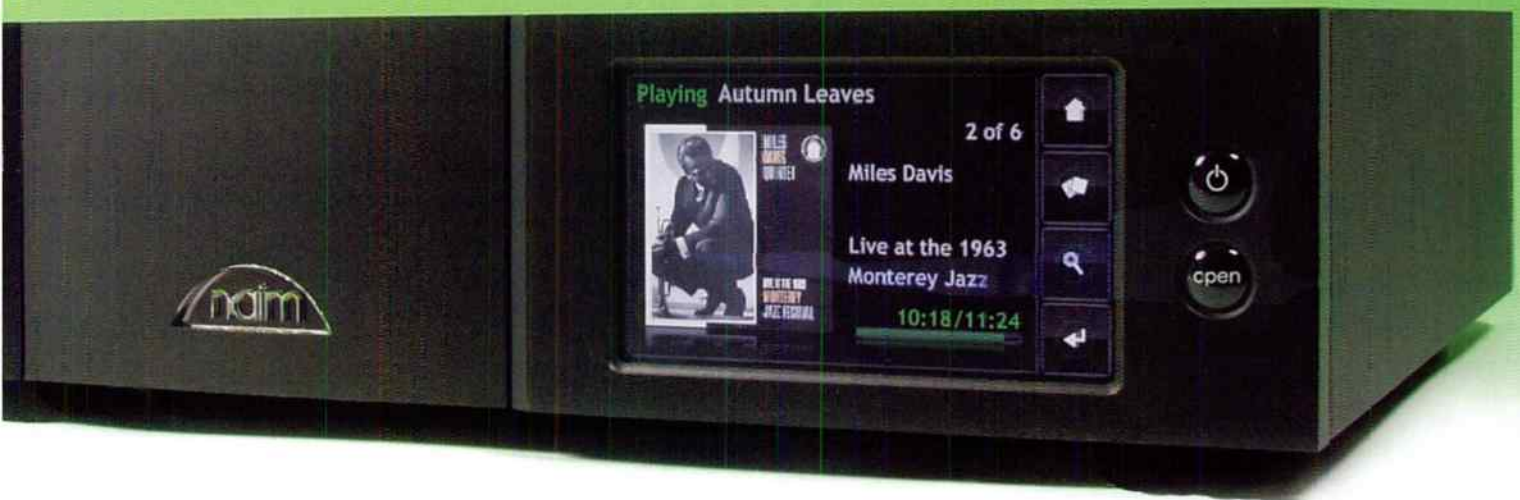
Attached Storage devices), plus a rear panel USB port for a hard drive, and a front panel USB port for memory sticks or music portables. At 10.8kg it's sturdily built with Naim's traditional high standards of finish.

IN DEPTH

Interestingly, whereas rival manufacturer's 'solutions' have gone for all number of compressed and/or lossless file formats, Naim has simply opted to store uncompressed, bit-for-bit PCM. This means that when you insert a Compact Disc, it rips in full .wav format at 16bit, 44.1kHz, depositing a file of around 650MB on its internal HDD – no FLAC or Apple Lossless here! Critically, Naim don't use a bog-standard ripping engine – the code has been customised for the HDX, meaning all the music is extracted with none of the errors of rippers designed for speed. It's interesting to note that while iTunes on a standard PC takes under a minute to rip a CD, the HDX often takes six or seven. This is also down to using a bespoke 'streaming' type of hard drive with no disc caching, reading an absolute minimum of twice for a secure rip.

Once extracted, the data is copied to one of the internal 400GB drives, and every night it backs up automatically to the second internal identically sized drive. Of course, larger hard drives will be available in future, but even this means around 600 CDs can be stored safely. For those with truly epic Compact Disc collections, it's easy to add an external USB hard drive or Network Attached Storage (NAS). Naim says the database system has been tested for up to 20,000 discs, so obviously they haven't let Patrick Cleasby loose on it yet...

Its USB playback functionality is interesting, as here you can really see the HDX's flexibility. I plugged my Sony NW-Z A818 digital portable into the unit via its front panel, and



lo and behold it recognised it as a USB drive and gave me access to the hundreds of 320kbps AAC music files and MP3 podcasts I keep on it, playing them with surprisingly high fidelity (I've heard plenty of CD players that sounded worse playing uncompressed CDs). Sadly, I couldn't get the Naim to recognise any Apple iPods. However, iTunes users can drag and drop vast amounts of their compressed (or otherwise) music to a USB memory stick (such as Sandisk's Cruzer Titanium 8GB, £25) from their 'My Music' folder on their hard drive, and the HDX will display it and play it. As well as AAC (m4a, non-DRM), it supports MP3 (fixed and variable bit rate), FLAC (up to 24/96) and WMA.

Note that whilst the HDX can happily play 24/96 music from its hard drive(s), a NAS device or USB HDD (or even from the front panel USB port, ideal for inserting a memory stick), the built in optical drive cannot rip from 24/96 DVD (or DVD-A) discs – so your hi res music has to come in via computer flash drives or hard drive, downloaded from the internet or recorded in a digital recording application such as Adobe's Audition. Ostensibly then, the built in optical drive is for ripping CDs only.

IN USE

There's just one extra connection you need over a standard CD player – namely an Ethernet cable going to your broadband router. The HDX needs this to access the internet, to get track information on the CDs you rip to it, look up album data and get cover art. The data is collected primarily from the AMG database, which delivers "very rich" metadata say Naim, allowing searching by album and artist as well as composer, conductor and more. However, if you want to be more

hands on, you can load a piece of software to your PC (can we have an equivalent Mac app. soon, please Naim?) called Naim Desktop Client (DTC). This lets you choose the music, compose playlists, and drill down deep into the metadata to see the full detail – much like the Twonky uPnP software you need for Linn's rival Akurate DS.

The point is of course though that you don't need this application, because you can control the HDX very effectively through its front panel touchscreen, the supplied remote control or web tablet. This is the crucial difference between products such as Linn's DS range and Slim Devices designs – the Naim is an all-in-one package, self-contained and (more or less) plug and play. Indeed you don't strictly even need an internet connection, as you could enter track information via a computer keyboard if you were so inclined.

You power it up, wait a few seconds and then press the open button, to feed the HDX its first disc to rip. As soon as the disc tray recedes back into the machine, the Naim gets on with the rip, more or less silently in the background, and you're at liberty to play music (it would have to be from a USB memory stick because at this point there's no music on its internal hard drive!). Simple menus let you navigate through its different search and play functions, and it works almost as well as an iPod Touch in this respect, which is really saying something. I did find the touchscreen

slightly fiddly, but that's because I'm left handed and the screen is on the wrong side for me, along with 99% of all other hi-fi separates' controls...

It's now up to you to build your library of music (or plug in your existing one via a USB hard drive) and enjoy it. The more music you rip to it, the more the Naim becomes practical, usable and harder to live without. At first, playing a CD on, say, a CDX2 feels more natural, but after a week of ripping, suddenly manually feeding a machine with a disc seems an awful chore – as does its lack of artist and track information. Were I to live with the HDX long term, I'd be running the Naim Desktop Client – which gives very fast and easy armchair access to all your music – or a web tablet (essentially a fancy colour touchscreen remote control). The supplied Naim remote works okay but is awfully tacky and frankly not on the same level as the HDX itself. It's a 'get you going' remote, but the unit itself deserves something much nicer.

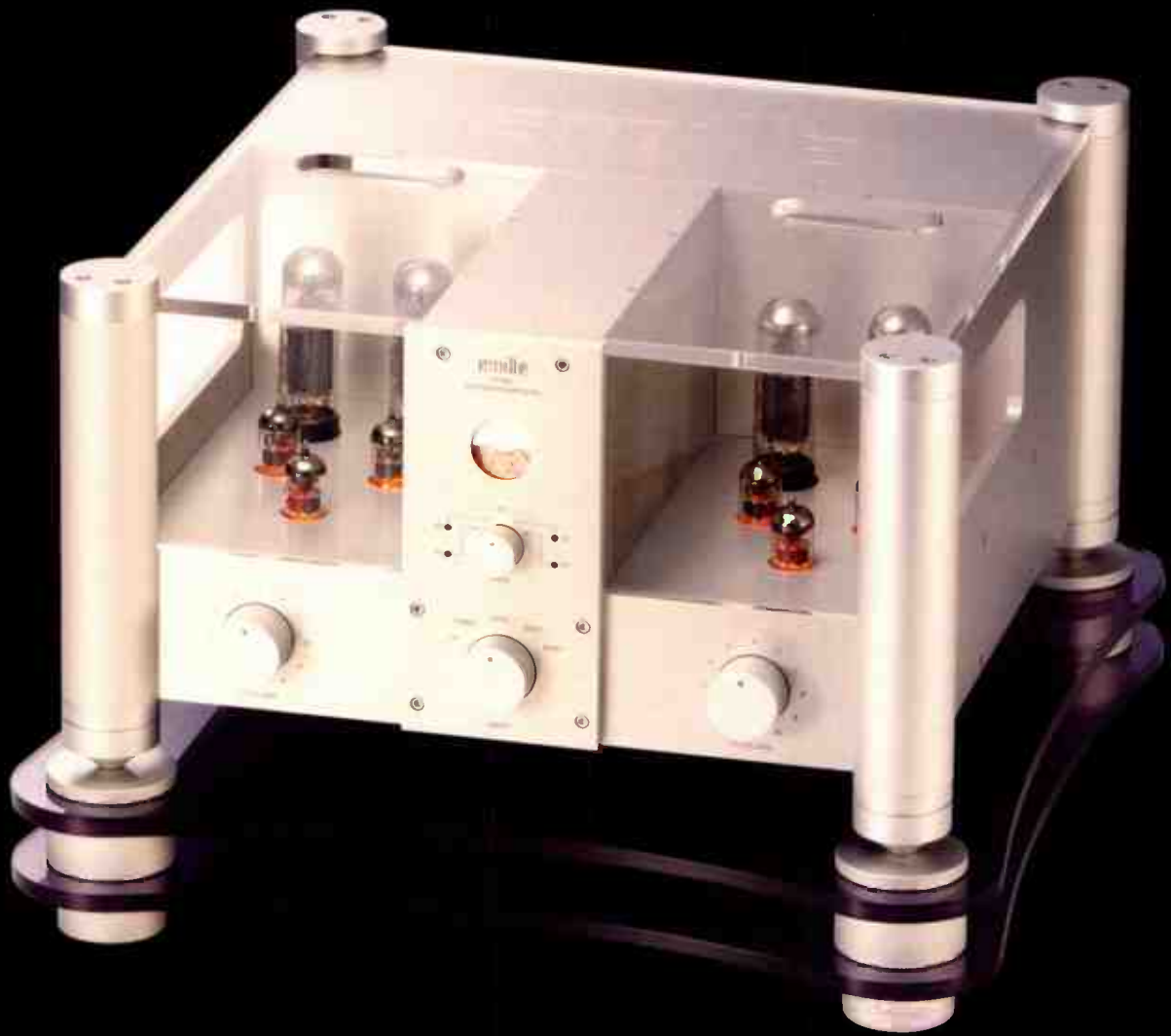
SOUND QUALITY

After having spent the best part of a week (or so it seemed) turning my burgeoning CD collection into ones and noughts on the HDX internal hard drive(s) and duly running the



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KI-40L
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thing in into the bargain, I felt ready to listen in anger. And having spent some time with Linn's superb high end Kivor DS, I knew what 'computer audio' was capable of, and this new Naim didn't disappoint.

Essentially, it has a very powerful, detailed and insightful sound – with all the infectious rhythms, prodigious dynamics and inky black silences you expect from a high end Naim product. I'd say that in standard form (i.e. with no additional power supplies), the HDX is almost on a par to a CDX2 CD player – it really is that good. And that's at the HDX's lowest 'resolution' as unlike the CDX2 it sounds vastly superior running 24/96. There is certainly no sense of this in any way being a 'compromised' product, designed to be a jack of all trades and master of none. Instead, the HDX is a redoubtable high end music source in its own right.

Soul II Soul's 'Keep on Moving' showed the power of the HDX to full effect; it's a big, barrel chested sort of sound that's not afraid to really drive the loudspeakers. The sequenced drum track was conveyed brilliantly, carrying the interplay between the kick drum and hi-hat better than almost any other CD player I've heard at any price. This is precisely the sort of thing that Naim CD players do very well, and the HDX was no different in this respect. Bass was strong and tight, although I've heard it tighter both from Linn's Klimax DS (at over three times the price and Naim's own CD555 at even more!).

The midband was no less of a treat – wonderfully wide and decently deep, the HDX located instruments in the mix very positively. This track's female vocal lead was carried beautifully, with superb insight into the singer's breathing and even the rich, fruity texture of her voice. In fact, I think Naim electronics are getting steadily less 'dry' sounding as the model cycles progress, and I'm almost ready to state that if anything there's a scintilla of warmth to the HDX's sound. Certainly, comparing it to Linn's similarly priced Akurate DS, the HDX might as well be running EL34s in its output stage, so dramatic is the tonal contrast. Treble is also nicely smooth and silky too, with none of that incisive grain you would once have heard from eighties Naim electronics. Instead, it's a refined music maker.

That's not to say it's coloured though – as the HDX is generally very neutral. Stereolab's 'Spark Plug' was captured in all its rather cold, discordant, minor key glory with no

sugaring of the pill, so to speak. Vocals were suitably plaintive sounding, their rather dour intonation carried superbly. That distinctive classic nineteen sixties Farfisa electric organ sounded as edgy as it should, while the bass playing was suitably curt and clipped – once again this new hard disk player surpassed my expectations by turning in a sound normally only heard from high end Compact Disc.

Moving from sour indie to sumptuous soul, Isaac Hayes's delicious 'Café Regios' – a classic slice of early nineteen seventies Stax – was carried magnificently, the Naim possessing all the finesse needed to handle such a sweet, gentle, subtle recording. No studio trickery here – heavy compression or electronic post-production – but rather a glorious all analogue recording with some of that period's greatest



session men. The Naim conveyed the throaty rasp of the brass and the deep body of the strings with ease, slotting everything together with consummate ease. Unlike some CD players, which can obsess on detail to the detriment of the musical flow, the HDX let the recording's flavour flood out whilst capturing every minute facet of the mix. As ever with the best Naim gear, it was the spaces between the notes that impressed so much – there was not one jot of slurring, blurring or overhang, making the music sound so much more natural and enjoyable.

Eschewing those hard drives for the front panel USB socket, I duly inserted my Sandisk stick which carried an iTunes-ripped .wav of the Bee Gee's 'Night Fever' and listened intently. I was greeted with an excellent sound, but I couldn't help wonder how the HDX-ripped CD of it would sound. Fascinatingly, the latter give an altogether tighter and more focused performance, with superior fine detail and more pronounced rhythmic stops and starts. This shows how important the ripping side of things is – and the HDX has obviously got this aspect of things very right.

Still, that's not to say an existing iTunes music library isn't fun; a 256kbps (VBR) iTunes-ripped AAC file of Caravan's 'In the Land of Gray and Pink' was a joy. I heard warm,

propulsive bass, loads of detail and a surprisingly smooth and spacious treble (I've never heard 256kbps sound so good) – the Naim delivering dramatically better results than expected. The only really discernible demerit was a slightly hollow feeling across the centre of the stereo image (the instruments didn't project terribly boldly into the room) and a slight lack of atmosphere. Still, it was most encouraging – all iTunes users need to enjoy their existing library is buy a big memory stick and drag and drop their 'My Music' file from their computer's hard drive to it – then plug it in to the HDX.

Naim supplied some 24/96 .wav files for evaluation, and once again the HDX flew with them. Charlie Haden and John Taylor's 'Nightfall' was an atmospheric joy, showcasing the delights of hi res music to full effect. Piano tone was wondrous,

shimmering with harmonics, brilliantly lustrous yet smooth and atmospheric all the same. This aspect of the HDX's functionality will, I suspect, become ever more important – but right now most people will be confined to CD rips. Still, it's good to know this new bit of kit works so well with hi res – I suspect this is going to be ever more important as the years pass.

CONCLUSION

If there was ever a high end computer audio 'crossover' product, this is it. The Naim HDX is both extremely easy to use yet highly accomplished sonically; massively flexible and highly accessible. Living with this new hard disk player, I couldn't help but be beguiled by the way it worked so easily and yet so well. I am sure that many will continue to buy standalone Compact Disc players, while others will insist the HDX is overpriced and put together their own patchwork of computer peripherals and hi-fi separates that attempts to better it – but I suspect a great many music fans in the middle will cotton on to what a great plug and play package this is, and begin to realise that these two extremes are not for them. If the idea is to listen to as much music as possible, as enjoyably and effortlessly, I can think of nothing else around right now that comes close.

VERDICT

Landmark product that brings easy computer audio to audiophiles - and does so with such élan.

NAIM HDX £4,500

Naim Audio Ltd.
 ☎ +44 (0) 1722 426600
 www.naimaudio.com

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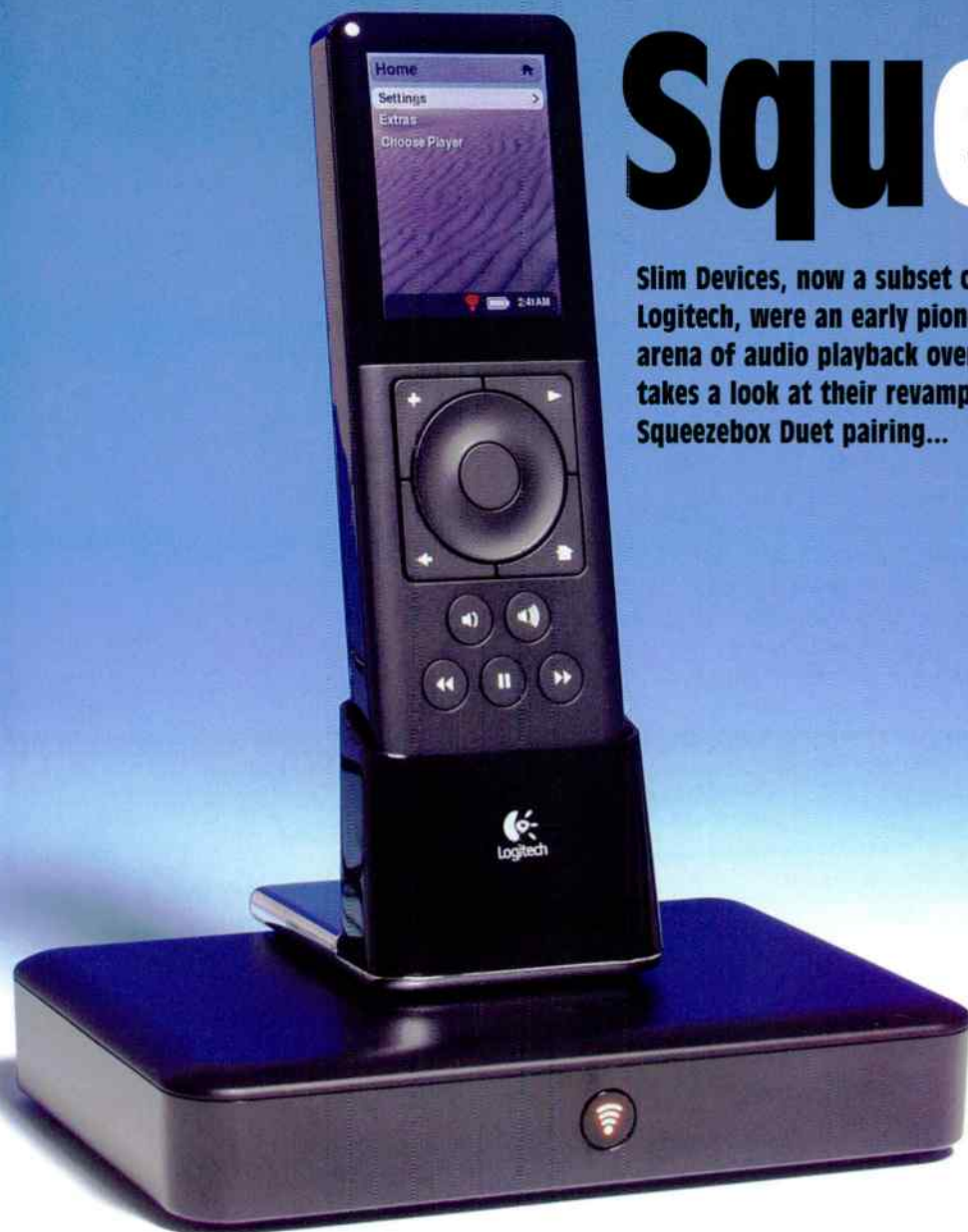
- super sound
- 24/96 capable
- ease of use
- flexibility, features
- engineering depth

AGAINST

- modest internal HD storage

Squeezed!

Slim Devices, now a subset of computer peripherals company Logitech, were an early pioneer in the increasingly popular arena of audio playback over home networks. Patrick Cleasby takes a look at their revamped entry-level offering, the Squeezebox Duet pairing...



Hi-Fi World has been covering the emergence of 'network music players' for some five years now - and Slim Devices were right there at the very beginning with the original Squeezebox SB3. However, the marketplace is now getting more crowded, with the likes of Apple, Sonos, Linn and even Arcam moving their scooters onto the computer audio lawn!

In the past couple of years, (American) Slim Devices Incorporated has been subsumed into the large Swiss computer hardware company Logitech. With that is coming a new range of products, the first of which is the entry level Squeeze Duet (£270) you see here...

So what is it, and how is it different to its SB3 predecessor? Well, hi-fi enthusiasts might best think of it as a 'wireless DAC', using music stored on a computer hard

drive as the transport. The Squeeze Duet 'receives' digital music via your home's wireless (or Ethernet) network, converts it to analogue and outputs it at line level - effectively another music source like your tuner or CD player.

How is it different to its predecessor? Well, the clue is in the Duet soubriquet. Superficially, as it always did, the package still consists of a 'media receiver' (available separately for multiroom use at £100 a pop), and what appears to be just an enhanced remote control. However the Squeezebox Controller is actually much more. It lists at £200 (although web discounts can knock £20 off that) which may seem pricey, but to existing Squeezebox users it will be difficult to resist a purchase.

Frankly, it was *vital* that Slim leapt forward to match the attractive appeal of the colour artwork display on the Sonos system controller, which is light years ahead of the old Squeezebox's limited green receiver-

based display. Well, in the Squeezebox Controller, Slim has - and in doing so migrated most of the clever widgetry from the SB2 and SB3-era Receiver box to the Controller. This can only be a good thing for audio quality in the receiver box, as we drop the SB3's integrated OLED display and retain only a confusingly multi-coloured status light/button to indicate the happy (or otherwise!) state of the receiver.

The result is a more iPod-like, usable and colourful display on the Controller. It's important to remember that this is no simple infrared remote control, but the lynchpin of the whole Squeeze Duet system, talking to your network using the wireless 802.11g protocol.

So, in the classic three-tier model of networked music - playout, control and music serving - the Duet ticks the first two boxes, but what about the third? Well, as per Linn, the Slim Devices model is to leave the arrangements for storing music to the customer. Basically, this package requires you to have already digitised your music and be storing it on your hard drive. That's not unreasonable, given that's precisely what you have to do if you own an iPod, which as we always remind you is the biggest selling music player in history! Most people contemplating the purchase of a Squeezebox Duet will already have their 'record collections' on hard disk, precisely why they want a way to get it to their hi-fi...

The system comes with the familiar SqueezeCenter server software, available for almost all possible flavours of computer. With relatively low entry requirements of mere 256MB RAM and 733MHz processor speed, this program is an open-source wonder. It runs as a daemon (background process) on the PC, and is administered in a browser window of your choice.

SqueezeCenter has only changed

slightly in recent step-ups, although the default skin from the reviewed 7.0.1 up to the now-current 7.1 has a gentler, Logitech-green feel, and reduces the fine-print look of the 'classic' Slim presentation.

All the old power and flexibility is still available under the hood if you click to configure in the bottom right corner, including the ability for Squeezecenter to oversee both an existing iTunes library and another (read FLAC - Free Lossless Audio Codec repository) location. This means the Squeezebox Duet will play both your compressed iTunes files and another specialist non-compressed 'audiophile' library, should you run two in parallel like Captain Tweaky (editor DP)!

SET-UP

Unpacking the box it soon becomes apparent that twice as many 'wall wart' power supplies are needed as previously, although the small, attractively-chromed charging stand for the Squeezebox controller need not be placed near the hi-fi. The whole image of the Controller is of an elongated black iPod, although the spinning-wheel and buttons operation is sufficiently different to necessitate a 'brain shift' every time you switch from iPod to Squeeze mode!

The previously reviewed sample I received had nothing but a Quick Start guide with it, but I believe the expectation will be that, along with the latest version of Squeezecenter, the full Duet guide can be downloaded from the website. It will be required, if only to decode the colours of the ever-changing single status light on the Receiver during (and hopefully restricted to) set-up.

It is important to download the latest Squeezecenter software, as embedded in it is the latest firmware (codec and link support for the Receiver, software enhancements for the Controller). The setup process is governed using the Controller, including being informed when those firmware updates are unpacked to both hardware elements. It is very straightforward, following the setup guide.

What is important at this stage is to know whether you are part of the ever-increasing 'network aware' general public (i.e. your computer is on a wireless network) or a complete novice. If the latter is the case, you really should seek advice from someone who understands such matters – they will be able to guide about setting up the Controller for your wireless network. In truth though, it's no more tricky than



setting up a Wi-Fi radio for the first time.

The slimmed-down Receiver only bears power, Ethernet, analogue phono, and coaxial and optical digital connections. You can choose whether to go entirely wireless (the antennas are internal), but it is also possible (even preferable) to run the controller wirelessly, and the receiver via Ethernet. You don't even have to have a wireless router – as long as your Ethernet router is close to your hi-fi, the controller can do its wireless thing by bridging through the receiver.

If you wish to use Internet radio, it is beneficial to register for the Squeezecenter as part of the Squeezecenter configuration, permitting as it does access to various services including last.fm, the online live music archive and network-hosted MP3 services, some of which can be separately chargeable. Personally, I still find all of these options, on average 128kbps quality, to be too lo-fi to listen to.

THE LISTENING

As far as an affordable device such as the Squeezebox Duet is concerned, you can get real hi-fi sound with lossless FLAC – full strength .wav files may be more appropriate for the £4,500 Naim HDX but the excellent sound of FLAC files isn't going to limit the sub-£300 Squeezebox Duet one jot.

But there are a few caveats. While it is now possible to obtain 'studio master' quality FLAC files, you would need to graduate up to the Transporter to play them. The 24/88.2 FLAC of Beck's 'Sea Change' stuttered on this device. I suppose this is, after all, how Logitech demarcate the territory between the budget Squeezebox and the high end Transporter. Despite its 24bit Wolfson DACs, the new Duet doesn't reach much beyond 16/44 CD quality.

Equally, the analogue line level outputs are nothing special – putting on the classic Talk Talk 'Colour Of Spring' gave the expected great dynamics, imaging and space in the recording when connected to the Arcam AVR350 AV receiver via coaxial digital, but the analogue equivalent gave a lacklustre, uninspiring rendition.

Some internet-sourced 16/44.1

FLAC files of vinyl rips gave impressive truly natural-sounding results – that version of Kiss's 'Unmasked' sounding far closer to those early 1980s vinyl days than the mid 90s dynamically compressed remaster CD!

Those who still listen to purchased compressed music should be warned that other than the unrestricted iTunes Plus variety, iTunes music store bought tracks are not playable on the Squeezebox. But the evidence of Captain's 'Glorious' was that the unrestricted tracks can sound very fine, approaching 'CD quality' at 256kbps AAC.

CONCLUSION

If you are a network music novice, the Squeezebox Duet package represents an ideal opportunity to dip your toe in the waters at (relatively) minimal cost. Eschew the analogue outputs (unless adding secondary outlets to existing digital input-free set-ups in the kitchen etc.), couple the receiver with a decent DAC (such as the Russ Andrews DAC1 USB) and you will be marveling at the plain superiority of the resulting audio to the vast majority of CD playback possibilities.

If you are an existing user (including those Squeezebox + enthusiasts!) you should already be convinced of the viability of this music reproduction method, and just be overjoyed that Squeezebox remote makes operating your system from the comfort of your armchair so much more preferable to squinting at an OLED display.

The only drawback is that, while open-source, the Squeezebox Duet is still tied to Slim Devices and therefore not completely 'platform neutral', unlike the Twonky media server with uPnP (Universal Plug 'n Play) server/control model espoused by the new doyens of networked music, Linn. But if you're not a Linn person, the Squeezebox family route is still the preferable audiophile method of listening to networked music – and that's including the Airport Express/Apple TV options from Cupertino.



VERDICT

A great entry level network music player package, with dramatically improved usability at a bargain price.

SLIM DEVICES
SQUEEZEBOX DUET £270
www.slimdevices.com

FOR

- super-intelligent remote
- striking design
- backwards compatibility
- value

AGAINST

- so-so analogue sound
- still a bit tweaky!
- no 24/96

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iCandy

David Price and Noel Keywood savour the flavour of Q Acoustics' handsome new 1050i floorstanding loudspeakers...

(previously QED's chief designer and now heading Armour's 'Concept Design Centre') being responsible for the final voicing. The range is still made in China, to impressively high standards considering its lowly retail price. There's a choice of Cherry, Beech and Graphite Black vinyl wrap finishes, which look far closer to real wood than you might imagine.

With an effective volume of 35.7 litres, these are big boxes, sturdily put together (as the 17.8kg weight attests) and standing proud in your listening room at 975x295x195mm. Wrap your knuckle on the cabinet and there's no sense of a hollow box of air as with some other price rivals. Those big boxes sport two 165mm mid/bass fibre coned drivers working together with a single 25mm Ferro-fluid cooled Polyester weave tweeter sandwiched in between, effectively as a two-way speaker. The drivers are bespoke, designed at Fink Audio, and mounted in a sturdy front baffle. The box sits on an integral aluminium plinth with 'top configurable' floor spikes, and being a bass reflex design has a port below the bass driver. Inside is the fourth order Linkwitz-Riley crossover.

SOUND QUALITY

Frankly I wasn't expecting such a warm, expansive and musical sound. On the end of a Class A Sugden IA4 (admittedly far more expensive than their likely partner) amplifier, the 1050i served a truly big sound of surprising finesse. Simply Red's 'Holding Back the Years' was a treat, with its vast recorded acoustic taking over my listening room. These speakers imaged way out of the box, hung instruments in space with confidence and showed



Time was when a gifted individual with a great idea would design a loudspeaker and then start a company to mass produce and market it - from Wharfedale's Gilbert Briggs to Mission's Henry Azima, this has been the general pattern of events. Now though, we live in a more complex world, and things don't always happen this way...

Q Acoustics is a case in point. A corporate loudspeaker 'brand', the company behind them is Armour Home Electronics, a company whose loudspeakers were the product of a marketing meeting, when Tony Jones

(ex-Mission) suggested that Armour started their own loudspeaker brand. Whereupon Stephen Reichert (Amour Marketing supremo, ex-Arcam) replied that it was "the daftest idea I had ever heard, and he was insane to think we could simply 'invent' a new speaker brand"!

Well. Steve lost, and the project was duly outsourced to Karl-Heinz Fink (of Fink-Audio Consulting), a man responsible for some of the best recent loudspeaker designs, from Yamaha's Soavo range to another of others I'm not at liberty to mention! Lots of listening has gone into the new Q range, with Steve Reichert and Steve Privett



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MERIDIAN

SECOND THOUGHTS

My ears pricked up on hearing such an easy sound, lacking the upper midband and treble emphasis that commonly bedevils modern loudspeakers. The 1050i is warm in general balance, and this gives vocals a pleasant quality. Nigel Kennedy's vigorous bow work was deftly handled too, the 1050i giving a lively vibrancy. Only on the odd occasion when he uses a particularly strong down stroke for emphasis did the 1050i's tweeter get in on the act to add glare, showing itself to be just a little too eager and obvious. Over time I noticed the tweeter has a rather hard quality that makes cymbals stand out and adds some edge to the sibilants of Gabrielle's voice in 'Forget About the World'. At the same time though, this carefully contoured tweeter seems largely responsible for the 1050i's superb imaging across a very wide sound stage. Add this to really strong insight and detail retrieval and you have a sound that immediately impresses whilst being easy on the ear.

The large cabinet, twin bass drivers and big port don't lack enthusiasm when it comes to hanging onto a bass line and getting it out into the room. Couple this bouncy dynamism with smooth coverage of the low frequency spectrum and you get satisfyingly strong bass lines from albums like Angelique Kidjo's 'Aye'. Where other loudspeakers equivocate the 1050i really give a lovely strong rhythmic underpinning to Rock music. If you want a large loudspeaker that's inexpensive but has really nice bass, in addition to being very good elsewhere (oh, and easy to drive) this is it!

Was there anything wrong then? The front mounted port adds boxiness that seemingly anchors the sound within the cabinet, so in addition to warm basic balance the 1050i sounds both warm and a little boxy - quite an old fashioned sound, in fact. It isn't serious by any means, but it is there and some may find the whole a little too prosaic against some of today's faster, shinier models from KEF, B&W and Monitor Audio, for example. This was rudely revealed by Jackie Leven's 'Desolation Blues', his deep vocals seemingly coming from within the cabinet, whilst plucked guitar strings stung my ears. All the same, it was still a great performance, even with these blemishes made obvious. Overall, most listeners will love its strong bass, superb insight, lovely imaging and general dynamism - all with just a few watts input. A big thumbs up then, for providing a conspicuously hi-fi sound that's very well honed, at a giveaway price. NK

commendable depth perspective - all without any undue harshness.

Of course, these aren't going to be as smooth as £1,000 floorstanders, but I've heard less refined £700 designs. Singer Mick Hucknell's voice was carried with commendable accuracy, with all his inflections caught well and no undue 'nasality'. In absolute terms, there was a slight lack of insight and atmosphere, and a rather generic quality to the hi-hat cymbals, but it was still a great performance from a £290 speaker. That massive midband bristled with detail, the speakers having real subtlety and bite, and it moved smoothly down to a powerful, commanding bass.

For the price, the 1050i was brilliant in the low frequency department. True, you get a very subtle boxiness - a sense of the bass guitar issuing from within the cabinet - but it's still expressive and tuneful. Instead of the sad sound of boom and wheeze (as per many price rivals), you get a fluid and musically expressive bass line that's not obviously compressed even at very high levels. Kraftwerk's 'Tour de France' showed it to be fast, able to stop and start deftly, allowing the QA 1050i's snappy, clean midband and crisp treble to really do their thing in the timing department. They gave a truly enjoyable performance with this immaculately recorded slice of modern electronica, sounding unexpectedly couth considering their lowly price tag.

Tonally, the Qs are on the warm side of the street. They add a gentle richness to the bass and midband that's euphonic but not distracting enough to be criticised as 'colouration'. This is ideal for the lean sounding budget CD players they're likely to be used with, but with my high end vinyl front end it was overtly 'sumptuous' in a nineteen seventies sort of way. It gave Lou Donaldson's 'Alligator Bogaloo' a wondrously fat, fulsome sound that

made their great bounce all the more satisfying - these are great budget jazz loudspeakers.

CONCLUSION

At the price - the Q1050is are nigh on flawless. They do relatively little wrong, and the way they do things wrong doesn't detract from their many strong points - power, scale, dynamic articulation, musicality. Despite their budget origins, they really are good enough to use in mid-priced systems - and even delivered the musical goods in a high end one. If you want a great pair of big boxes that serve up bouncy, big-hearted fun for less money than many spend on a one metre interconnect, look no further. DP



VERDICT

Anyone will find their powerful, warm, dynamic and expansive sound hard not to like, but at the price it's a revelation!

Q ACOUSTIC 1050i £340
 Armour Home Electronics Ltd.
 +44 (0) 1279 501111
 www.qacoustic.co.uk

FOR

- musicality, dynamics
- physical scale
- finish

AGAINST

- nothing at the price

MEASURED PERFORMANCE

I listened to the 1050i before measurement and can see why I liked it. The overall frequency response pattern is a smooth one free from the peaks and dips indicative of colouration. The 1050i did have a smooth, yet natural sound, free from obvious tonal colour. The lower midband in particular is less lumpy and better integrated than most, making speech and vocals convincingly natural. However, there was some warmth to the sound and this is due to a slow roll down across the upper midband, above 1kHz. The tweeter cuts in above 3kHz and output slowly rises thereafter, to a smooth plateau up to 20kHz along the 0dB datum. This ensures there's detail in the sound and it isn't dull. The tweeter's output is smoother than many, so it may have less character, meaning reduced spit or zing. The 1050i will sound warmer than most modern loudspeakers, as it's fashionable now to lift upper midband and treble output.

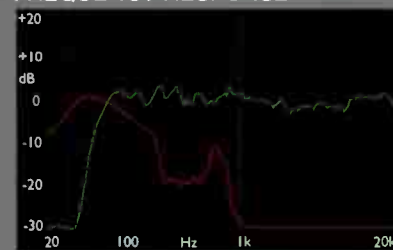
Down at low frequencies the story is still a good one, explaining why I liked the 1050i's bass. It extends smoothly down to a low 55Hz - deep - before the port takes over. This is quite well damped, giving a broad output that extends down to a low 32Hz (-3dB). Shown is a fast MLS measurement; steady pink noise suggested the 1050is have a little (+2dB) bass peaking, just enough to add weight to deep bass without looseness and boom becoming a problem. The forward facing ports do output box colouration though.

The bass unit has a DCR of 3.8 Ohms so is nominally a 4 Ohm unit, but overall impedance measured exactly 6

Ohms. Our impedance trace shows the port is tuned to 45Hz and well centred on bass resonance for maximum damping. The usual midband peak is low and therefore unreactive. This is quite a nice amplifier load, although better is possible nowadays. Sensitivity nudged 90dB, which is superb. The 1050i needs no more 40 Watts or so to run very loud.

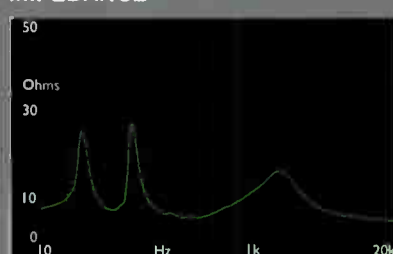
The 1050i is well engineered and nicely judged. It is for those who want a smooth, natural sound with a trace of warmth to it. Quality bass and treble ensure it will be a good long term listen. NK

FREQUENCY RESPONSE



Green - driver output
 Red - port output

IMPEDANCE



Logan's Son

The newest, smallest and most affordable Martin Logan electrostatic loudspeaker is with us, in the slender shape of The Source. David Price directs the listening...



Regular readers will know how highly we regard the products of Martin Logan. *Hi-Fi World* has always taken a great interest in elegant engineering solutions, and here's one loudspeaker that offers precisely this. Compared to cooking moving coil designs, electrostatics are a difficult, fussy and expensive way of making sound – not easy to get right at all. Properly done however, the results can be startling, because they have none of the deep flaws intrinsic to conventional box loudspeakers.

Martin Logan is one of the few companies that can do electrostatics properly. Indeed, I'd say that the panels themselves are superior to that illustrious name that brought the breed to British households, namely Quad. All well and good then, but a brace of superb high end designs does not a great affordable package make. The Source you see here retails for 'just' £1,599, putting it up against some really rather effective conventional designs, and right into one of the most competitive market segments in the UK. Actually, this is the first time I remember this happening; normally 'statics are the preserve of the very well healed, but The Sources are actually affordable to most audiophiles self-disciplined enough to save up.

The benefits of this type of speaker are instantly apparent, but are best expressed in terms of what they *don't do wrong* rather than what they do right! First and foremost, you're not listening to a couple of drive units of differing weights, stiffnesses and profiles wobbling around in a hollow box together. Instead, you have (in the case of Martin Logan) single panels of special plastic film, tightly tensioned across a frame, vibrating by an electrical charge. Whereas a conventional two way speaker with a cloth dome tweeter and a Kevlar mid/bass needs a clever, complex crossover to get the two to work together acoustically and electrically, an electrostatic doesn't. Think of it like this - moving coil speakers are rather like trying to sprint with a boot on one foot and a sandal on the other – no matter how much you try and alter your running style, the difference in footwear means you'll never show your body's full potential.

However, electrostatics have their own set of 'issues' that handicap them in other ways. First, the physics of the panels are such that they can't really do bass. Or rather they don't do it anywhere near as effectively as a magnet wobbling a big paper cone. For this reason, 'statics are either very big (i.e. Quad 989) or come with a moving coil bass unit (i.e. Martin

Logan). Technically then, these are hybrid designs – and that in itself is another big challenge to surmount. Just as a cone woofer and dome tweeter don't have much in common, so an electrostatic midrange/treble panel and a moving coil bass driver aren't natural bedfellows. For my money, this has been an issue with Martin Logan speakers of yore; I've never been completely convinced by the way the panels crossover to the

"it doesn't feel like you're listening to a great loudspeaker, because it doesn't feel like you are listening to a speaker at all..."

cane. More of which later...

The other problem is that by most people's standards they're unpredictable in rooms. Being dipoles that radiate sound both to the front (obviously) and rearwards (but not sideways), the angle of incidence of the speakers relative to the listener's ears, and the arrival time difference between direct and reflected sound, makes or breaks their performance. You really must have a suitable room and spend serious time positioning them – plonking them on the floor so they look nice next to your rubber plant ain't going to work!

Having spent several years with Quad ESL 989s, which I both love and hate, it was interesting to look at Martin Logan's quite different thoughts on how to make the ideal electrostatic. My biggest criticism of the Quads is the floppy wooden cabinets (now firmly fixed with the new ESL2905). The Source also takes cabinet rigidity seriously, using so-called AirFrames, manufactured from aerospace-grade aluminium alloy, to hold the panels as tightly as a tennis racket.

Martin Logan panels are superb in my view, and The Source sports the second generation of their CLS (Curvilinear Line Source) transducer with ultra-low-mass PET (polyethylene terephthalate) diaphragms and 'MicroPerf' stators claimed to expose more of the diaphragm surface, expanding effective radiating area without increasing panel size. Working with these is a single paper-coned 203mm woofer, mounted in an MDF box which also houses the crossover, complete with rear-mounted reflex port.

Underneath this is an adaptable rotating base sitting on 'Energy Transfer Coupler' spikes, which can be adjusted from 1° to 13° degrees

of rake. The back of the boxes sports monowire binding posts and a DC power input (each speaker uses a single, offboard AC power adaptor). The result is a tall, slim loudspeaker (130x24.5x37cm), elegantly and subtly finished and weighing a hefty but manageable 21.4kg.

SOUND QUALITY

I can't think of many loudspeakers that are harder to get 'on song' than

Martin Logans, and curiously their less expensive designs almost seem fussier than higher end models. Unboxing them and placing them in my usual large loudspeaker 'place' in my listening room, where most work reasonably well, the MLs were appalling. In fact, I've heard better from £50 multimedia speakers. However, given that I like a challenge, I set out to get them going...

Martin Logan's UK distributor Absolute Sounds say that they need at least forty eight hours of being continuously powered up to really give their best, with twenty four being when they "start to not sound bad". I'd go along with this, meaning that if you're serious you've got to leave them on all the time. They're certainly fussier than the Quad 989s, which I find I can turn off at night and on in the morning, making them ready for a good evening's listening twelve hours later.

There's also the vexed issue of placement. Given that everyone's room is different, then experimentation is the order of the day. They need to be moved out a good way into a room, whereupon suddenly they snap into focus. Their angle (rake) is also critical, and again depends on your ear height – laying back on my lowish sofa, I found they needed to be almost vertical. You'll soon hear the correct setting, as treble is quite subdued if you're not in the sweet spot.

I started the listening with a BBC CD of Radio 4's 'Alan Partridge', offering as it does well recorded speech (and lots of great comedic moments, "aha!"). The contrast between listening to male voice on a box loudspeaker and the Martin Logans was striking. Being humans, we are so well attuned to what natural voices sound like, and this

sound points out chestiness, bass boom and poor integration between drivers on conventional designs. Not so with The Source, which was even and open right up and down the frequency spectrum – comedian Steve Coogan's voice was delivered with an uncanny clarity. It didn't sound as impressive as your average £2,000 box however, the MLs having no bass or treble boost to make things stand out. Instead, there was a gentle, natural, easy sound with fine timbre – nothing more, nothing less.

Moving to altogether more processed music, and Prefab Sprout's 'Appetite' again delivered a quintessential electrostatic sound. Hook up a pair of KEF XQ40s, for example, and you get a feisty, engaging and punchy sound, whereas the MLs were altogether more subdued and subtle. While the KEFs impress immediately, these take longer but when you've got used to the lack of boxy colouration they make a more lasting impression. At first it's almost anticlimactic listening to The Sources, but they charm through not doing anything badly rather than doing a single thing particularly well. Their naturalness, speed and ease make them satisfying long term listening partners, rather than flashes-in-pan. 'Appetite' is a powerful, well produced pop song – and The Sources don't quite capture its massive thump and dramatic dynamic contrasts as well as some box speakers, but more than make up for it in their open, organic sound. Put simply, it doesn't feel like you're listening to a great loudspeaker, because it doesn't feel like you're listening to a speaker at all.

Switching to the classic funk/jazz strains of Donald Byrd's 'Streetlady', these loudspeakers really sang – in their way. These panels, unlike the heavy cones of most mid/bass units, showed tremendous delicacy, offering a subtle window into the music with little editori-





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Letter of the Month

TIMBRE LAND

I agree with Mark Haine (letter in May 2008's Hi-Fi World) about the need for some loudspeakers able to "resolve the real timbral qualities of musical instruments". There has been some discussion of this in the forum attached to Harbeth's website, including comments by Harbeth's Alan Shaw, following the recent introduction of their new Radial injection moulded cone technology. This development has only been applied to Harbeth's 6.5" and larger diameter cones and not to their 5" diameter cones' loudspeakers. I see there is a three-way model, Monitor 40.1, though this is an expensive loudspeaker!

The two-way Monitor 30 has the new cone, as does the updated version of the Compact 7. I haven't heard these speakers yet as Harbeth dealers are very distant from where I live. However, given Alan Shaw's enthusiasm for his new cones he'd likely supply Hi-Fi World with models for review. He says his Monitor Series are more accurate than the older series' Harbeths, a couple of which he says he continues to manufacture because some listeners like them. However, as he has upgraded the cone in the Compact 7 to the new specification, how about a comparative review of it versus the Monitor 30, and including orchestral music with well recorded violins to assess Shaw's claims?

In addition to the problems NK mentions about two-way loudspeakers and timbre of violins, another is that dealers demonstrate on stands which are too low, thus one is usually listening on, or above, the tweeter axis. With most loudspeakers on such axis the summed sound wave is not time-aligned, thus the timbre is spoilt. Listening somewhat below the tweeter axis - down towards the woofer axis - sometimes timbre improves and the sound becomes more coherent - more believable and true-to-life. This is quite

noticeable with well recorded classical music, and less so with various types of pop and rock because the phase response of much of this has been messed up as a result of the various frequency bandwidth equalisations applied, and attack and decay times' effects of compressors and limiters on the waveforms. This creates different sound wave shapes than the recorded instruments and voices originally had, hence the additional time/phase error result of non-optimum vertical listening axis may not be noticed. Sometimes it is, but it usually depends on the 'production effect' the mixing engineer tried to present.

Listening too far below the tweeter axis the response above 10kHz or so is rolled off, and one loses the upper harmonics of violins, piccolos, etc., thus one has to experiment, and hope the dealer will permit a substitution of stands. With some loudspeakers there is no sweet spot of accurate timbre and realistic coherence of sound, regardless of listening axis.

A close-to-flat frequency response from the upper midrange to at least 16kHz in the treble is necessary to obtain an accurate reproduction of the highest harmonics from violins, piccolos, etc., as distinct from the requirements of cymbals in pop and rock music recordings, where if there is some loss of treble in a notch in one part of the spectrum and a peak in a nearby part of the spectrum the overall brightness of cymbals is maintained. I think that recently featured dual-concentric SEAS driver may be fine for such music, but not for accurate timbre classical. Yes, a Quad electrostatic does not have flat treble response, but Quad's advantages include none of the edge-of-cabinet diffraction effects which cause audible



Harbeth Monitor 30 - new cone material gives better resolution of timbre, says Alan Shaw of Harbeth.

anomalies in the upper midrange and treble from box-cabinet speakers. Comments from readers who've heard any of the new Harbeth models will be welcome!

Chris Taylor

There is an overlaying of the timbral properties of cone materials upon those of musical instruments being reproduced and I'm afraid to say that metal dome tweeters still have a lot to answer for here. Metal cone and dome loudspeakers often sound timbrally monochromatic, if light, airy and 'fast'. Certainly the best for timbral revelation are electrostatics and I found the open Martin Logan electrostatic panel of the Purity I reviewed in our September 08 issue one of the most revealing reproducers I have ever heard. It really is a riveting listen; I was shocked!

When a loudspeaker is being designed it will be measured - well, we hope! The mic has to go somewhere and there is an



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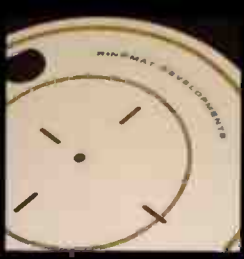
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unspoken convention that it goes exactly between bass unit and tweeter on a two-way, and on the midrange unit in a three-way. Quite where it goes only becomes open to question or experiment and argument with a panel loudspeaker, including the aforementioned Martin Logans. It's not unsurprising then that this is the axis on which the loudspeaker sounds as intended and should, we hope, be at its best in use. There is usually leeway to move down below this axis, but rarely much above it without severe phase anomalies appearing. One part of my listening routine when reviewing a loudspeaker is to first listen on-axis, then to move up and down to see how it sounds slightly off axis, vertically. It's worth doing this in the showroom. Also, you do need to know what your ear height is at home to be able to pick a stand of the right height.

As I have said before, I think there is a lot of mileage in using larger diameter tweeters that work down to 1kHz, even if they can't get much higher than 16kHz. Crossing over at longer wavelengths gives a smoother less phasey sound that perceptibly benefits violins in particular and this too seems to help perception of timbre.



Usher S520 - a budget loudspeaker with lovely revelation of timbre.

To be fair to the SEAS coaxial driver, it does have a TPX bass cone and cloth dome tweeter and both give good timbral revelation in my experience. The Usher S-520 is good in this respect due to its TPX cone material. I do hope we can review the Harbeths and provide our experience of them. **NK**

I think timbral reproduction is the bane of hi-fi, and is also an oft-overlooked issue. The problem is that most sixties valve amps were hopelessly coloured, making everything sound more like Stephen Fry's voice than Steve Winwood,



New music player in the house - a MacBook!

whereas the transistor amps that followed went the other way – with a tonally grey, thin and mushy 'haze' across the midband. However, high quality modern valve amplifiers, plus a handful of good solid-staters can and do tell you what an instrument's timbre sounds like. This then puts the onus on to the speakers to get it right – and where your argument comes in...

As Noel says, it is the drive unit (or transducer) material that seems to affect this more than anything. Hi-Fi World has long preached the virtues of certain cone materials (the stiffer and lighter the better,

Quad panels a tad dry and tonally 'dark', but listening to the same speaker (ESL57) with One Thing Audio panels and it's an altogether tauter and more multicoloured thing. Which brings me to Martin Logans, which have a similar sound to OTA Quads (but with their own other 'issues'). Whilst I am impressed by the Source, I have to say that hearing the ringing harmonics of the high end Summits some two years back was a truly special, unforgettable, experience. Rarely, if ever, have I heard piano sound so full and fruity, or brass shimmer and shine so. **DP**

MY TUNES

The cause of my dilemma is a MacBook. Up until I purchased the Mac I was running a vinyl only setup using a Revox B795 turntable fitted with Shure cartridge, PS Audio DAC III phono and preamp, Audio Research D115 valve power amp, Klipsch Heresy II loudspeakers, with Silver Tech interconnects. The Mac opened up the opportunity to play my dusty forgotten CDs, plus films and radio. Being happy with the PS Audio phono - so different from the Audio Research SP 9 I was previously using - a DAC and preamp were purchased. Having previously tried various CD players including a Shantung T100 and a Marantz valved up by Heart and been disappointed, the Mac with offboard DAC has been a pleasant surprise. The opportunity to catalogue my vinyl was also welcome.

You can see what's coming can you? Suddenly, my Audio Research D115 power amp is powered up for much longer periods and with eight 6550s to change every few thousand hours the future looks expensive. I love its space and air, and for me a big valve amp with sensitive speakers is just right for the feeling that nothing is working too hard. As much as I love the D115, economically it's a drain to keep it in tip top order and with the added work load, so it is time to consider an alternative. Less valves, Class A, Class D(?) - I'm

generally) and we find that the likes of carbon fibre and very high quality paper sound best. On the other hand, Bextrene, plastiflex and polyprop all seem to 'quack' or add a nasal colouration that adds its own 'accent' to everything it speaks, as it were. Metal can sound very variable, proving I suppose that it's more about how you use it than what you use!

Electrostatic panels offer an escape from this, being very light film stretched over a frame and 'tickled' by an electric charge. Again though, the type of electrostatic panel matters – and how it's done. I find



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open to suggestions. My only caveat would be more bass weight, the Audio Research's only failing for me, and a price range of around £1,500.

The inclusion of the Mac into my system has been a revelation and though vinyl remains my reference, digital is a part of my listening experience again, plus it means more articles to read in your mag and an opportunity to explore new music with ease. And it's always about the music!

Stephen Critchley

Hi Stephen. I suggest you look at Vincent and their hybrid SV-236 amplifier, which has a valve preamp stage and solid-state output. At this very moment UK distribution seems to be up in the air, but Gloucester Hi-Fi have them in stock at £1,000 and this amplifier offers a massive bass hit, along with



Vincent SV-236 hybrid amplifier with valve preamplifier and transistor output stages.

the superb midband air and sound staging that you expect from valves. It's a Technicolor performance, but one not lacking subtlety either, as happily the solid-state part is well engineered, rather than an afterthought.

If you get nowhere here, then a World Design WDPRe3 preamplifier with a solid-state power amplifier like a small Naim NAP-150 is worth considering. It's more expensive, but commensurately better and both are U.K. companies you can talk to. You get the smoothness and punch of a Naim, with much of the air and space of valves. Because small signal valves like those in the preamp are inexpensive and have a long life of around 10,000 hours, your troubles will be over! **NK**

It's going to be difficult to get an 'upgrade' to your Audio Research for less than £1,500 – I think the best you can do is a 'side grade' which offers different characteristics, some better, some not. On sonic grounds, my feeling would be for you to go to a Class A Sugden, but that has precisely the same power consumption issues you are trying to solve, so with this in mind methinks a Class D power amplifier is the

answer. The question is which, and here it's got to be last year's Hi-Fi World Award winning Channel Islands D100 (£1,595 per pair). About the sweetest and warmest Class D amps we've heard, they're fulsome and musical in just the way you need, whilst consuming less electricity than a Scotsman who's not afraid of the dark. **DP**

THE VINYL STRAW!

I enjoy the magazine but all this nonsense about analogue just makes me laugh. For example, Noel Keywood's rant in this month's issue: I really couldn't stop laughing! Yes, you can get 45rpm albums on 200 gram vinyl at a price! But as for the dear old LP being beyond fault, well where to start? Surface noise scratches, warps, lack of playing time, music not available at less than £1,000 pounds for a phono stage, God knows

how much for a turntable and some rare moving coil cartridge made from bats' wings. Now I am sure this will bring loads of old fogeys out of the woodwork. As for me, I shall stick to my digital system which provides me hours of enjoyment - and after all isn't this about the enjoyment of music?

Dave Weir



Van den Hul Grasshopper (wings) and a £3000 price tag isn't for Dave Weir.

Er, yes Dave. We're both laughing. Vinyl is the fastest growing sector in U.K. C.E. (Consumer Electronics) sales (+17% per annum) and it's the same in the USA, Germany and Japan. Or, in other words, the return to vinyl is a worldwide phenomenon. It has nothing to do with old fogeys

who dropped more than their prescribed dose of Viagra; this is largely about young people turning on to good sound, and off technology that suffered a character bypass at birth (i.e. CD). **NK**

Hi Dave – well we do focus on lots of esoteric vinyl stuff that's true, but as we also often say, you can get great sound per pound too. For under £400 a Rega P3 and Audio Technica AT110 will sing like a canary, you can get a Cambridge Audio 640P phono stage for under £60 and there's always the option of wiping your LPs over with a carbon fibre brush (£5) every now and then to keep surface noise down. Alternatively, if you're a real Scrooge, then look to Adam's superb feature on p103 for a complete 'previously owned' vinyl system for under £150! **DP**

KEEP UP WITH EPOS

I currently have Epos M12 loudspeakers on dedicated stands, powered by a Roksan Xerxes/RB300 (Incognito rewired)/Rega Exact turntable and a Naim CD5/Flatcap 2 via a Naim NAC 202 preamplifier (also with a NAP5C)/NAP150 power and a Stageline N phonostage. All this sits on a Quadraspire Q4 rack, Sound Organisation turntable wall shelf and Naim cabling.

I bought the Eposes six years ago when using a Cyrus 3 amp and Arcam CD player and really like them but am now wondering if they are holding the system back? I bought the NAC 202 last year to replace the 112 I was using and while I enjoy the more exciting sound of the 202, there did not seem to be the increase in detail I had thought I would get. Have I gone as far as I can with the electronics using these speakers?

Any new speakers would need to have at least the same fast and exciting sound that the Eposes have and bass needs to be of the tight variety. My room is 13x13.5ft, and I have a neighbour directly below my room so wouldn't want any more bass than I already have. Is there a standmount that sounds like the Epos' but with more detail and a bit more midrange? I wonder if the Epos' could do with a slightly 'warmer' midrange sometimes. Kudos C10s and Neat Momentum 3is are speakers I am considering (the top end of my budget) but would also be more than happy to go secondhand if I could get a better sound or even spend less. Any speakers I buy would ideally work with some of the higher Naim kit as I really enjoy its sound and will probably upgrade my 'black boxes' over time with a NAP200 being the next step...

Alan Paterson

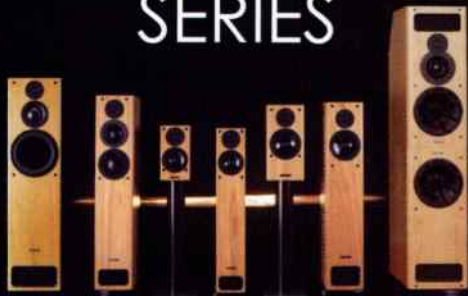
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"Neat's Momentum 3is loudspeakers come close to Monitor Audio PL100s for £500 less" says David Price

The Epos M12s were known for their tight, fast and punchy bass and you may be hard pressed to match it, although there was some artifice in there; they could also sound a little hard and clanky, rather than open and natural. All the same I know many loved them for exactly the reasons you state. However, your budget seems to stretch to £1,500 or so and this embraces a lot of top quality stand mounters. An obvious candidate is Monitor Audio's new PL100, complete with highly revealing ribbon tweeter, plus the usual fast and dynamic Monitor Audio bottom end. It's a little over your budget at £2,300 but a big step up from the Epos M12 and you may be shocked. KEF XQ10s and 20s also come to mind as punchy and dynamic. **NK**

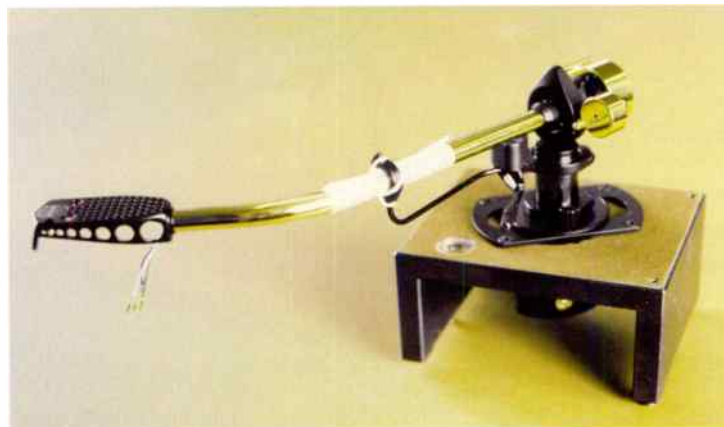
I'd agree with Noel; the MA PL100s are one of the best standmounters at anywhere near the price, but Neat's Momentum 3is come close for £500 less. They also have a slightly tauter bass, and a more explicitly rhythmic midband, but cannot compete with the MA's detail, air and space. Still, another interesting possibility is Spendor's SA1. I am using a pair in my smaller listening room right now and they are stunningly musical (not a traditional Spendor trait, admittedly) – and have beautifully taut bass thanks to their infinite baffle design. The low end is limited, but they're just the sort of speaker than loves a punchy, powerful amp like a Naim. The midband is very explicit, making them quite a mesmeric listen even at middling levels – ideal for your predicament, perhaps? **DP**

RACE PACE

Reader J. Walker's disappointment with the SME/Linn couple is hardly surprising: in the late seventies audiophiles in droves switched their allegiance from Thorens to Linn and many transferred their 3009 to the latter, with indifferent results. That did not mean that either the SME or the Linn were poor products (though both have their weaknesses), simply that they were a poor match. For those loathe to part with their 3009, it is possible to improve matters substantially - which I did some fifteen years ago, and lived (nearly) happy ever after...

The main problem is the arm lead and its connector (beneath the arm), especially if used on a suspended subchassis. I replaced both with high quality twisted Litz wire soldered directly in the arm pillar then fixed to the plinth via a spare P clip. This eliminates a crucial contact, which requires very frequent (and awkward!) tightening/cleaning, and improves the quality of the lead, while completely freeing the suspension: the improvement was dramatic.

Fit the SME damping accessory (F.D. 200) with the smallest paddle



"After these mods, I have felt no urge to replace my SME 3009" says Gerry Stone.

and dilute the provided fluid. Here, the improvement is subtle but real (less zing, cleaner bass). Remove the rider weight and its wayrod, and set the tracking force via the main counterweight; thus modern cartridges requiring more than 1.5g can be fitted. Use steel screws and nuts to fix the cartridge and check frequently that the base clamp nuts are really tight - here the improvement is substantial (harmonics, transients...).

After these mods, I have felt no urge to replace my SME 3009. On returning from live events, I often play the corresponding record and feel my system easily clears the credibility threshold: Surely the aim of high fidelity? **W.B.**

Brilliant – thanks for that W.B. The SME 3009 is a good arm, and responds well to tweaking as you say.

Like Formula 1 cars, vinyl is as much about the set-up as the hardware itself – and time invested is money saved. **DP**

PRICE FIXING

In all the reviews I have read over the years regarding the price and relative value of purchasing a moving coil pickup cartridge, none have questioned the true cost of ownership. I play all my vinyl on a Michell GyroDec and Rega 300 arm with Origin live upgrades. My own experience over the years of buying cartridges in the £200-300 range is that they take about fifty to one hundred hours to run-in. Thereafter, like all electromechanical devices they degrade until after about one thousand two hundred hours, there comes a point when there is a discernible loss in quality on more difficult tracks.

Is this peculiar to this price range (i.e. Dynavector DV10X5 / Sumiko BPS), or does a more expensive MC perform significantly longer? The question I am asking is - if a properly set-up and maintained MC costing £250 is good for eleven hundred hours only, (equating to about 10p for one side of an LP), does

it cost 40p to play the same LP using a MC costing £1,000? Is this lack of information due to lack of data or is this something that the manufacturers of more expensive MCs don't wish to acknowledge?

Gerry Stone

Your times and calculations seem about right to me Gerry. Cartridges do wear in - then wear out! They are lifeless sounding after a few years of good use. However, a replacement stylus or a rebuild from companies such as The Cartridgeman is then an option and it can cost much less than a new cartridge, reducing the cost per side. All the same, like any mechanical device, including cars of course, there is a finite life and a cost per side or journey made. That's life isn't it? **NK**

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DIPOLAR OBSESSION

Whilst listening the other day to my stacked ESL57s (driven by a Leak ST20), I reflected on how dipoles can do some things that other speakers still apparently can't – even bass when well designed, set-up and damped. In fact it's interesting to reflect that the sound quality I enjoyed was basically available over fifty years ago – and that others besides myself are impressed with what is delivered.

It was therefore with extra interest I enjoyed Peter Comeau's dipole speaker discussion, together with the promise of some dipolar speaker "kit" from HFW in the future. This sort of project is one of the special things about HFW – the interface of both hi-fi equipment review and analysis, together with the analysis and presentation of opportunities to do some DIY sound system work for those who would like to experiment themselves. Others seem to have given up on this sort of hi-fi.

My main system is just such a composite – Kef Reference 4 speakers, McIntosh MC275, complemented by an excellent home-made subwoofer using back-to-back Monacor 15" woofers, filtered and compensated before being driven sub-resonance by NADs (mainly from 15Hz to 30Hz) for my organ music – it really does sound great, and the system has the virtue that it can also be played very quietly and still sounds great – with full bandwidth. Perhaps some of my thoughts will provoke others interested in home-build themselves?

As I am thinking of trying out the Quad 2905s sometime, and in view of my love of organ music, I have already started to think about dipole subwoofers (again for the 15-30 Hz region) as a natural match for a full range dipolar system. The Celestion sub you show, as well as the Gradient subwoofer designed for use with Quads in the past, have provided food for thought. The discussion of the requirements for a full-range dipole system in the Jan HFW issue was of further thought-provoking interest, and hence I will offer a few comments on points arising which interested me, before coming back to some dipole sub options. I ignore such possibilities as home-build ribbons (myself in photo for scale, letters HFN/RR Nov 1997)

The low-frequency end of a dipolar system where the various baffle and driver cut-offs interact has been the subject of several approaches, though it is not clear how in detail e.g. Jamo approached this issue. The use of a driver with a high Q (~2) to extend LF dipolar response was used by such people as Bob Carver in his "Amazing Speaker", which also attracted controversy for exactly this reason, but

was claimed to have superb extended and well-damped bass in the final result. This means of implementation can be cheap, as the simplest method of raising bass unit Q is to reduce the magnet size drastically (i.e. the EM back-damping), which makes the driver unit much cheaper to manufacture. Alternatively a series resistor used with such units as the UK-made Precision Devices' 24" woofer might be a possible option for headbangers!

The great audio designer Nelson Pass also still offers his thoughts on how to implement full-range dipole systems. I should also offer a brief technical "correction" – such speakers as the Quad ESL57 with large bass panels effectively couple the bass into the room in a way that is quite different to a woofer sited in a large baffle, due to the overall effects produced through non area-linear radiation resistance alterations (and see also horn loading) – if I recall correctly, the master Peter J. Walker specifically addressed this effect in detail in three articles on dipoles in mid-1955 issues of *Wireless World*. These articles are well worth a read even today! Also you get to see why such speakers as the ESL 2905s can have real bass.

As for dipole subwoofers, by coincidence one of my early tries was

considering trialling my lovely pair of Acoupower 18" drivers in the very clever box design shown on Siegfried Linkwitz's webpage – and the drivers are protected from fingers etc, without requiring grilles. For anyone looking for Real Bass in any form, you should check out the Acoupower website anyway, as Carlos Beltran is a design genius.

Enough! I very much look forward to the Hi-Fi World Comeau offerings on this topic which are surely to follow...

Richard Barton

Websites mentioned:

www.carveraudio.com/CarverInfo/dipole.html

www.precision-devices.com/ShowDetails.asp?id=17

Nelson Pass: www.passdiy.com/default.htm

Linkwitz: www.linkwitzlab.com/woofer.htm

www.linkwitzlab.com/DIY%20product.htm

Acoupower: www.acoupower.com/products.php

Thanks for your observations Richard. I spent quite some time working on equalisation of the SL6000 open dipole bass unit and it went humongously low, giving seismic bass. However, all subsonic



www.passlabs.com - One of the Web's many DIY sites, by Nelson Pass.

with five Goodmans 12" drivers (as in your photo) in a vertical array, but I had no clear ideas about the required electronic compensation at the time. I am now clear that in fact the below-resonance compensation for a dipolar array (6 dB/oct) is less strenuous and phasey than that required for a closed box! However excursion amplitude is of course required for extreme LF in any configuration, and especially so for unboxed woofers. Hence I am

repro devices work into a room and I'm afraid this both dominates and usually limits what can be achieved. The dipole had to be orientated in the room for best bass quality – a peculiar difficulty. It also needed a real muscle amp. **NK**

Thank you for an interesting letter. You raise a few points for comment, one of which is covered by this issue's diatribe on open baffles. The

use of a high 'Q' driver to extend response is all very well on paper but doesn't always work out in practice. Bob Carver's design used three or four 12 inch bass units to make up for the loss of sensitivity that reducing the magnet size produces. I seem to remember that Stereophile's take on the 'Amazing Speaker' was less than complimentary about the bass when the Q was left in the 1.0 region.

Of more benefit is the dipole subwoofer approach where the baffle becomes incidental and Siegfried Linkwitz shows quite clearly the requirements for driver and amplifier to achieve low frequency power in the room by driving the system below resonance. This type of boxless subwoofer always seemed to me the best match for panels like the Quad Electrostatic; in this case advanced performance, multiple drivers are necessary just to handle the rapidly increasing demand for cone excursion as the frequency goes down.

My interest is different, being provoked by classic Open Baffles like the Wharfedale SFB/3, which achieved both high sensitivity and good bass performance without resorting to equalization or high Q trickery, though the requirement for good excursion and linearity was still necessary. Horses for courses, as they say. **Peter Comeau**

CARTRIDGES DON'T FOLLOW THE RULES

The problem with pickup cartridges is that they don't follow the normal rules for buying hi-fi. Most dealers have very limited experience of them - often none at all. And you can't try before you buy because they are rather like a car - once driven out of the showroom they lose a huge percentage of their value. It is a situation where the Hi-Fi World team are uniquely placed with the experience of many different cartridges and where we, as enthusiasts, really do take your recommendations on trust and buy without an audition.

So could you and the team please recommend your favourite mid-price cartridges please - say between £600 and £1,200? I currently run a Dynavector 20X-H high output moving coil, on an SME IV arm, on a Michell GyroDec. I want to move over to a moving coil and don't really know how to make a choice. I'll also need a phono stage which will either be a Naim Stageline, PhoNote (with transformer), or Audio Note M2 RIAA with transformer - unless, of course, you have a better recommendation? But I can always borrow and try the different phono stages - it's choosing the cartridge which is the problem!

Edward Martin

There are some very simple and oft repeated answers for you on this topic Edward. By common agreement on sound quality, fully supported by measurement, Ortofon's 2M Black wins all honours as the best Moving Magnet design going at present.

Moving coils are more subjective. I love the intricately fine detailing



Ortofon 2M Black - about the best MM going, says Noel.

of the Ortofon Kontrapunkt b I choose to use, its airy spacious sound of course, and finally its levity. It is very technically accurate, which I understand means a bit cool and characterless for some. But then in a 12in SME312 on a Garrard 401 the overall sound has plenty of other catchy attributes, so I sort of don't need added character, especially when it is of the sizzling treble kind. But over to David, who can say more about top end MCs. **NK**

Okay, thanks Noel. First I concur with the boss's choice of Ortofon Kontrapunkt b - it sings like a canary and has all the detail and finesse I could ever need, along with a nice neutral tonal balance. It's only when you spend a lot more - on something



AT-OC9 ML/II is a fine moving coil cartridge.

like a Koetsu Red Signature that you start getting that 'magic' and 'romance' that high end vinyl can unlock. Still, the Koetsu is actually worse in many 'hi-fi' respects (like focus, detail, treble accuracy, etc.) than the Ortofon, which shows how great the former is. Another favourite of mine in your price range is the Lyra Dorian (£600). Now I know Noel's going to groan reading this

(he doesn't like it), but on a GyroDec (which is by today's standards a smooth, sweet and slightly warm device) going through a warmish PhoNote tube phono stage, it hits just the right balance for me. Think of it as an Audio Technica AT-OC9 on steroids - massive speed and explicit dynamics, with a unfeasibly high amount of detail. It has treble finesse too (thanks to a fine stylus profile) but it does rise at the top end - which fits the aforementioned turntable/phonostage combination just fine. It will also tickle your SME IV, which - brilliant though it is - can sound a bit soulless. So - Lyra for fireworks, Ortofon for all round finesse. **DP**

BI CURIOUS!

Since my last letter to you concerning the practicalities of adding the Shanling MC30 to my system, things have moved on. On discovering that Shanling had no distributors in Norfolk and not being willing to buy one on spec, I happened on a lucky bargain. I'd already considered the Audiolab 8000CD, especially after your favourable review; but couldn't really afford it. Then by chance, a local electrical group had a sale and I picked up one for £380. I'm delighted with the performance, which offers me considerable improvement over my old Arcam Alpha Plus/Arcam Black Box. I guess most of the extra detail is down to the DAC section, but I'm hearing things that I haven't heard before and am taking great pleasure in revisiting my CD collection.

My main question is to bi-wire or not by-wire? On the suggestion of my local hi-fi dealer, I've made up some decent jumper cables, but to be honest I've not noticed an audible improvement. With having to buy a pair of at least four metre lengths of bi-wire, this is going to be an expensive gamble (for decent quality). I know the current wisdom dictates two equal lengths of cable, but does this truly matter? My problem is that one speaker sits quite close to the amp and a metre or so of cable would be adequate, whilst the other needs around four metres. This obviously would make a considerable financial difference and negate the need for three metres of bundled cable behind the speaker. My speakers are Mordaunt Short 208s. Current cable is a single run of VDH the Clearwater.

Terry Symonds

I would not rush to change VDH Clearwater cable for much else unless you really intend to step up quite substantially in quality - and then your loudspeakers need to be upgraded. It is best to maintain balance if possible, especially when

cables have a quite distinctive sound, but you need to be the arbiter of this. See if you can get your dealer to lend you cables first, as many are prepared to do this. **NK**

Indeed – the question you're really asking is, can I get better sound by forking out on two extra runs of vdH cable or spending it elsewhere? My answer would be the latter. Bi-wiring, generally, does work – but it's not necessarily cost-effective, especially if you have issues with the rest of your

although my room is quite small. Oh - and I listen to most things from Miles Davis to Chemical Brothers!
Andy Love

Hi Andy – well that's not fair is it? Comparing new to old. Obviously a mint Project Debut 3 will sound better than a clapped out Technics SL1200, but a mint Technics sounds better than a new Project. My point is – it depends on the Technics you actually buy. If you can find one that's been in a 'bedroom studio', preferably



Buy a good SL1210, save up for an Origin Live platter mat and a Goldring 1042, says David Price.,

system. Indeed I think it's importance is overplayed by those who – ermm – sell speaker cables. I think a better pair of speakers would be money better spent, but as Noel suggests, see if you can listen for yourself. Do the world a favour though, and buy from the dealer that lends you the cables rather than online – otherwise he may not be around next time you need similar such service. **DP**

CLUB CLASS

Whilst looking through some back copies of Hi-Fi World I found an article regarding budget systems and was nicely surprised to see you using a Technics SL1210 turntable. I am starting out in hi-fi again now that cash is not so tight and so far have got myself a pair of Audio Technica W1000 headphones (very nice) and a highly tweaked (was budget) headphone amp. I will eventually be looking at purchasing a record deck but more at the budget end of the market as I don't have a huge amount of vinyl - well about 80 records and 1,300 CDs.

Would you recommend looking at a second hand SL1210Mk2 (available for about £150) or looking at a similar priced new deck (i.e. Project Debut 3). Having worked in clubs I know that SL1210s are about bullet-proof but do they make a good second hand purchase? I am looking eventually to have a system along the lines of Naim CD5i, Naim Nait 5i, Neat Motive 2

owned by a teenage kid who's lost interest in music since the new PS3 came out, then you're fine. If it's a deck that's been dragged around every dodgy dive from Didcot to Doncaster, well no thanks. So yes – buy a good SL1210, save up for an Origin Live platter mat and a Goldring 1042, and you'll find your LP music collection starts catching up with your CDs! **DP**

BACK TO THE FUTURE

I have just bought an old Technics SL-120 Mk 1 with an SME 3009/2 tonearm and Ortofon OM20 cartridge. I have read the 2007 article on the SL1200 Mk2 and also this month's letters. Do all these mods apply to the deck I have bought and could you give some pointers on a cartridge to mount in the existing arm as I understand this is not a great cartridge? The rest of my set up is Marantz CD63K1 Signature CD player, Audiocom modded, Jungson pre/power Class A amps and JAS Audio Orsa speakers bought on the basis of a review from Hi-Fi World.

Tom Birmingham

Well, mostly yes Tom. The SL120 is simply a Technics SL1200 without arm – which audiophiles would regard as a wholly more desirable thing! So you need to set your SME up as best you can, and fit a cartridge that works well in it – such as Goldring's super G1042. Then

add an SDS Isoplatmat, isolate the deck properly (Avid do a great little platform), kick back and enjoy! **DP**

REAL VALUE

There has been ongoing discussion in the letters pages regarding the 'value' of equipment at any given price point. From my experience, and something you often say, is that musical enjoyment is definitely not price related. When I think back to my various systems some of the most enjoyable and most used contained items that were not expensive. They have included a Leak 2000 receiver (that I still own) partnered ultimately with an LPI 2; yes, I fell for the hype early on, with Nightingale NMI speakers. Fast it wasn't, but it was used every day. The speakers were changed for Kans, then the amp and so on. Some of my friends run old equipment, which whilst not providing the current ultra clean and clinical sound prevalent today, actually play music.

I am a great believer in using the best speakers you can, which if chosen wisely can still work well, though not to their best with budget equipment. I coveted Tannoy Dimensions ever since hearing them a few years ago at one of the Heathrow shows. It was when Marantz were the distributors and Ken Ishiwata had a pair of TD 12s with a Marantz CD and amp. It was absolute magic. So a few years on and I had the opportunity to acquire a pair of TD 10s in exchange for a home cinema system. These have replaced my Heybrook Sextets, which I still think are superb (any tips on upgrades Peter?). Even with my ageing Musical Fidelity amp and CD (Electra models) they sound great.

Now I want to improve the amplifier, then the CD. What can you recommend at around £1,000 per unit? I have tried a few items, as I am lucky enough to work occasionally in a hi-fi shop and can take equipment home, although we are pretty mainstream. I have great affection for the now defunct AVI Lab Series amp and the new 1000 series Yamaha's look interesting although I've not heard these yet. I listen mainly to quite a wide variety of music through rock, soul, etc., including the unfash-



Try a PM7001 KI tuned amplifier, says Noel.



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MICHELL, ORIGIN LIVE, SUMIKO BLUE POINT SPECIAL, TRANSFIGURATION. **AMPLIFIERS:**

BEL CANTO, CAT, DNM, GAMUT, HALCRO, HOVLAND, SONNETEER, STELLO.

LOUDSPEAKERS: AUDIO PHYSIC, DALI, ETHOS, GAMUT, NEAT, TOTEM. **CABLES:**

CHORD Co., DNM, NORDOST, SILTECH, VERTEX AQ. **MAINS** Vertex AQ. **SUPPORTS:**

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ionable older artists like The Eagles and Jackson Browne, as well as new artists like Duffy.

I cannot seem to settle on a turntable, having used various examples of LP12, Gyro, Voyd (something I'd like to see tested by Hi-Fi World as I am quite a fan of the science behind the drive system even though it has its own problems, but is at least as stable as direct drive). I am currently using a Michell Mycro with a Linn Ittok arm and Ortofon MC20 cartridge through a Blackhead MC transformer.

Greg Peckover

Hi Gregory. We have a high regard for Marantz products and it strikes me you should try a PM7001 KI tuned amplifier, which will set you back no more than



WD 25 loudspeaker kit - a great floorstander

£500. Expect a forthright and detailed sound with plenty of punch, with a nicely burnished sense of cohesiveness.

I would suggest you look at something a bit more exciting than the slightly pedestrian sounding Ortofon MC20 cartridge. An Ortofon Rondo Bronze suggests itself, or an Audio Technica AT-OC9ML/II. I would not go much higher in a standard Tiktok, unless that is you look at upgrading this with a Funk Firm mod. **NK**

ON THE CHANGE

I am currently in the process of changing my system - well, most of it. Currently it comprises Linn LP12 with a DC motor, Hadcock Export arm (being upgraded with Incognito wiring) and a Lyra Lydian Beta cartridge. Amps are Conrad-Johnson PVI0B pre and MV 55 power, feeding BKS 128 speakers (not well known, but they are two way ribbon tweeter/mid with cone base). The speakers are floor mounted, about 1.5 metres tall with granite sides. My CD is via Leema Antila, and I use a mix of interconnects and cabling, all good quality.

Changes planned include a WD

Phono (PS separate) built into a case with MC step ups and volume via tapped transformers - a la Music First - and a WD88VA PA (when I can get round to building it!). I am changing the Linn for a Michell Orbe (currently in storage). I appreciate the speakers are a bit of an unknown quantity in the UK. They are the bigger brothers of the BKS 107s which were favourably reviewed in one of your competitors [is there such a thing? Ed.] a few years ago and seem to crop up secondhand quite a lot. Believe me, the 128s are in a different class altogether!

Two things are bugging me: I shall be moving to Italy later this year (a hilltop property where I could blast sound out - if I had the power!). Floors will be mainly cotto tiles, and I am unsure how to shoe the speakers - obviously spikes are unsuitable - what can you suggest? Also, the speakers are a bit of a difficult load - I believe the ribbon impedance goes down to 2 or 3 ohms. The CJs struggle - especially as I have wired them for triode output. Will the big KT88s be okay with a load like this? As you can see, I am keen on the construction side, and may well turn my hand to the WD25s when they become available...

"Psychomet"

Usually, when asked whether an amplifier will drive a pair of speakers like this, I turn to the Internet and look for a technical review of the speakers to see the impedance graph. There's very little info on the BKS speakers, and certainly no graphs! So I'll have to take it as read that the impedance drops as the ribbon crosses over from the moving coil bass unit. With most ribbons the impedance is held fairly steady from the transformer loading and I notice that there is a first order crossover so the impedance will only fall towards the high frequency region. This is fine because the energy in a musical performance also drops as frequency increases so the power amplifier isn't being taxed so hard in this region.

On that basis I can't envisage any problems using the WD88VA to drive the BKS 128 speakers. The power bandwidth is excellent from this amp over a wide impedance range. Of course there will be an apparent mismatch with the 6 Ohm output tap and the 3 Ohms presented by the ribbon at high frequencies but this only restricts the total available power, not the performance (and you don't need much power to drive a ribbon).

I do, however, see problems with your tapped transformer volume control. The concept of this sounds

good but it doesn't always work out so well in practice. The high inductance upsets a lot of sources and power amplifiers and the signal transfer isn't ideal unless the source is perfectly matched through the transformer to the receiving amplifier! We recently demonstrated this to a customer who brought along his Music First unit to show how the WDPRE3 preamplifier could improve his system. To my ears a good active preamp will beat a passive one hands down.

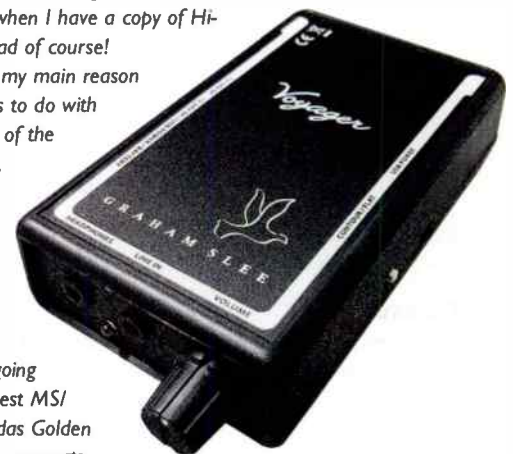
Lastly, the answer to mounting spiked speakers on solid floors is to use small metal cups (or coins will do) under the spikes, Blu-tacked to the floor. Hope that helps. **Peter Comeau**

TRAVEL TROUBLE

Thanks especially for your recent review of the Graham Slee Voyager. I do a lot of train travel with my job and often get to the stage where I could not listen to another note, despite my using lossless files and Shure 500 in-ear phones, such was the poor sound emanating from the iPod. In fact, I read the review of the Voyager on the train, immediately checked for a supplier at my destination, auditioned it and bought it straight away. Since then the journeys have just flown by, especially since adding an iChord to the mix, and when I have a copy of Hi-Fi World to read of course!

However, my main reason for writing has to do with the other end of the hi-fi spectrum, my turntable. I currently have a Rega P25/RB600/Ortofon Rondo Blue combination going through a Whest MS/PS20, via Cardas Golden Reference interconnects into a Krell KAV-400xi amp, leading to a pair of Spendor S6s bi-wired through Townsend Isolda speaker cable (I also have a Marantz SA11-S1 for my CDs/SACDs, also via Cardas Golden Reference interconnects). I have always been happy with the sound of the Rega and the acquisition of the Whest, Cardas, and some SRMTEch mods have also helped, and the Ortofon was a big upgrade on the original Exact that I had.

However, since acquiring the Marantz CD/SACD player I have found that my system is capable of more than the Rega turntable is currently providing. I really like the fundamental sound of the Rega so I guess that my natural upgrade would be to get a P9. However, I would like to think about other options



Graham Slee Voyager - good to have around



It has to be the Avid Volvere, says David.

too. If I am going to make a change I either want it to be through further improvement of what I have or really going onto the next level.

So my question is (yes, I've finally got there), do you think that the Rega 25/RB600 combination will take a further significant cartridge upgrade, and if so what? Or what sort of alternative turntable/arm/cart combination would fit well into my existing system (I'm not minded to change anything else at the moment). I play a wide range of music from solo classical through jazz and pop to metal. Current options that I have thought of in terms of turntable are the SME 101A, a second-hand LP12 (probably with Circus, Lingo), and Avid Volvere. I also wonder whether my existing RB600/Ortofon combination would successfully transfer over to these? Many thanks for your help and keep up the good work.

Simon Smith

Hi Simon – it has to be the Avid. The Rega platform, whilst excellent at the lower and mid-price, begins to struggle when you push into really high end territory. The Volvere has a Rega-like sound (i.e. taut and tight), but adds lots of depth and a more multi-coloured tonal palette. The LP12, whilst excellent, isn't from the same 'school' as the Rega

and Avid, meaning it's a bit more coloured and rhythmically looser (albeit more fluid). The SME is also quite Rega-esque in its presentation, but ultimately less dimensional and detailed than the Avid, I feel. The RB600 should work nicely on the Volvere, but I'd be aiming for a SME IV when you have the funds. **DP**

RETURN TO UK

I'm returning to the UK this summer after more than six years in New Zealand, and am in a quandary. Do I sell all my gear and start again with a clean slate (which appeals intellectually) or hump some of it back with me?

My system is a mixture of old and new, built up since I saw the light a couple of years ago: Luxman PD310 turntable/SME 3 arm IFidelity Research MC 201 cartridge, Dynavecator P75 phono stage. AR60 amp (c.1983 New Zealand-made) and Kef 102.3 speakers (New Zealand-made)

My dilemma is this: I've often read that old turntables, good as they are, are way off the pace compared to those built within the last five years. But you've carried articles too which indicate that some old turntables are wonderful, and properly serviced and fettled, sound as good as new ones. If I were to sell the Luxman, what turntable should I buy at the very least to out-perform it? I realise this is quite a blank sheet to work on, but would really appreciate your thoughts before flogging my equipment.

Reza

Hi Reza. If that is an SME Series III arm then it is an interesting curio. On a visit to SME many moons ago I asked why there was no Series III on display in the museum and was quietly told that "the old man wasn't too proud of it", referring to

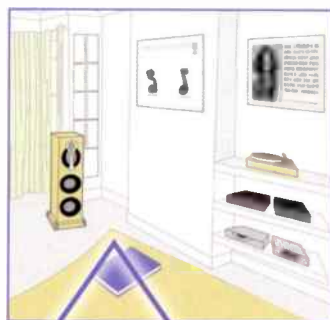
founder Alasdair Robertson Aikman; it had been expunged from the company history. Now, the Series III wasn't brilliant, but it wasn't quite so bad either. Designed for ultra high compliant cartridges, it had a carbon fibre headshell and titanium tube arm. Sound quality was tidy if a bit loose. I'd tend to fit it with a Goldring 1042 or Shure M97 xE these days. If you do not want it, then try and sell it to an appreciative owner. I regret not having mine still. The Arcam A60 was a smoothie but is bettered nowadays by a Naim Nait, for example. On turntable replacement, our resident experts will advise! **NK**

Hmmm – I'd be tempted to keep the Lux/SME/FR, simply on the grounds of historical rarity. I'm fairly sure that a heavily modded Technics SL1210/Audio Origami RB250 would outperform it (and unlock the potential in a great mid-price MC like Lyra's Dorian), but you won't find many Lux decks these days and it's worth hanging on to as a result. As for the other kit, I'd sell it and buy something like a Naim Nait 5i (as Noel suggests) or Sugden A21a S2 integrated, and a pair of Usher S520s speakers as a 'get you started' measure until you're sure where you'll be living (not in a quandary, I hope) and how you'll be listening. **DP**

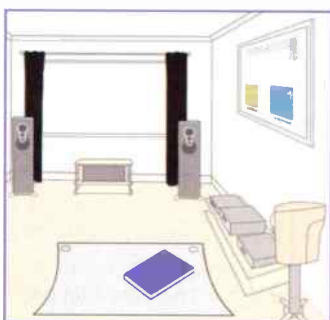


SME Series III arm, an interesting curio.

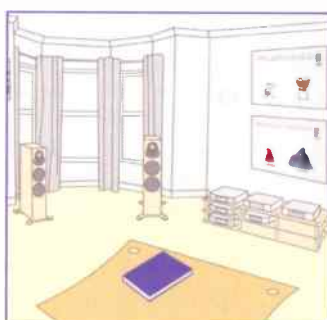
The listening experience at house of linn is so good - demonstrations last for hours....



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Hi-Fi World gives you the chance to win one of our favourite sub-£1,500 CD players - Cyrus Audio's superb new CD8 Servo Evolution!

Here's what David Price said about it in the September 2008 issue...

"In recent years, there's been a lot of talk about 'jitter' (time domain errors) in digital systems, and quite right too – but jitter isn't the sole arbiter of a CD player's sound... The trouble is of course that no CD disc surfaces are perfect so a player's error correction system is called upon to work constantly, to varying degrees. The answer is to get the read right first time. Only then does jitter come in to the equation. It follows that no matter how low the jitter is, the CD player can only be as good as the transport reading it. The better focused the laser is, and the more able its controlling mechanism

is to make it track those pits, the less 'error correction' will be needed and the better the system will sound – jitter or no jitter. The problem for any manufacturer trying to get the best sound from CD is then, where to get the best 'mechanism'? The answer is of course to build it yourself, using acknowledged industry experts – rather than just order one off the shelf. This, with their Servo Evolution players, is precisely what Cyrus has done. This includes their choice of disc loader, the laser, the motors and most importantly, the software that controls them.

This was the first time I've heard a modern £1,000 CD player used as a transport come anywhere close to my high end Japanese reference. Indeed, it was actually very close, with the Cyrus having a surprisingly strong and effortless bass, tremendous midband detail and a sweet and subtle treble. Best

of all was the way the Cyrus strung the musical information together, in almost as musically convincing a way as this transport (costing some five times as much in real terms). Bassheads' 'Is There Anybody Out There', a pounding slice of early nineties techno, showed the CD 8SE (as a transport) to have great power and focus. The bassline was tremendously insistent, showing how good CD really can deliver in the low frequency department. Leading edges of the bass notes were strongly delineated, and showed excellent dynamic articulation – quite different to the limp-wristed sound of many sub £1,000 CD players in transport mode. From the moment I switched the Cyrus CD 8SE on, it impressed me immensely – not just for what it does, but also why it does it. The Servo Evolution mechanism is more than a gimmick – its sonic rewards are for all to hear. For those wanting a superb mid-price silver disc spinner, you've just found it."

For a chance to win this superb CD player, just answer the following four easy questions. Send your entries on a postcard only by 31st October 2008 to: **November 2008 Competition, Hi-Fi World magazine, Unit G4, Argo House, The Park Business Centre, Kilburn Park Road, London NW6 5LF.**

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QUESTIONS

[1] What does 'SE' stand for?

- [a] Servo Evolution
- [b] Special Edition
- [c] Serious Education
- [d] Surgical Enhancement

[2] What is the Servo Evolution system?

- [a] a bespoke transport mechanism
- [b] a new type of DAC
- [c] a special op-amp
- [d] an innovative digital linking protocol

[3] From the moment DP switched the CD 8SE on, it...?

- [a] impressed him immensely
- [b] induced narcolepsy
- [c] forced him to the bathroom
- [d] put him in a rage

[4] DP Finally describes it as...?

- [a] "a superb mid-price silver disc spinner"
- [b] "not bad in the great scheme of things"
- [c] "a bit of alright"
- [d] "bringing a smile to my ears"

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

entries will be accepted on a postcard only

**AUGUST 2008 LEEMA PULSE AMPLIFIER WINNER:
Mr T J Corbitt of Nunthorpe, Middlesbrough**

Three in One

Whilst format wars may rage elsewhere, if you're buying a table radio then you are spoilt for choice - as we usher in a new generation of Wi-Fi/DAB/FM hybrids. Steve Green tries them out...

The three portable radios on this mini group test are among the first to combine Wi-Fi Internet radio with DAB and FM - and they're either upgradeable to DAB+ or already support it. This means you no longer have to agonise about whether to invest in DAB, and/or when, because they're effectively future proof. And if you lose interest in the paltry forty stations on offer from DAB, then you've always got 11,000 more at the touch of a button from the internet! Throw in FM for audiophile music listening, plus the ability to stream music wirelessly from your computer, and they're flexible little friends!

What's behind all these clever functions is the new Frontier-Silicon Venice 6 receiver module, which is the latest chipset from the company that produces around eighty percent of all the receiver modules for DAB products sold in the UK. The Venice 6 module handles the Wi-Fi, DAB and FM reception, as well as running the software that controls the operation of the rest of the device - it's one smart slice of silicon.

Because these devices share the same receiver module, they support a number of common features in addition to supporting the radio formats mentioned above. First, they all receive the same (approximately) 11,000 Internet radio stations and 10,000 on-demand streams and podcasts that are listed on Frontier-Silicon's Internet radio database, and this includes internet streams for all the UK stations on DAB and FM, as well as the BBC's Listen Again streams and podcasts - and the BBC's Listen Again streams have improved in quality recently. All the radios also support the MP3, WMA and Real audio formats.

Favourite Internet stations, on-demand streams and podcasts can be entered into Frontier-Silicon's Internet radio portal website, and they will then appear in the My Favourites menu on the radio the next time it is switched on - the My Favourites menu provides quick access to your favourite stations

instead of having to scroll through long lists of stations each time you want to tune in. Internet stations, streams or podcasts can also be added via the website in case they're not already listed in the database.

Setup was the same for all devices, simply consisting of scanning for local wireless router networks, selecting one's own from those found, and then entering your network's security code. The setup procedure only takes a couple of minutes, after which I was able to access Internet stations or streams straightaway. All the radios supported the WEP, WPA and WPA2 wireless security formats, and the final feature common to all was that they each had an alarm clock with sleep timer.

"they all receive the same 11,000 Internet radio stations".

There was a downside to all of the radios sharing common features however, which was that they all shared a common problem as well - as they all displayed a 'Network error' message when I tried to play on-demand streams or podcasts that I'd entered into the My Favourites menu via the website. Frontier-Silicon said that this was a temporary problem with their database, though, and that it should be sorted out in the near future.

BLUE TINUM BT-H1606

This is only available online (www.technologyinthehome.com) for around £100. The black casing and blue background display give a stylish look, and the device is solidly built. The radio proved easy to use, with well laid out buttons and an easy to read display. Menus were also displayed quickly after a button had been pressed on the unit -

often not the case on the MagicBox. Internet streams also started playing quickly, as did tracks on the media player. There was a problem with the media player though, because the radio wasn't able to connect to Windows Media Player's UPnP music server, whereas the other radios on the group test had no problems here. This meant that the media player could only play audio files that were accessible via folder sharing, although in practice this wasn't a major drawback.

Another issue with the media player was that there were no buttons dedicated to controlling playback. It was easy to select tracks to play from the menu, but it would have been better if they had used the

'select' button for playing and pausing the audio, like the MagicBox.

A more significant problem was that the Blue Tinum doesn't allow users to upgrade the firmware, making this the first such Wi-Fi Internet radio I've used to date. This is a significant issue because Frontier-Silicon will be adding support for new audio codecs over the next few months such as AAC, FLAC and WAV, and the BBC is going to start using AAC for its Internet streams later this year. They'll be delivered in higher quality than at present, so owners of this device won't be able to receive them, whereas with the other radios all that's





required to upgrade the firmware is to select 'Software update' from a menu and the radio does the rest automatically. In an ironic twist, the Blue Tinum was the only radio on the group test that already supports DAB+, whereas the other radios would require a firmware upgrade to support it!

Wi-Fi reception quality was good, but reception quality was below average on both DAB and FM, which I would put down to the device's use of a short aerial. The aerial was detachable though, so an external aerial could be fitted instead. The radio had four preset buttons, which could store eight stations each on DAB and FM, and eight Internet stations or on-demand streams. The device was mains powered only. It was a shame that the Blue Tinum had the shortcomings it did, because its sound quality was excellent, as it delivered a big and punchy sound, and the sound had a neutral balance. The audio was crisp and well detailed with a good top end, and it performed exceptionally well with vocals and speech. The unit could also be pushed to a very high volume, although at such levels the case sometimes resonated.

MAGICBOX CLARUS PLUS

This was particularly easy to use, as its display and control panel were at just the right angle for operating the radio when standing over it, and the buttons on the control panel were well laid-out. It has to be said that the angled control panel didn't do the radio's looks any favours, though. The black text on light-grey background display was also easy to read, but the blue displays used on the other two devices were more attractive.

The Clarus Plus sometimes took longer to tune into Internet streams than the other radios did, but performance on the media player was good, as it quickly began playing audio files from my computer and had no problems playing files either via a UPnP music server or via folder sharing. Controlling playback on the

media player was limited to pressing the 'select' button to play or pause the audio, although this wasn't a major drawback in practice. It supported MP3, WMA and Real audio formats along with firmware upgrades, so the device is likely to receive support for other audio codecs in future, such as AAC, FLAC and WAV. The device is also upgradeable to DAB+.

Wi-Fi reception was strong at the farthest point in my flat away from my wireless router, and DAB reception quality was also good. On FM the sensitivity was poor in comparison to what you find on a standard analogue portable radio. The control panel contained four preset buttons, which could store 8 DAB stations, 8 FM stations and 8 Internet radio stations or on-demand streams/podcasts. The mains power-only MagicBox has headphone, line out and USB sockets on the back of the unit, although the USB socket is for manual updates and not for connecting other audio devices. Sound proved good, although it wasn't able to match the excellent quality provided by the other two radios, sounding more constrained and more limited at frequency extremes.

ROBERTS STREAM 202

Although significantly more expensive than the others here, the extra outlay does buy you Ethernet support as well as Wi-Fi - and it's the only device that can be powered by batteries as well as mains (Frontier-Silicon claims a set of six D-type batteries lasts 40 hours). This radio was very easy to use, as the small buttons surrounding the large rotary knob on the control panel were perfectly located to allow easy operation using one hand. The Stream 202's display also showed four lines of text compared to the other radios' displays only showing two lines, and this made scrolling through lists easier.

Internet stations and on-demand streams started

playing quickly, as did audio files on the media player, and the device had no problems playing audio files via UPnP music servers or via shared folders. There were five preset buttons on the control panel, which could store five DAB, FM or Internet streams (i.e. fifteen preset locations in total), and they doubled as dedicated play, pause, fast-forward and rewind buttons to control playback on the media player. One minor bug with the radio's operation however, was that when scrolling through the list of DAB stations the list always returned to the beginning of the list rather than carrying on from the station I was already tuned into. However, the Stream 202 supports firmware upgrades, so this problem should be fixed when a new version of firmware is released, and I would expect support will be given for the AAC, FLAC and WAV audio formats in the coming months as well. The device is also upgradeable to DAB+.

I had no problems picking up a Wi-Fi signal at the farthest point in my flat away from my wireless router, and reception quality was good on DAB as well. FM reception was better than usual, although it was still poor in comparison to normal analogue portable radios. On the back of the unit, there was a headphone socket, a 3.5mm auxiliary input socket for connecting an MP3 player, an Ethernet socket for wired networks, and a USB socket for manual updates. Sound proved superb when playing high bitrate MP3 files on the media player and on the better sounding Internet stations, as it delivered a highly detailed, open and vibrant sound. The tone was brighter than neutral, but I found this preferable to the vast majority of DAB radios I've reviewed to date which sound rather constrained. The radio's spry sound benefited DAB stations, tending to give their audio a lift. All in all, a clear winner - although you pay for it.



VERDICT ●●●●
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FOR
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- ease of use

AGAINST
- non-upgradeable firmware
- couldn't connect to UPnP server

VERDICT ●●●●£
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FOR
- easy to use
- future-proof

AGAINST
- average sonics
- flimsy buttons

VERDICT ●●●●●
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☎ +44 (0)1709 571722
www.robertsradio.co.uk

FOR
- excellent sound quality
- future-proof
- ease of use

AGAINST
- styling



All Sort

Noel Keywood takes a close look at the new, do-it-all Pioneer VSX-LX51 surround-sound receiver...

A lot of talk on AV forums revolves around getting 'legacy' products, which may be in perfect working order, to interface with today's products. Playing music through an AV receiver raises such issues, big time. They are well purposed to work with modern video, but manufacturers are these days trying to improve their audio cred. This is helped by ensuring compatibility with legacy disc formats like SACD and DVD-A. Pioneer's VSX-LX51 doesn't attempt to match Onkyo's TX-SR875 in this respect which has a phono input for LP no less, but it does clearly decode SACD fed in digitally via an HDMI link. It was obvious that Pioneer have put a tad more effort into this than rivals like Onkyo, Marantz and Yamaha, judging by the receivers I have tested.

Spinning SACD on an Oppo DV-980H DVD player connected via HDMI to the VSX-LX51 brought up a nice, bright blue dot matrix display text with an unequivocal declaration: SACD. The Oppo was set to output true SACD code (i.e. DSD) and the Pioneer showed that DSD was being converted to PCM internally, as commonly happens, but it was decent 96kHz sample rate our measurements show. Don't expect

full SACD performance from this receiver; only dedicated players like the Yamaha CD-S2000, costing more than this entire receiver, will provide that, but the Pioneer did a good job. Spinning DVD-A on the Oppo had the Pioneer delivering 24/96 surround-sound from PCM too. Sadly, Blu-ray players don't play either disc formats, but what they do play the Pioneer can also handle, including DTS HD Master Audio and Dolby TrueHD.

Let's look at the basic spec. of this receiver. Like most it's a 7.1 channel design arranged to drive three front and four rear loudspeakers, for home cinema use. Quoted power output is 130 Watts (8 Ohms) and we measured 144 Watts, so plenty of power is available. Audiophiles with decent full range loudspeakers can select Full Range to switch off Bass Management, as usual, ignore the subwoofer channel, not use Back loudspeakers so as to be able to bi-amp Left and Right front for best sound quality, and switch off the Centre loudspeaker too, which is a liability in most setups. You don't lose the Centre information of course; it simply gets directed into the Left and Right channels equally to form a phantom centre image. This arrangement gives a high quality

four channel music system. It may not have the contrived rear sound spread of 7.1, but in its place it will have far greater sonic impact, fewer wires and less intrusion.

Pioneer provide a complicated room tuning system complete with microphone. It's able to store six different room equalisation settings, to provide compensation at different listening positions Pioneer suggest. Pernickity people like me can bypass the automatic tune system and set it manually, and for those suffering room boom (boomy bass) three tunable notch filters are available in each channel. They offer Standing Wave Control, in Pioneer parlance. The auto-tune system compensates for loudspeaker sensitivity as well as time delay and carries out an impressive array of measurements in auto mode. However, the acronym to bear in mind with these systems is KISS: Keep It Simple, Stupid. Pioneer's system is impressive for what it can do, but for example the Standing Wave analysis put in a -6dB notch at 115Hz whilst loudspeaker EQ decided +4dB lift at 125Hz was needed, meaning they were fighting each other. EQ also decided the KEF Reference 103/2s I was using needed +2dB boost at 16kHz which, if I'd agreed, would have had the

RSPCA at my door for cruelty to the local bats. The rear loudspeakers were, predictably, brought right up in level so that rear sound dominated; I thought I was facing the wrong way! Surround-sound quickly gets daft like this. Also, EQ and Standing Wave settings changed significantly by moving the microphone just 0.7m or so along the settee, as expected because standing wave patterns do truly change dramatically, especially close to a rear wall. The Pioneer attempted to kill all low frequency modes that provide what is collectively termed 'room gain' and in doing so seemingly robbed the sound of warmth and deep bass. The system attempts too much...

All the same, Pioneer avoid my criticism because the system can be manually tuned, has six memory stores you can switch between, and both EQ and Standing Wave can be switched on and off, allowing easy A/B comparisons. This has been well thought out by Pioneer, on-screen graphs showing EQs are provided to aid visualisation and owners will be able, with time, to usefully tame, if not eliminate, both room modes and some loudspeaker characteristics. Remembering KISS, it is best to auto tune then rein back large EQ changes. By the way, Pure Direct switches all this out, but it does not turn off displays and video processing, as on many receivers. I ought to point out that most modern receivers possess graphic equalisers on each channel, but not notch filters.

It's obligatory now to be able to handle DTS Master Audio, even though the processing is complex and processor intensive I'm told. This is basically losslessly packed PCM, like Dolby TrueHD, and the Pioneer handles both. Sample rates up to 192kHz are converted directly, without prior downconversion to 96kHz our tests showed, analogue output falling off gently above 55kHz. In this respect the VSX-LX51 exploits high quality digital reasonably well, but super low distortion wasn't achieved with 24bit signals to a degree I would have wished for (see MEASURED PERFORMANCE).

All other Dolby and DTS processing schemes are included and full details are available in the handbook, available online as a PDF from www.pioneer.co.uk/uk/products/42/98/VSX-LX51/media.html. Most of these are compression schemes for packing audio onto DVD where space was limited, so they're legacy in effect, although still necessary for DVD replay of course. Whilst DVDs are cheap and Blu-rays conversely expensive DVD is

far from dead. All the same, by using lossless PCM, Dolby TrueHD and DTS HD Master Audio Blu-ray discs offer punchier sound than DVD and the Pioneer is able to convey this.

There are three HDMI 1.3a digital inputs, one assigned to Blu-ray Disc (BD) and the others assignable, so you could hook up a DVD player like the Oppo DV-980H to play SACDs and DVD-As, plus a Humax Foxsat HD TV satellite receiver, in addition to a Blu-ray player and switch between all three.

One HDMI monitor output is fitted, and there are Composite, S-Video and Component outputs, but no Scart socket. Pioneer's routing diagram on p14 of their handbook shows and states that analogue Composite, S-Video and Component video sources, or inputs, can be routed through to all outputs, including digital HDMI. However, they say that HDMI inputs cannot be 'downsampled' and fed to analogue outputs. That means you cannot use HDMI connected sources to feed an analogue TV via this receiver; analogue connections must be used from sources such as Blu-ray players - no big deal.

There are good old analogue inputs for CD and suchlike, although digital connection, optical or electrical, is provided and best used. Pioneer uniquely use 96kHz sample rate input ADCs, giving a wide 44kHz analogue bandwidth. However, high quality analogue sources are best passed straight through by selecting Direct or Pure Direct options, avoiding input conversion to digital. There is a 7.1 input for those with multichannel players lacking an HDMI output and there is a 7.1 channel preamp output too.

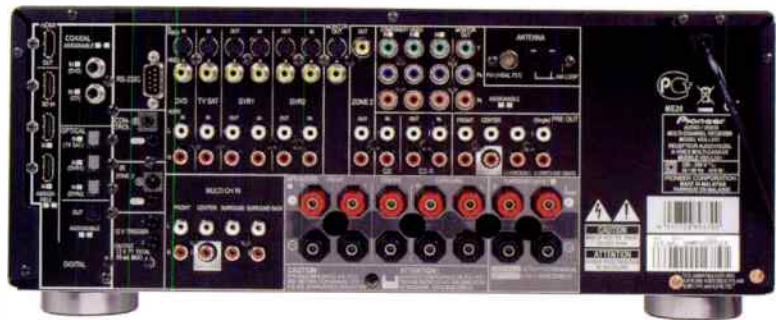
Onboard video upsampling is provided courtesy of a Faroudja processor, so standard DVD pictures can be viewed on a High Definition TV, as can analogue video from any input. Bear in mind that most modern DVD and Blu-ray players with an HDMI output upsample Standard Definition DVD pictures onboard, so this is only useful for older devices, like a Video Cassette Recorder or Camcorder, connected through the analogue Composite, S-Video or Component video inputs.

There's a VHF/FM and Medium wave tuner, and a USB socket on the front panel allows music to be

played from a USB connected device including a Flash Drive. An iPod can be connected too, as the Pioneer will handle AAC, plus MP3 and WMA.

The Pioneer was easy to connect up. Little black plastic stoppers can be popped out of the loudspeaker terminals to reveal a socket able to accept 4mm plugs - not mentioned in the handbook. Unfortunately, the terminals are not colour coded and they wobble badly when connecting up, giving a poor impression; Marantz and Onkyo manage better.

I'd love to find an AV receiver that is really easy to use; the Pioneer didn't oblige. It was as fiddly to use as most, or a little more so, simply because it is crammed with facilities, some of questionable value. Is a Centre Image Width control vital? I think not. Similarly, there is an 'SACD Gain' option, which they say "brings out detail", but again it amounts to gratuitous signal processing. There's plenty more, including Sound Retriever that "helps bring CD quality back to compressed 2 channel audio", meaning WMA, MP3,



AAC/MP4. The list is long, making the VSX-LX51 great for inveterate fiddlers. But the presence of a main on-screen Setup menu and both Audio and Video off-screen menus, none of which will appear until a small Receiver button is pressed (this is a common difficulty) does make things fiddly. However, the off-screen, front panel menus have the advantage that they are quick to access, so I can see why Pioneer use them. The video menu is unavailable until a Composite signal is received - another confusion - and I could not get Composite video from a Canon HV30 camcorder recognised, even though the TV played it without problem when directly connected. I didn't manage to solve this one, but the HDMI camcorder link worked, I should add.

SOUND QUALITY

Vocals fell back in a way that rather surprised me through the Pioneer. I was puzzled by the change in perspectives that first caught my attention listening casually to a video DVD of 'Within Temptation'. Whilst

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The last true Mullard radio valve was made on the Blackburn site back in 1984. Since then the Company has made many other products relating to cathodes and emission technologies.

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the extensive drum kit that's used to provide a long, thunderous rolls was so strong I had to check all EQ was switched off (I used Pure Direct mode), Sharon Adele's usually prominent vocals seemingly took a step back through the Pioneer. Meanwhile, the KEF Reference 103/2s tipped from sounding sharply outlined into rather bright edged. They're not especially tolerant loudspeakers in this sense, working amicably only with well honed transistor amps.

My easy going yet civil and tidy Revolvers and World Audio Design KLS9s were both less critical of the Pioneer, whilst at the same time confirming what the KEFs highlighted - that high frequencies are forthright and hard edged. This may well be due to crossover distortion [see MEASURED PERFORMANCE]. Switching back to a Marantz SR-8002 receiver - more expensive by £400 or so - had the KEFs sounding composed and all-of-a-piece with whatever I played. All the same, the VSX-LX51 sounded clear enough and there was little sign of fizz or muddle, but it does have vivid frequency

extremes and is a tad restrained in its midband dynamics. Whilst there was breadth and air to the soundstage, it wasn't projective, as so many good amplifiers are nowadays.

These properties were most noticeable with CD and DVD. Spinning quality recordings from SACD and DVD-A, as well as Blu-ray made it less obvious. With 24/96 PCM courtesy of DVD-As like Carlos Santana's 'Supernatural', as well as a Chris Botti Concert on Blu-ray, the Pioneer sounded clean and lively, if a little sharp through the KEFs. SACD didn't have quite the civility I am used to, but I am nit picking here. The easy sound was there, violins of the Mariinsky Theatre Orchestra swelling gently to sweetly textured crescendos behind Lang Lang's restrained keyboard work with Rachmaninov's Piano Concerto No.2.

Pioneer's VHF/FM tuner also has a light balance with a clear, open delivery of high frequencies that highlighted detail, making James Blunt's vocals on Heart FM sound intimately close, singing 'Carry You Home'. The sound stage seemed airy and unconstrained too. Although

bass was a little more distant than is right, nevertheless it was supple and dynamic, sufficient to provide rhythmic underpinning. It's a good tuner, in keeping with the company's past reputation.

CONCLUSION

Because the Pioneer's amplifier stages weren't quite as sonically svelte as those of rivals, I'd caution against using bright sounding loudspeakers with the VSX-LX51. But with suitable floorstanders - and the Q Acoustics 1050i loudspeakers reviewed in this issue matched nicely - then the Pioneer has much going for it.

It's a gadget fest alright, and the multiple and conditional menus take some getting used to, but it all works well enough in the end and Pioneer's underlying technology is well executed; I found no weak areas. For the price then, it's an attractive receiver able to handle the old as well as the new.



MEASURED PERFORMANCE

Although compact and not heavy, the VSX-LX51 nevertheless produces a lot of power, no less than 144 Watts into 8 Ohms and 225 Watts into 4 Ohms our measurements showed. So it has plenty of voltage swing and good current delivery too, allied with a high damping factor of 43. All this suggests it will exert good control over loudspeaker bass cones. However, a small downside was the presence of crossover distortion possessing high order harmonics that affected low level signals of a few watts or less. Run at a low level, as amplifiers often are, this may well add a little edginess to the sound. Measuring less than 0.1% levels were not high, but this phenomenon can have subtle impact.

The analogue inputs pass through a 96kHz sample rate ADC, giving bandwidth to 44kHz, better than usual. All the same, if LP is input from an external phono stage the input ADC is best bypassed by selecting Direct or Pure Direct modes. Overload occurs at 2.2V into the ADC, another common limitation to be aware of when connecting analogue sources, but an optional attenuator is provided.

With a 96kHz sample rate digital signal input via HDMI bandwidth extended to 44kHz, rising to 55kHz (-1dB) with 192kHz sample rate, output rolling down slowly to -13dB at the 96kHz theoretical limit. SACD (DSD) via HDMI is recognised

and gives a 42kHz (-1dB) bandwidth limit. These are all respectable figures. The Pioneer doesn't have the performance of dedicated players; whilst it produced a low 0.26% distortion figure from CD (i.e. 16bit PCM), the figure was higher at 0.6% with 24bit PCM when it should have been lower. SACD (DSD) gave 0.33% at -60dB and again this could have been better, quality players producing 0.03% or so. It's a fair result from an inexpensive receiver though - and of course many receivers don't handle SACD.

The VHF/FM tuner lacks a pilot tone filter so it outputs a strong 19kHz tone that may upset tape recorders. The benefit is a broad, flat frequency response that gives an even and accurate tonality, plus a spacious sound stage. Some slight bass lift exists to add warmth to the sound, so VHF should sound good, although hiss was a little higher than possible at -68dB in full quieting.

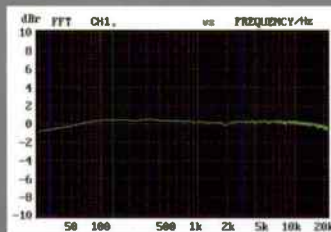
The VSX-LX51 measures well in all areas. It is powerful and will give good results from all sources, Blu-ray, SACD and DVD, as well as DVD-A, all being handled competently our measurements show. NK

Power	144watts
Frequency response (Direct)	2Hz-110kHz
Separation	86dB
Noise	-105dB

Distortion	0.04%
Sensitivity	400mV
Overload	2.2V
Damping factor	43

VHF TUNER	
Frequency response	16Hz-20kHz
Stereo separation	38dB
Distortion (50% mod.)	0.13%
Hiss (CCIR)	-68dB
Signal for minimum hiss	0.76mV
Sensitivity	
mono	3.4µV
stereo	38µV

FREQUENCY RESPONSE VHF TUNER



DISTORTION, 10kHz, 1W



VERDICT

Good digital processing all round makes for consistently high sound quality, including SACD.

PIONEER VSX-LX51 £800
 Pioneer GB
 +44(0) 1753 789789
 www.pioneer.co.uk

- FOR**
- good with SACD
 - quality digital processing
 - many facilities

- AGAINST**
- mediocre build quality
 - bright treble
 - dodgy room tuning

Zero Heaven

Adam Smith remembers Garrard's classic battleship bargain, the Zero 100SB turntable...



By the time the swinging sixties were drawing to a close, BSR and Garrard had the budget end of the turntable market sewn up. If your record player/music centre/radiogram was fairly cheap and nasty then it had a BSR deck, while if it was better it had a Garrard. The might of these two companies easily saw off smaller pretenders, such as Collaro. Of course, Garrard had also successfully attacked the top end of the market - initially with the 301 and then later the 401, which was still selling well. The trouble was that their intermediate selection was a little ropey, headed up by the A70 auto-changer, a development of the old Lab A, and the impressive but equally clunky Lab 80 with its wooden arm. New cartridges with lower tracking forces

redesigned mechanics that placed less drag on the stylus, meaning lower tracking weights could be coped with, along with higher compliance cartridges. The real jewel in the crown arrived a year or so later though, in the shape of the Zero 100. This added a new twist to the mix, sporting a novel arm that rotated the headshell as the arm traversed the record, keeping it parallel and reducing tracking error to zero. Burne-Jones had admittedly done this before but Garrard's arm was neater and lower in mass (relatively speaking).

FEATURES AND VARIANTS

The Zero 100 was a two speed idler drive deck, fully automatic with the option to operate manually. Variable speed was provided, integrated with the speed/size selector on the

finished in a lovely ivory colour, like the old 301, and three chunky brass tabs at the front right of the top plate gave control over automatic, manual and cueing operations. The headshell still made use of a slide-in cartridge carrier, Garrard type C3, not the best for sound quality but making cartridge changes easy. A special alignment gauge slid onto this for precise cartridge positioning in the carrier. Arm balance was achieved by adjusting the rear brass counterweight and tracking force applied by a sliding weight under the main arm tube, calibrated up to 3g. Bias compensation was magnetic and calibrated for both spherical and elliptical styli.

The standard Zero 100 also offered an auto-change facility via a special long spindle and a support tower by the arm bearing housing, as on the pictured deck. This supported the edge of 12in discs while they were stacked, and an optional accessory spindle was available for stacking jukebox style 45s with large centre holes. For single record play, a small stub spindle replaced the large one and, unlike on Garrard's cheaper models, this rotated with the turntable during play.

One or two variants were available - the Zero 100S was a single play type, with no auto-change and the two models were known as the Zero 100C and Zero 100A in the U.S. market. They also had a slightly differently styled version called the Zero 2000, but this was never sold in the U.K. The biggest change came a few years later with the Zero 100SB, which replaced the idler drive system with a belt, removing the variable speed facility and the associated stroboscope. The auto-change variant also ceased to be available.

Interestingly, the belt drive

"a fine-sounding beast that's a pleasure to own and use..."

called for more delicate units with lower mass arms, and Garrard's solution arrived in 1970...

A range of new transcription series decks arrived, topping out in the SL75 and SL95, sporting

front left of the deck, as was an illuminated stroboscope. This selector offered 33rpm on 7, 10 or 12in record sizes, plus 45rpm at 7in only - these were the days before 12in singles, remember! The top plate was

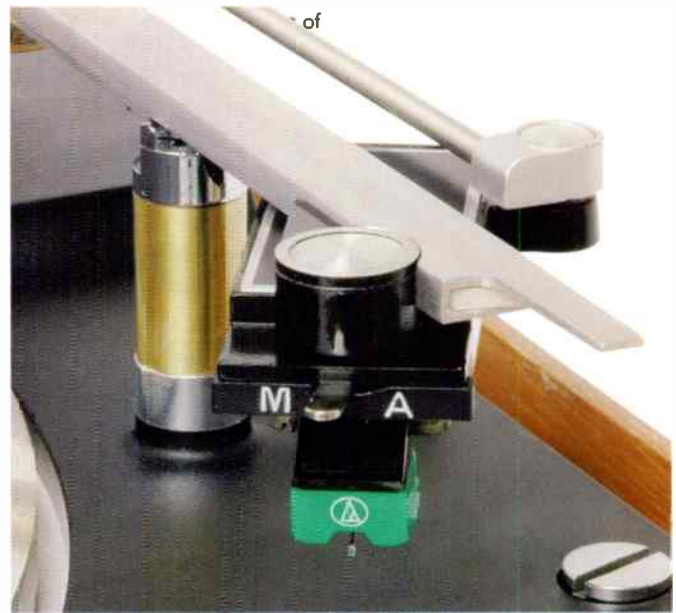
version is just as capable as the earlier idler drive variant, thanks to Garrard merely modifying their hefty synchronous AC 'Synchro Lab' motor for belt operation, rather than replacing it with a smaller type. The platter was also still a heavy item and so a tight belt could be used, giving good torque and still offering fine bass performance. The downsides were the rather drab black finish and the replacement of the brass controls with chrome plated plastic items. One intriguing addition, however, was a stylus counter, that incremented each time the arm moved over the edge of the record, allowing you to monitor how many sides your precious diamond had played! The model name was finally dropped when Garrard introduced the GT series, although the top of the line GT55 was a restyled and tweaked evolution of the Zero 100SB and remained a very fine deck; much more worthy than its cheap, lightweight and, frankly, nasty GT20/25/35 siblings.

one – typically 1970s one might say!

Compare it to the likes of a Rega PI or a Pro-Ject Genie and the modern designs are much more precise, crisp and focused but also sound thin and sterile compared to the big, friendly and full-bodied Zero 100. A good one in fine fettle is an impressive and enjoyable musical companion.

BUYING

The key words here are 'good' and 'fine fettle'. As with so many seventies Garrard products, quality control suffered in later years and the later Zero 100SB decks suffered the most here. The deck has a reputation for poor quality bearings on the rotating headshell and this is something to watch out for. There is always a certain amount of play in them, but if the shell is really floppy then walk away, as this ruins the sound and modification or repair is not really worth the hassle. Other things to look for are poor contacts on the slide-in cartridge carrier which dull



WD40 in the right place may get you going again for a while, but the best answer is to strip down, clean and relubricate the seized part with some light oil, such as 3-in-1. Of course, patience, observation and some kind of cradle that lifts the unit up while you operate it are generally required to locate the offending linkage.

Accessory-wise, the spindles for the auto-change variants do crop up on eBay from time to time and aren't dear – U.S. eBay is a better bet, as they took to auto-changers far more than we Brits did. The cartridge alignment gauges are very rare, but a conventional protractor will do the job just as well.

Finally, a dirty and tired car boot sale deck can be yours for £5 or so, whilst an immaculate, boxed and well looked after example complete with all its gadgets can fetch up to £150. I paid £30 for the deck in the picture from the National Vintage Communications Fair and it was immaculate and in fine mechanical health. Interestingly, two non-auto-change variants had sold for £90 and £60 by the time I arrived late - and the latter was not even in a plinth! So prices are becoming quite healthy for these once ignored decks. The sun was truly shining on me that day.

SOUND QUALITY

Despite what some nay sayers would claim, the Zero 100 is a surprisingly capable deck. Fitted with the likes of an Audio Technica AT110E it is a solid and rhythmical performer and I have even had good results with an Ortofon 2M Red in one. Both idler and belt drive variants offer solid and superbly dynamic bass, plus a decent, if somewhat unfocused, soundstage between the loudspeakers. Vocals and instruments flow easily from the Garrard but where it can be a little wanting is at the top end which is on the soft side, meaning that the overall balance of the deck is quite a warm

the sound and can give intermittent contact. Cleaning them with Kontak or similar and gently teasing the spring-loaded strips under the headshell out a bit with a small screwdriver will help ensure a good signal path. One deck I owned had such badly corroded contacts though, that I rewired the arm and bypassed them completely, which worked a treat.

Otherwise, the bugbear with anything bearing the 'Garrard' name is grease. Garrard lubricated their automatic mechanisms with this and it gradually hardens over the years, increasing drag on the mechanics and finally seizing them solid. I have encountered some decks that have required the application of a hot air gun and screwdriver to chisel chunks of hardened gunk off and it's a long and messy job! If the deck you're considering does not operate correctly, or is sluggish, then you're going to have to spend some

CONCLUSION

Although quite mechanically complex, with its own set of foibles and requiring more maintenance than many other record decks, a good Garrard Zero 100 is a fine-sounding beast that's a pleasure to own and use. In some ways it showcases both the best (innovative thinking, solid design, neat styling) and worst (over-complication, ropey build quality) of 1970s British engineering, but a good example is an affordable and rather fun way to play records.



Designing

Open Baffle speakers – the trials



Wharfedale

SFB / 3

Performs in Public with distinction
before an audience of 1,600

PHILHARMONIC HALL, LIVERPOOL, JULY 2nd 1957

Read what the Music Critic of the Liverpool Post had to say:

“ There was one completely perfect or completely deceptive doubling and that was Mr Leon Goosens in two delicious pieces for oboe and piano. Anyone who listened to this with closed eyes, as we did, would have been hard put to detect the change over from ‘live’ to recorded sound —

Last month I investigated a classic Open Baffle speaker from the past – the Wharfedale SFB/3 – with regard to its performance in the room. What I found was that the designer, Gilbert Briggs, had mapped out the best position as being alongside a side wall, spaced 1 metre from the nearest corner.

What was interesting about Gilbert Briggs approach was that his aim was for a high efficiency system that I actually measured at 97dB for 2.83v (1 Watt/8 Ohms) input. Yet the fundamental resonance of the bass unit, with its heavy, pulp cone and massive Alnico magnet, is down at a low 25Hz.

This flies in the face of the way most DIY open baffles are configured. Here the concept is again one of high efficiency but achieved by using a lightweight cone and a fairly small magnet to deliver a high ‘Q’ system. This high ‘Q’ driver maximises bass response towards the lowest frequencies, though these are usually limited as much by the fundamental resonance of the driver at around 60Hz as by the limiting size of the baffle.

I was curious. Which is the best route to follow – the Brigg’s way or the modern high ‘Q’ strategy? There was only one way to find out.

‘Q’ AND SYSTEM RESONANCE

First a bit of background as to what we mean by high ‘Q’ and how it affects what we hear. I was provoked in this by a conversation with our esteemed editor, Noel Keywood, where we ended up discussing the merits of correcting or equalising the impedance ‘humps’ that we see when measuring a bass reflex speaker. Bear

with me and I’ll explain why this is relevant.

The ‘Q’ of a resonant system indicates the sharpness of tuning. Originally designated to show the Quality of a tuned filter in radio work it was originally assumed that the higher the ‘Q’ (Quality Factor) the better the tuning quality.

It was quickly found that the value of ‘Q’ could be a useful factor in designs other than electronic tuning circuits, loudspeakers being an obvious candidate. In a drive unit design, for example, there are

‘Q’ is defined as the ratio between energy stored and energy dissipated i.e. the frequency of oscillation compared to the rate of loss of power.

$$Q = \omega \times \frac{\text{Energy stored}}{\text{Powerloss}}$$

To get an idea of what this means consider a heavy pendulum suspended on a long rope. Once the pendulum is set swinging the oscillation is at a constant frequency and takes a long time to come to rest, in other words a high ‘Q’ system.

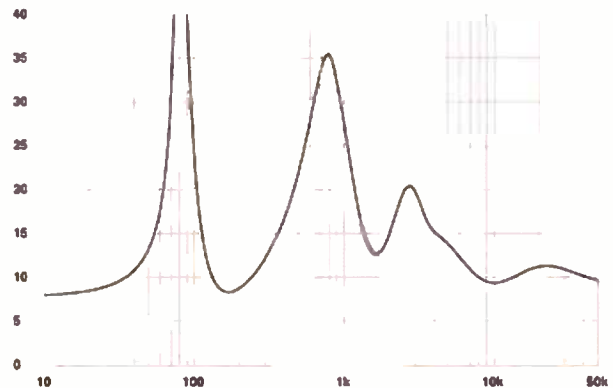
For comparison imagine the pendulum swinging in a bath of oil. Here the oil acts as a damper, absorbing the energy in the pendulum. The pendulum still swings at the same frequency but the loss of power is much higher yielding a low ‘Q’ system.

Loudspeakers

'Q' values for electrical (Q_{es}) and mechanical (Q_{ms}) factors, both of which are summed to give the total system 'Q' (Q_{ts}).

The value of Q_{ts} is one of the Thiele-Small parameters that can be used to calculate the enclosure design for the drive unit. Without knowing this value of Q_{ts} you are basically flailing about in the wind when it comes to predicting how a drive unit and associated enclosure are going to behave sonically.

Similarly the drive unit and enclosure combination also have a system Q (Q_{tc}) which adequately describes the way the speaker will behave at low frequencies when the system resonant frequency (f_c) is

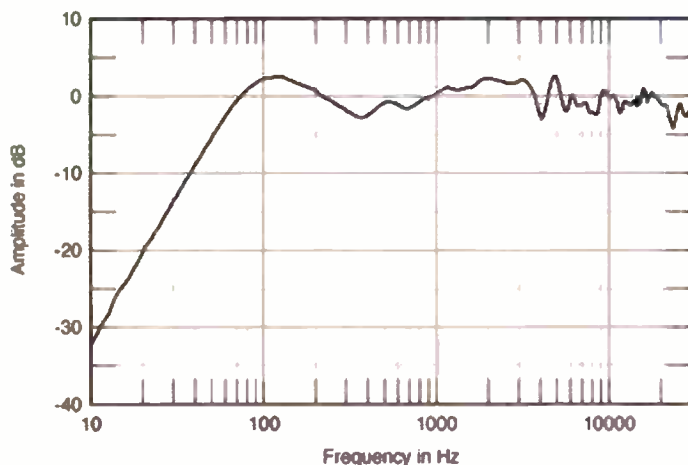


Impedance graph of the small, closed-box bookshelf loudspeaker (Rogers LS3/5a) showing evidence of the high 'Q' design in the tall, narrow impedance peak at the system resonant frequency.

bass response below the system resonance. You can see the effect quite clearly in this graph. Note how, as the system resonance is approached, the output of the speaker is apparently magnified. This

can't trust measurements to tell you the whole story of how a speaker 'sounds'.

However the LS3/5a is a closed box loudspeaker. So was my design of the Heybrook HBI which had a 'Q' of 1.1. Both of these speakers belie their size with their apparently extended bass response. Both 'extend' the subjective response by using a high Q_{tc} , whilst the back pressure of the air inside the box keeps the drive unit under control.



Bass response of a small, closed-box bookshelf speaker showing the increase in bass output from a high 'Q' design.

taken into account.

Now amongst speaker designers there are some well known 'truths' when it comes to the desired system Q and a lot of deliberation goes into what level of Q_{tc} should be aimed for to meet commercial considerations.

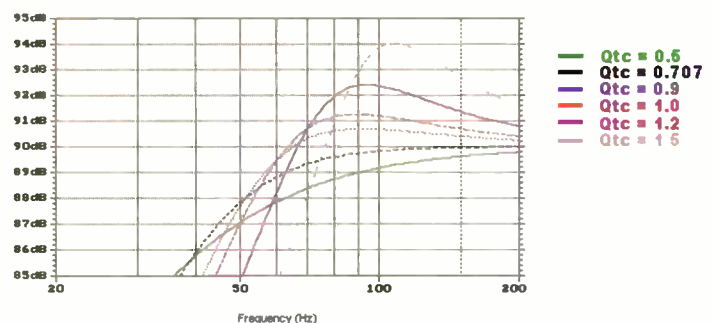
For example a speaker with a Q_{tc} greater than 1.0 tends to have a robust, thudding bass quality that will make a cheap speaker highly saleable. Where the enclosure is on the small side a high Q_{tc} of 1.2 will have the effect of subjectively extending the

'hump' in the bass response is nowhere near as audibly obnoxious as it looks. Would you believe these traces are from a BBC Ls3/5a design? Well they are, and we all know how listeners revere the Ls3/5a.

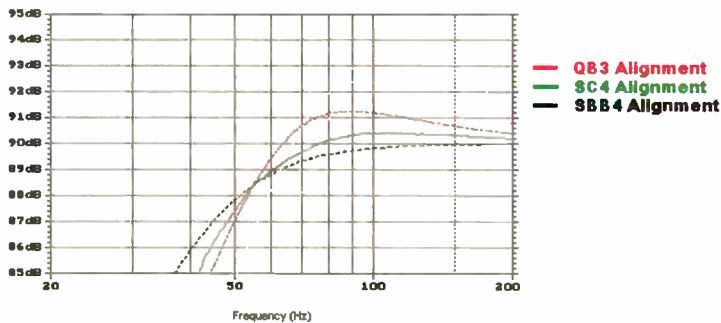
Then would you also believe that the Q_{tc} of the Ls3/5a is 1.2! Look at the way the impedance peak at f_c is very narrow and shoots off the top of the graph. It just goes to show that you

'Q' AND THE BASS-REFLEX LOUDSPEAKER

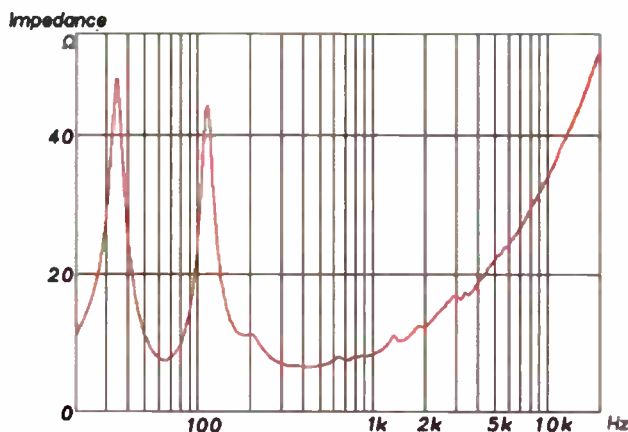
What happens when you apply this high Q approach to a reflex loudspeaker? Well, usually, disaster. In a bass reflex design the fundamental resonance f_c is determined by the mass and compliance (springiness) of the driver, the volume of the enclosure and the tuning of the port (which also has mass and compliance).



Effect of system Q on the bass response from a closed box design. The vertical graph axis of 1dB exaggerates the apparent effects which don't sound as bad as they look!



Low Frequency alignments for bass-reflex systems. SBB4 typically uses a large box with low tuning frequency and has the best transient performance. QB3 is commonly used for smaller enclosures because it has the highest efficiency even though it has the worst transient response.



Impedance of a typical bass-reflex loudspeaker. This graph is measured using the bass unit, so there is a 'null' (dip) in the impedance where the port is doing all the work. This null gives the typical reflex speaker 'twin hump' appearance where the dip in the graph is the tuning frequency of the speaker system.

As the system approaches its resonant frequency f_c the driver has less work to do, and the port does more. This, you might think, is a good thing because the displacement of the cone is small and therefore the linearity of the cone is good. On this basis it would make sense to tune for a high 'Q' for maximum output, and therefore bass assistance, from the port at system resonance.

But what inevitably happens, when you do this, is that the speaker sounds lumpy, boomy and has a prevalent 'one note bass' effect. Part of the problem is that you can often hear the 'honk' of internal cabinet standing waves exiting through the port. In addition the vast volume of air moving in and out of the port causes 'chuffing' and this distortion quite obviously attracts attention to the single frequency of tuning. Also a bass-reflex design with a Q_{ts} of 1.0 is a 24dB/octave high pass filter exhibiting its associated ringing and phase shift characteristics. This often compromises the transient performance of the system.

You'll also observe something much worse than this, however. A typical characteristic of bass reflex

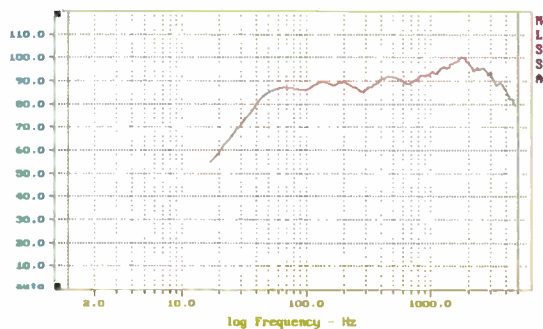
boxes is massive cone displacement at low frequencies. How can this be if the port is doing the majority of the work?

At frequencies below system resonance the bass unit is free to move without restraint from the air in the enclosure. Where low frequencies are present in the source (record warps from turntables/ infrasonics from CD) drive unit cone displacement can push the motor system out of its linear region with disastrous effects on midrange distortion.

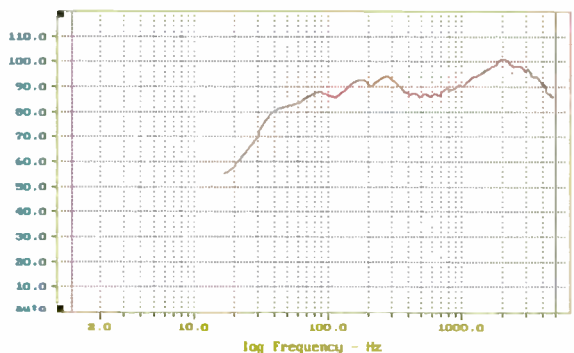
As a result many designers deliberately 'de-tune' a bass reflex system or introduce damping to lower the Q_{ts} . Unlike a closed box system one does not aim for a particular 'Q' value but, instead, for a bass 'alignment'. These provide variations from 'critically damped' through 'flat amplitude response' to 'maximum efficiency'. Which you choose depends on how you want the speaker to sound.

So how does any of this relate to our open baffle design? The answer lies in a combination of what we have learnt from the closed box and reflex box performance characteristics.

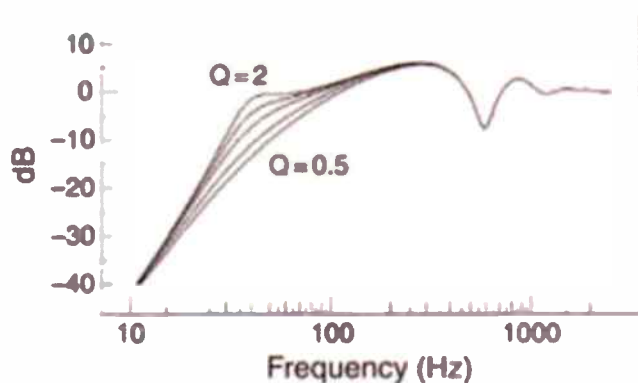
Because the driver is sitting on an open baffle the Q_{tc} is similar to the Q_{ts} of the driver modified only by the increased radiation resistance of siting the driver on a baffle. Thus, if we take the Q_{ts} of 1.26 for an



Bass response of open-baffle speaker fitted with Eminence Alpha-15A in free space



Bass response of open-baffle speaker fitted with Eminence Beta-15B in free space.



Effect of system Q upon the bass response from an open baffle speaker. Note this is an anechoic response graph and takes no account of boundary reinforcement or room gain.

Eminence Alpha 15A we can expect a high Q system from our open baffle.

Just like the bass reflex system the cone will have no restraining influence below the resonant frequency, there being no back pressure on the cone from a rear enclosure as there would be in a closed box, so where there is considerable bass output from the source the bass unit cone displacement can be considerable.

However the slope of an open baffle below resonance is a theoretical 18dB/octave so it does not suffer so much from transient ringing and phase shift as does the bass reflex. Despite what you might think from an apparently underdamped driver with a high 'Q' there is no more transient overhang with this driver than with its more critically damped Alpha 15B brother.

So, given this, let's look at what happens if we put the Eminence Alpha 15A in a baffle of similar size to the Wharfedale SFB/3 in our listening room.

In the free space position the bass response looks, and sounds, fine and dandy. The high Qts of 1.26 from the driver provides good extension from our open baffle down to the driver resonant frequency at 45Hz. Only the dimensions of the baffle cause the overall power output to fall away below 100Hz.

But what has happened to the specified high efficiency of this driver, according the manufacturer measuring 97dB? Unfortunately this is the upper midrange sensitivity, not that in the bass which, as you can see, is closer to 90dB.

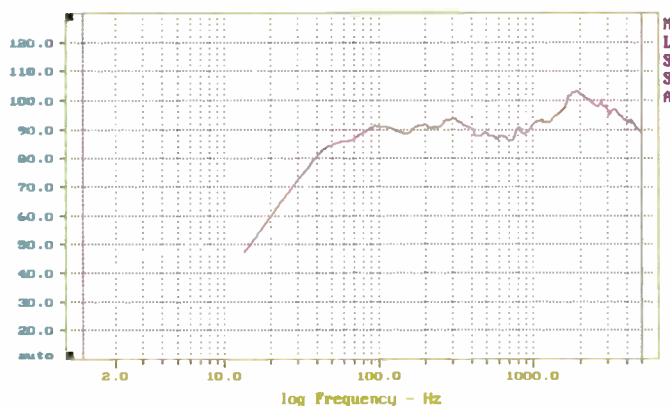
Now compare this to the free space response of the Eminence Beta-15B. The lower Qts of 0.58 means that the bass extension is not handled as well in terms of power into the room, though it doesn't sound as bad as it looks. Sensitivity, for example, due to the

balance is obviously superior, but I felt there was further to go to realise the best advantages of open baffle performance.

So, copying Gilbert Briggs advocated position in the room, here's the response with the Beta-15B with the baffle situated up against the room side wall, 1m from the corner.

Now we can see that the drive unit is coupling better to the room with an associated improvement in bass to midrange balance.

We can see from these graphs that your choice of bass unit for an open baffle design is largely going



Bass response of open-baffle speaker fitted with Eminence Beta-15B abutting side wall of room, 1m from corner.

larger magnet system is improved in the upper bass region to 92dB.

To my ears, in terms of sound quality, the overall performance with the Beta-15B, though obviously mid-forward, exhibits a more articulate bass quality with better control. This is hardly surprising, considering the bigger magnet system. I can see why the Alpha-15A does well with OB constructors as its bass to midrange

to depend on whether you want to stick to free standing or close-to-wall configuration. My preference is for the latter because, to my ears, the superior room coupling in the bass, and better control of bass output from the more damped motor system, accords more closely to my loudspeaker design aims.

But is this the best we can do? Find out in next month's instalment!



Typical enthusiasts free space placement of open baffle speakers (picture courtesy World Designs Forum).

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The show is based around three main areas. First is a large mezzanine covering major labels, with a series of large suites and ballroom areas dominated by the larger Far Eastern brands. Walk further through the hotel, and there's a more specialist feel, which grows as you take the stairs to the first and second floors. This is where most of the dedicated two channel sounds will be coming from, and of most interest to Hi-Fi World readers...

These days it's unusual to find such an industry mix, with giants like JVC, Samsung and Sony rubbing shoulders

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Brilliant modern rock loudspeaker with a fantastically lithe and engaging sound, but partner carefully with a warm front end.

PINSH 2.1 2006 £2,000
Wonderfully neutral and self-effacing with Redoubtable low frequency articulation allied to the superlative hear-through clarity of the Pinsh ribbon tweeter makes for an extremely accomplished all round floorstander

YAMAHA SOAVO I 2006 £2,000
Musical and transparent floorstanders with impressive dynamics and cohesion. Fine build and finish.



ISOPHON GALILEO 2007 £2,100
Big standmounters that really grip the music and offer quite startling dynamics and bass agility. Tricky to drive, however.

MONITOR AUDIO PL100 2008 £2,300
The MA boys pull out all the stops for their flagship 'Platinum' series standmounter with stunning results.

MARTIN LOGAN CLARITY 2003 £2,895
Supremely transparent and open, if dynamically limited, with middling bass punch, but that's not the point - that deliciously fluid and intricate midband wins great respect.

PMC OBIi 2008 £2,950
Cleverly updated floorstanders give scale and solidity in slim and well finished package.

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.

QUAD 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.

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.

B&W 801D 2006 £10,500

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

**ISOPHON CASSIANO** 2007 £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.

ACCESSORIES**MONITOR AUDIO IDECK** 2006 £200

Fine design, impressive flexibility and a lucidly musical sound make the iDeck the current iPod dock champion.

ISOTEK GII VISION 2006 £550

A genuinely effective and surprisingly cost effective upgrade, but results could vary so a home dem of the power conditioner is recommended.

**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 £19

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

SENNHEISER PX-100 2002 £29

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

**GOLDRING DRI50** 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

Not the best headphone in the world, but a superb all round reference all the same. Very crisp, detailed and even sound allied to superlative build and fine comfort makes all most people will ever want. Cable upgrade yields great results.

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 5 2003 £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.

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.

MARANTZ ST-7001 2006 £299

Stunning performance on FM (at the price) coupled with its ability to get the most from DAB broadcasts makes this the best affordable tuner.

YAMAHA TX-761 2007 £350

Sets the standard for FM performance at the price and is no slouch on DAB either.

ARCAM DT91 2005 £450

The very best DAB tuner around, with fine sonics and styling to match; FM is less impressive though.

CREEK CLASSIC TUNER 2006 £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 its bigger brother.

ARCAM SOLO 2005 £995

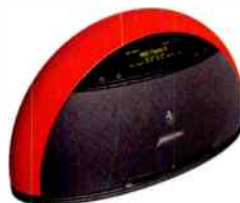
Excellent all-in-one system, with a warm, smooth and balanced sound to match the features and style.

LINN CLASSIK 2002 £995

The best one-box stereo system money can buy; 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 £500

Quite possibly the cutest all-in-one around with fine performance from the CD player, tuner and MP3 player input. Very low power, though.

LINN CLASSIK MOVIE 2007 £2,250

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I.M.P. AUDIO BLACK KNIGHT EXCELLENCE SPEAKER CABLE £199 (2 X 2.5M)

Although a new name in the world of wires, you'd not know by looking at this mid price contender. Here we have a very professionally finished set of loudspeaker cables, robustly

terminated and well presented. Each run of cable uses four high purity oxygen-free copper conductors, with cotton filler rods to stop electrostatic build up in the cable. They are twisted together (one twist per inch) and covered in a tin copper braid, and this is then terminated at one end so it can be grounded to the amplifier body – said to give excellent rejection from electromagnetic and radio frequency interference. The cables are fitted with Eichmann tellurium copper 24k plated bayonet plugs which made an easy yet secure connection with all the amplifiers and speakers we tried them with. The company says they can also fit special spade connectors, too. All contacts are treated with Caig Deoxit DNS contact enhancer, and then the finished cables are burned in on the Audiodharma 2.5 pro cable cooker.

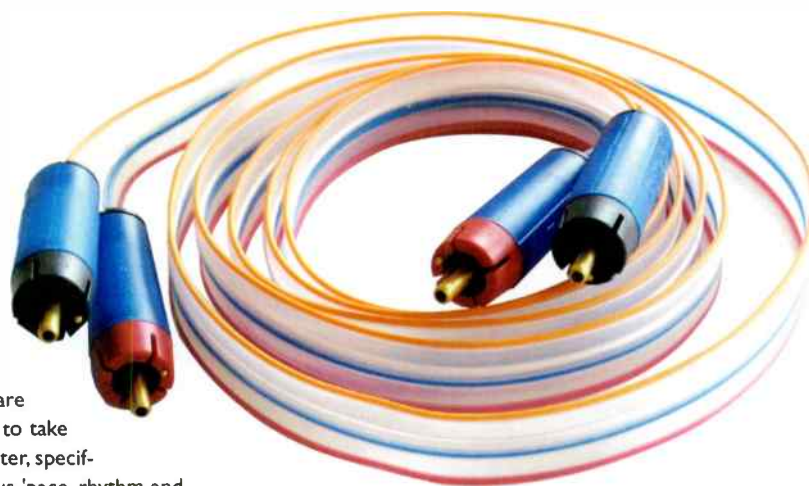
I found these to be excellent performers given the fairly modest price of the package, with an open and clean sound that offers the sort of finesse you expect from significantly more expensive designs. Bassheads' 'Is There Anybody Out There?' was carried with great gusto, the cables proving highly transparent yet tuneful with excellent attack and fine tonality. Whilst not quite as sweet, soft and sumptuous as Black Rhodium's Salsa, the Black Knight still presented excellently, with superior apparent grip, making it a more engaging listen. Tonally, it's a fraction leaner, but that still puts it *just* on the warm side of neutral, meaning it's ideal for most intrinsically well-matched systems – don't use these to dramatically alter the tonal balance of your hi-fi. Factor in expressive dynamics and pronounced inter-transient silences, and this cable does an awful lot at the price. **DP**
[Contact: +44(0)1525 376066, www.impaudio.co.uk]

soundbites

DNM STEREO SOLID CORE INTERCONNECT £22/M

Surely the world's most famous interconnect, DNM single-handedly started the eighties solid-core 'movement' (or fad, depending on your point of view). Well, it's back – slightly modified. Denis Morecroft says it builds on the original award-winning Mono Solid Core interconnect cable, introduced in 1984. "Major advances in design and production techniques since that time are built into the new cable". The classic spaced-pair design stays, but the magnetic performance has been optimised and careful balancing of capacitance and inductance further improves sound, it is claimed. Semi-transparent, there are four high purity oxygen-free copper conductors sheathed in colour coded insulation. Measuring 15mm wide and 1.5mm thick, the small size contains a dual pair, carrying two channels in the ribbon. The stereo ribbon can easily be physically separated into two channels.

There's no mistaking this is DNM Solid Core, as it's one of the most distinctive sounding interconnects on sale. There are many positives to take from its character, specifically the famous 'pace, rhythm and timing' that made the original DNM cable such a cult all those years ago. It is exceptionally good at catching the leading edges of music, as the acoustic recording of The Jam's 'That's Entertainment' shows – those fiercely strung steel string acoustic guitars having lacerating speed and incision. Tonally, the new cable seems less extreme than its predecessor; whilst not exactly 'warm' it's not as dry as the Sahara Desert like its forebear. Bass is decently full and highly propulsive, midband very crisp and engaging (if a little two dimensional



in terms of depth perspective) and treble is crisp and spry, although not as spacious as higher end designs. If you're looking for a grippy, immediate sound, and/or want to inject some pep into an overly warm or laid back system, this is a brilliant buy. It will win many friends, as it's surely the best value interconnect currently on sale. **DP**
[Contact: +44 (0)1480 457989, www.dnm.co.uk/cables.html]

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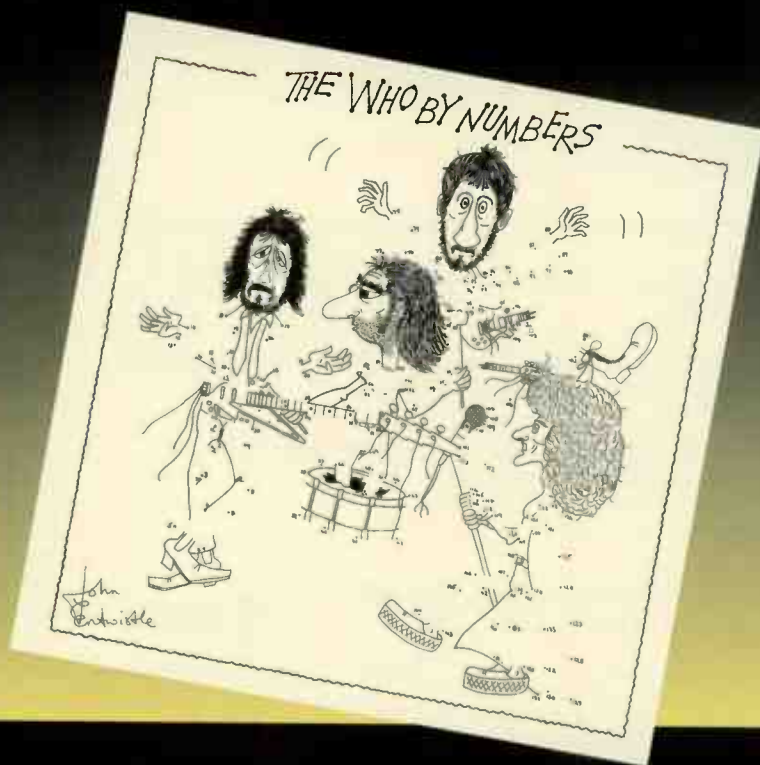
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PRIMAL SCREAM
Beautiful Future
Vinyl Factory

The band's latest album has received generally good press and rightly so. If you don't take the lyrics too seriously (Bobby Gillespie's political rants are a tad vacuous considering the lifestyle he leads), the album is an enjoyable and upbeat release with some interesting musical productions. It brings the band back on track after their previously disappointing album, 'Riot City Blues'. This wonderfully luxurious vinyl version is produced by a newly formed vinyl-only label called Vinyl Factory (www.vinylfactory.co.uk). The label's first release, the album is contained in a large, sturdy, hinged box which contains a vinyl double album, an exclusive Andrew Weatherall remix of the track 'Uptown', an exclusive cinematic poster, and an over-sized booklet and credit sheet. As Vinyl Factory's Sean Bidder explained, "we're not a record label in the traditional sense, but rather a curator and creator of collectible vinyl editions. We'll work closely with the artist themselves to make to the very highest standards, paying particular care and attention to the quality of the vinyl, artwork and print."

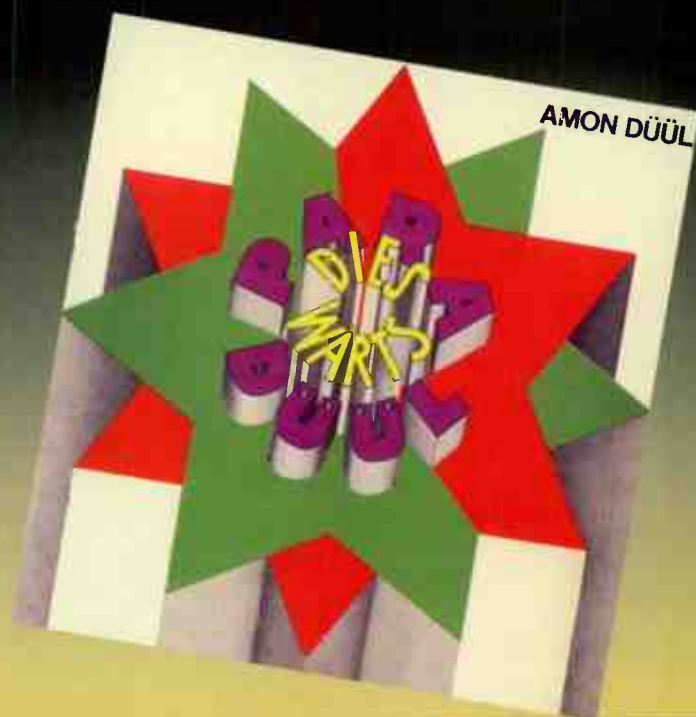
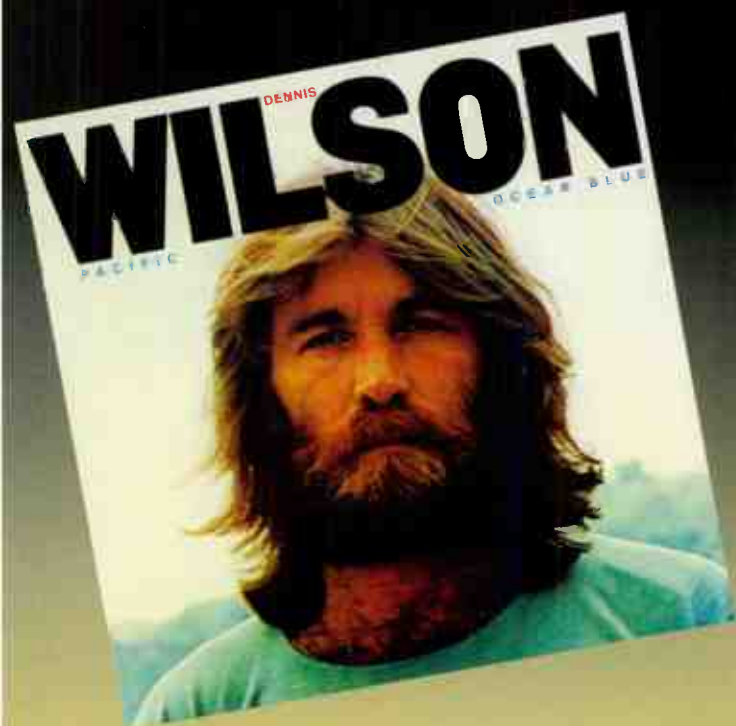
Whilst the mastering of this vinyl version and the pressing is both good, the problem is that Vinyl Factory has been forced to use the CD master – Hobson's Choice, there is no other master to access – which, to my ears has suffered from damaging peak limiting compression. It's bright and sometimes screechy. Consider, however, the CD version - which sounds even worse! That being the case, if you own it, throw the CD version in the bin and buy this box set instead. At least this vinyl issue softens the edges, warms up the general production and makes the album listenable. All Primal Scream fans need to own this edition and thank the gods (and Vinyl Factory) for analogue.

THE WHO
The Who By Numbers
Classic Records/Polydor

This release saw the band rounding the bend for the run to the finish line, as the classic line-up of arguably the best rock band the world has ever seen. For it was only one year before Keith Moon's onstage collapse at the Boston Garden and three before Moon's final death of a drug overdose. This is the album where stadium rock presentation hurls itself at contemplative, introspective and

melodic tunes and where both suffer as a result. Townshend rants about life and his drink problem, and quite frankly should have done all of it in an acoustically driven solo work with a basic nylon stringed guitar and, at most, a piano. What we have though, is loud and proud rock that results in some great ideas, patchy productions and half finished songs. As an album, it is still worthy of attention but it could have been a whole lot better...

As a vinyl LP production, it incorporates all Classic Records recently released technological enhancements, including the improved preparation and pressing techniques but also the improved profile with the enhanced groove guard. Before the company released the new modified groove guard they tested it against a normal teardrop shape. CEO Michael Hobson declared that, "we listened to the new groove guard pressing and we said, 'Oh my god, what happened?' It sounded louder, ambient and bass detail was improved, high frequencies... everything was better. We realised that the flat profile was the difference." This new release confirms that currently the new Classic Records vinyl designs are the most technologically advanced LPs you can buy.



DENNIS WILSON
Pacific Ocean Blue
Sundazed/Caribou Records

This 1977 album represents the first solo album by any of the Beach Boys. The record has been long awaited by fans of the band and music fans in general. 'Pacific Ocean Blue' showed the world that Dennis wasn't just a drummer and a beach bum. It's not the genius release that some parts of the media would have you believe but it does offer genuinely beautiful moments and shows definite potential. However, that's only the half of it. As part of the triple fold-out gatefold of this excellent vinyl version, you also get Wilson's proposed follow-up album, 'Bambu'. It was intended to see that potential blossom, but because Dennis' life was on the skids, only illustrated how the wheels were falling off his life. 'Bambu' does however show Dennis's talent. It's a more gutsy production and is peppered with gems.

Pressed in blue vinyl, the package features the original recording of the 'Pacific Ocean Blue' album, as originally released and programmed, which in itself is a joy. That is, the track 'Time' is track one of side two instead of just track seven as on the CD version. And yes, it does make a difference.

Record two is packed with previously unissued tracks from the album (side three) and the 'Caribou Sessions' from the 'Bambu' album (side four). The final record features the 'Bambu' LP itself. The mastering of the original 'Pacific Ocean Blue' is sympathetic and worthy of the reissue whilst the sessions have been cleaned up to sparkling effect. This vinyl version captures the original tone and inflection of the music brilliantly, presenting you with a creative time capsule. An excellent reissue and one that will surely fight for the title of 'reissue of the year'.

AMON DÜÜL
Paradieswartz Düül
Wah Wah Records/Ohr

One of the original Krautrock bands and surely one of the main reasons that the phrase "far out!" was invented. Amon Düül (Amon from the Egyptian sun god with Düül a fictional Turkish character, no less), sprouted from a politically active commune based in Munich whose blend of psychedelic rock and improv took the group into boundary breaking territory. In fact, many of the band's albums emerged from one almighty, marathon jam session! This particular record was the exception to that particular rule and, because

of that and the fact that this is the band's only proper studio recording, sounds different from the rest. It's also a posthumous release. Because of the fluid nature of the personnel, the original group reformed as Amon Düül 2 in late 1969. Despite the tracks retaining their extended nature, the album sounds rather more considered and mature with melodic structures, pastoral orchestrations and English lyrics raising the eyebrow. It does 'flow' however, with no special demand to be sliced and diced into songs. Even though the album is divided into tracks, it could easily be considered as a single 'suite' of music.

As a work of music, 'Paradieswartz Düül' is the sort of album to get under your skin in many ways. It can enthrall you, paint pictures and, if you're in the mood, send you to sleep. It will also polarise both music and Krautrock fans. I'm sure. Some will criticise its low key approach and it's rather rambling bucolic setting, whilst others will love the Indian influences that particularly affect side two, especially the Indian raga-esque sequences with sitar and fuzz guitars. The mastering sounds warm and almost nostalgic whilst the low level hiss of the recording does give the vinyl a charm of its own.

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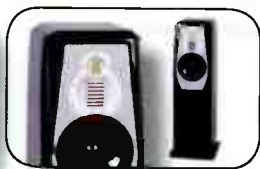
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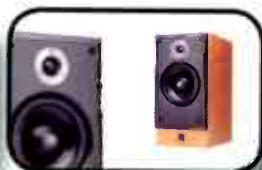
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WD Phono3S Valve Phonoamplifier Kit

"The real star of the show for me, however, is the Phono3 as it is particularly astonishing in its abilities, especially at its modest price."

Passive RIAA EQ

Based around a triple gain stage of ECC83 valves, this phono preamplifier utilises passive RIAA equalisation (zero feedback) for the finest sonic performance from any turntable. A separate power supply removes all sources of hum and noise from the Phono3S case for optimum clarity of sound.

MM and MC inputs

WDPhono3S offers you two inputs, selected on the front panel, for MM and MC cartridges. MC inputs feature high performance step-up transformers for the lowest noise, clearest output from any cartridge. Each input has individual impedance matching to obtain the best sound from the cartridge of your choice. In addition you can select the subsonic filter characteristic to give the optimum results from your turntable, arm and cartridge.



Kits come complete with pictorial instructions for easy assembly.

WDPhono3S kit	£399
WDPSU3 power supply	£229
WDPhono3S and PSU3 built and tested	£853

WDPRE3 Valve Preamplifier kit

"So there we have it, a pre-amplifier capable of driving any load and maintaining its linearity no matter what cables or partnering equipment you prefer to use."

The Active Preamp principle

This 5 input line level preamp is essentially an SE triode power amplifier in concept. WDPRE3 uses an ECC82 double triode arranged as input voltage amplifier and power output amplifier stages, the latter driving oversize 20:1 output transformers.

Active vs Passive

Many enthusiasts assume that a 'passive' control unit (essentially just a volume control and switching system in a box) is the ideal 'preamplifier'. However this assumption takes no account of the interface between the source and the power amplifier, let alone the effects of partnering cables. The WDPRE3 effectively isolates the source from the power amplifier and provides the correct terminating impedance to optimise the musical performance.



WDPRE3 requires the WDPSU3 power supply (shown above)

WDPRE3 kit	£369
WDPRE3 XL kit	£399
WDPRE3 Built and tested	£495

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"the Sony TT-S8000 was an unreal world of unknown pleasure; I'd never seen one, let alone heard one..."



David Price

It was a chance encounter at Westwood and Masons that started it all. One dark, dank late October afternoon in Oxford, my father ushered me up the step and in to what I later found out to be one of Britain's best hi-fi dealers (now sadly defunct). Just out of school, resplendent in my loose-fitting uniform, digital watch and beloved Adidas sports bag, I found myself stepping into another world...

We were on a mission to buy a 'stereo', which at the time was one of the most important things that had ever happened to me - along with the gift of a purple Raleigh Chopper bike, him buying me my first school blazer and upgrading our family to a colour television. Now, the reason I didn't say "new stereo" is that we'd never had even an old one before - until then I had spent my life listening to music in mono.

We were served by Nigel Pearson (now of Loricraft fame) who was utterly charming and - like my first year English teacher - instilled in me a passion for something that's lasted a lifetime. Within fifteen minutes, he'd sold my dad a budget Sony amplifier and Wharfedale speakers - and sold me on hi-fi for good. I'd heard what a decent system could sound like, giving me something that I wouldn't forget too soon...

One of the 'spoils' of the visit was Sony's 1978 hi-fi catalogue, which I took home and 'read' cover to cover. Along with some impossibly sexy looking reel to reel machines, what struck me most was Sony's range of turntables - especially its high end esoterica, the like of which I'd never seen before. What with us running a Garrard SP25/IV at the time, tracking a Goldring G850 cartridge at night on 5grams, even Sony's entry-level stuff looked exotic, but there was one bit of kit that I just couldn't take my eyes off, right at

the bottom of the page...

The Sony TT-S8000 'broadcast turntable', designed to be mounted into a studio console or radio station desk, became the object of my obsession. I loved its stark style, purposefulness, massive weight, and the giant optional base which was about three times as large as my father's SP25. To me it epitomised what a 'real turntable' was, but strangely was rarely listed in Sony dealer advertisements; even large chains didn't carry it, while the few Tottenham Court Road specialists that did quoted around £600 - about half the price of a Mini 850!

This magnificent machine was built to compete in a market that most British hi-fi nuts never knew existed - Japan's 'ultimate direct drive' deck. Every consumer electronics giant worth its salt had a contender; Technics with the SP10, Onkyo with the PX100, Nakamichi with the TX1000 Dragon, Denon with the DP-100, Marantz with the TT-1000 Esotec, Micro Seiki with the DDX1000. For me, this was an unreal world of unknown pleasures; I'd never seen one or touched one, let alone heard one!

Well, warp forward one quarter of a century, and to my amazement I saw one for sale (I think) in a classified ad. in Edinburgh. Needless to say it was swiftly served with a 'compulsory purchase order', but sure enough, not long after I got this 'Holy Grail' of vinyl playback spinning, the darn thing duly packed up on me. I was crestfallen.

To cut a long story short, my Sony has been 'dug in' at Vantage Audio since then, waiting for the appearance of a handful of very rare bespoke transistors for its speed control circuit - the failure of the originals being the reason why it conked out in the first place. Richard Peachey, ex-avionics engineer and proprietor of Vantage, hadn't held

out much hope, but after three years of searching my lucky number came up and he obtained a supply. He also stripped and rebuilt the deck, applied some all-important damping material to critical places and made a bespoke Rega armboard.

So a few days ago, my Sony came home at last. Looking stunning in its pro-spec gloss black plinth, and with the latest (and superb) Origin Live Silver tonearm and Origin Live platter mat fitted, it has slotted straight into the space previously occupied by my Marantz TT-1000 (which itself has now gone to Vantage Audio for a rebuild). Needless to say the TT-S8000 sounds stunning, but is still bedding in and so the jury's out on its relative merits against the Marantz. While not quite 'foot tapping' as the Linn LP12 Majik I recently had residing here, it offers a mastertape-like solidity that the Brit deck can only dream about, along with superlative clarity and focus.

Life takes people in strange directions, and with hi-fi it's just the same. Back in 1978, I never thought that thirty years on I'd be sitting at home listening to that stunning Sony



superdeck, nor indeed did I imagine that vinyl would still be around. But there you go - some things are destined to be, and 'vinyl, the Sony and me' it seems is one of them! ●

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"It's not difficult to see that the CD single is a rip-off, and always has been..."



paul rigby

What's the point of the CD single format? In most cases, there is none. Downloads have usurped its early dominance. To be honest however, the CD single format has been poorly used and never properly exploited. There have been notable exceptions of course, but what you have generally had with a CD single is that all important, promoted, single track plus a couple of extra mixes and you're done.

What should happen is that, as the CD single celebrates a particular time and place in the history of the artist, the disc should contain items that reflect what's going on in the life of the band. It should serve as a snapshot to the artists' production and where they are on the creative pathway. In this respect, the CD single can be more personal than an album...

Yes, some singles include extras but certainly not all and certainly not the breadth of media that could easily fill a full CD. What I am advocating is a full CD's quantity of media (that costs the same amount of money to produce as the actual album). Then that CD should be sold at the full album price and be aimed at fans. Casual buyers should be directed to a download of the promoted single track.

Let me give you an example. Amazon is selling Coldplay's latest album, 'Viva La Vida Or Death And All His Friends' for around £9. For that, you get ten tracks of music, which is generally speaking the going album price rate. Yes, there are big differences depending on the artist and where you shop but let's take this figure for now.

The Cure's latest single, 'The Perfect Boy', on the other hand, is also for sale on Amazon for a penny

under £4. For that you get just two tracks. It's not difficult to see that the CD single is a rip-off and always has been, even when they were being sold for £1.99 or less. So, what I would advocate is for The Cure to include their two tracks but then record an interview talking about the tracks - footage of them in the studio perhaps?

Alternative versions of the tracks? A 'pop' video of the track? A couple of rarities, tracks that didn't make it or songs that changed dramatically to get the hardcore Cure collectors excited? A ringtone or two and more to max out the available space. Then charge £9 for the 'single' and even package it in a limited edition box or some such. In this way, everybody wins. As long as the band plans beforehand to make such media available (as film studios do when planning their forthcoming DVD releases) then there will always be enough media to fill the space.

CD singles can be great fun in their present incarnation, as part of a reissue campaign. Take the new Beach Boys box set, 'U.S. Singles Collection The Capitol Years 1962-1965' which with a few exceptions, packs four songs onto each of the sixteen included CD singles. Whilst of no great shakes to committed fans (with the exception of a few rare stereo mixes) the set is ideal for Beach Boys beginners.

Then there's The Shamen's box set released via the One Little Indian label. The set includes all twenty two singles released by the band. A great idea for followers of the band as it presents a completist solution for those who joined the chaps' fan base late. It also fills in many gaps for those who might have missed out the first time around. The Shamen, like many of their contemporaries, issued their

CD singles in batches of two.

Take the single, 'Boss Drum', initially released in 1992, which contains four tracks on the first single but, on CD2 - also seen in this new box set - features an additional eight tracks including a range of mixes from some respected names such as Youth and Justin Robertson. The 1995 single 'Heal' is a similar story, with four tracks on one CD and seven others of the second CD single. At the times of the initial release, you could never be absolutely sure that both parts one and two could be purchased in your favourite record shop. Hence, this box set might serve as an important sense of relief for fans who missed out the first time around.

Each of the CD singles is printed with its original artwork with the notable exception of 'Show Of Strength' which has had its artwork removed "for legal reasons", and each single has been mastered well. A little loud perhaps, but nothing that was out of place in the early to mid-nineties. The nice thing about much of the music mastered in this period of time is that, despite upping the volume a bit, The Shamen's producers were not of the current breed who now demand that Peak Limiting be the norm for music corruption, err consumption. Hence, this box set is perfectly listenable, acts as an important part of the band's history and is ideal for dedicated Shamen fans.

You'd think that, with such a long history of releasing singles, record companies would have understood the format properly by now - but it seems not. Still, a few select CD single releases show us that the idea of walking in to a record shop and handing over pound coins for a real, physical format can still mean something. ●

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[World Radio History](http://WorldRadioHistory.com)

"launching the BBC iPlayer on brand new devices is hardly the quickest way to make it widely available..."



steven green

The BBC has recently announced that the iPlayer TV and radio catch-up service will be available on the new Nokia N96 smartphone from 1st October.

The Nokia N96 is only the second mobile phone to support the BBC iPlayer, with the first being the Apple iPhone. However, the iPlayer service on the Nokia provides a couple of important improvements over that on the iPhone, which only allows users to stream programmes via Wi-Fi networks. The Nokia N96, on the other hand, allows users to access programmes via 3G or Wi-Fi, and TV programmes can be downloaded in addition to them being streamed. Programme files won't have to be downloaded via the painstakingly slow iPlayer P2P network though, so a thirty-minute programme should only take a few minutes to download via a typical broadband/Wi-Fi connection.

Downloading has a couple of advantages over streaming for mobile devices. Firstly, people will be able to download programme files via Wi-Fi for later viewing, which would help to keep down the amount of data downloaded via mobile broadband, where the monthly download allowances are typically quite low, and the penalties are high if you exceed your allowance. Downloading also avoids the issue of streams buffering – i.e. when a stream pauses during playback because the receiver runs out of data to play. This is especially important for iPlayer TV streams, which use a relatively high bit rate of around 500kbps, because mobile broadband coverage isn't complete, and where coverage does exist the capacity often isn't very high, so a lot of people will experience difficulties receiving the TV streams until

coverage improves.

The on-demand radio streams use much lower bit rates than the TV streams though, so the reception quality for these will be a lot more robust – which is a good job, because the radio programmes can't be downloaded. The BBC is apparently finally looking into providing radio downloads via the iPlayer, but they haven't applied for permission from the BBC Trust yet, so it will still be a few months before we see them at the very least.

Downloading does have one disadvantage compared to streaming, which is that users have to wait until the whole file has downloaded before they can start playing it. 'Progressive downloading' solves this by combining the advantages of downloading with the ability to start playing the file straightaway; but none of the DRM schemes support this yet, so we're unlikely to see the BBC using this on the iPlayer any time soon.

However, the performance of streaming will improve a lot over time, so the need to use progressive downloading will diminish. Mobile broadband has proven to be very popular since the prices were slashed last year, so the mobile network operators are bound to improve coverage. The next few years will also see some very fast mobile technologies being introduced, which will provide far higher capacity, and they're also far more cost-efficient, which should lead to better value-for-money deals as well.

Personally, I think the BBC iPlayer and other on-demand TV applications will become successful on mobile devices whereas mobile TV hasn't been up to now, and I actually doubt that mobile TV will ever become successful in future because people

will prefer to access content on-demand. My theory for why mobile TV hasn't been very popular so far is that most people would watch it in the daytime, but as mobile TV consists of ordinary live TV channels, that would mean watching daytime TV! On-demand applications just seem to me to be a far better fit to how people would likely consume TV and radio on mobile devices, where people might only be able to watch or listen for a few minutes at a time.

Before the iPlayer could become successful on mobile devices, it needs to become widely available. So I was surprised when I saw that the BBC had chosen to launch the iPlayer on the Nokia N96, because the N96 was only launched a few weeks ago, so hardly anybody owns one yet. According to Matthew Postgate, the Controller of BBC Mobile, the BBC has "been waiting for devices to arrive which mean we can create the kind of experience that audiences have come to expect from the service", and that the Nokia N96 had been selected, like the iPhone before it, because the BBC considered that "it would be optimised for video and audio".

As things stand, I think it would have been better to support the Nokia N95 rather than the N96. The N95 has been one of the best-selling mobiles over the last couple of years, so it would provide access to the iPlayer for a very large number of people in one fell swoop. The N95 was also designed to handle audio and video, so I doubt there would actually be much difference in quality between the two devices, either. I'm sure that lots of mobile phones will support the iPlayer in a year or two's time, but only launching it on brand new devices is hardly the quickest way to make it widely available. ●

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"music is enjoyed at a deeply personal level, one that does not need accompanying video..."



noel keyword

I choked on my coffee when the natty little blue e-mail scrolled down my screen early one morning. "Discover the power of music on Blu-ray disc" it said. Heavens, I've been trying to do that for some time now and have all but given up!

Blu-ray is the slow lane.

Overtaking in the fast lane is a world of music that even I have to catch up on: downloaded music, now coming to us on curious new devices like the Naim HDX featured in this issue. With internet speeds set to increase and Apple, Naim, Linn and others able and apparently willing to sell us quality downloads, this seems to be where the future lies...

Blu-ray has enormous potential of course, as the few Blu-ray discs I have with music on them nicely demonstrate. I have to put it coyly like this because Blu-ray actually wasn't designed for music so what little music exists is culled from live concerts, where as we know quality seems to hinge perilously on the sound engineer - and what he did the night before. So whilst I have some 'interesting' sounding Blu-rays like the well controlled and highly polished Chris Botti concert, a pile-driving Nine Inch Nails concert, Elton John's 60th in New York, Celine Dion and suchlike, it still isn't much of a collection - and I wonder whether it ever will be? They are all live concerts of course, with all that implies quality wise. Music on Blu-ray? This isn't much of a start and the prices are ridiculous, currently in the £20-£28 region.

Somewhere in the past, perhaps when major force Sony decided to buy Columbia Pictures in 1982, the C.E. business, following Sony's cogent example, seemed to think that the future of music would be inextricably linked to video and has never, until recently, had any reason to doubt that

it would be any other way, because they could make it so. The music business followed them down this path and I have over the years been told countless times by studio folk that stereo was "the past", the future lay firmly with video and surround-sound.

What a bizarre view that is. It was never "stereo" but music they were talking about and they forgot that music is an experience enjoyed at a deep personal level that is not helped by and does not need accompanying video. It has always been so and is more so now than ever. When I jump onto a bus or the tube it seems that half of the people around me have headphones in their ears and a iPod in their pocket. This is where music went whilst the music business was busy getting involved in surround-sound and a cosy relationship with Hollywood, in their misguided attempt to get us all to install 'movie theaters' in our homes.

It was a simple vision - but one that can get bizarre. Even a 5.1 system is all but impossible to cope with in the average home, but all receivers are now 7.1 and Tomlinson Holman, founder of THX, is reported to think we should have 10.2 in our homes. That means more loudspeakers in the lounge than humans. Hmmm...

This is the world Blu-ray will inherit. It was designed to be a movie carrier, not a music disc, so although it has the capacity and data rate to carry ultra high quality music, and indeed seven channels of 24/192 is in its spec., the reality is quite different. Load times for Blu-ray vary from slow to appallingly slow when there's a Java powered menu system and you must have a TV connected and switch it on before music can be played. DVD-A suffered from a similar inconvenience and whilst sound quality was at times very good, it got nowhere.

Will Blu-ray ever become a music carrier? Yes. They are scurrying around in the background with a music only variant, realising rather late that the music listening world has bolted to the internet and iTunes. Naim's fascinating HDX is in effect an alternative to Blu-ray and it looks from the very outset as if it could be the future, with Blu-ray never seriously being able to get in on its act.

Had Blu-ray been designed from the outset to be easy to use like a CD, with stereo mixdown from surround-sound always available at the push of a button, then it might have had a better chance. But the speed at which music downloading in the form of iTunes has raced away from the whole AV business and its obsession with video and surround-sound is extraordinary.

I'm not a super devotee of downloaded music as yet, because I used iTunes in its early days and found it to be too much hassle for poor quality music. As much as I like using a Mac (PCs can get iTunes of course) I also like to get away from the computer when listening to music, not be tied to it and its idiosyncrasies, which can be exasperating, especially if you run Vulture - no - Vista.

With 'hi res' music downloads now becoming available whilst the Blu-ray association procrastinates about its hopelessly late Profile 3 music disc (just one is available, with an amazing 5.1 channels at 24/192 - see www.blu-ray.com/movies/movies.php?id=1097) I am beginning to suspect my iTunes account will be renewed shortly and an HDX or similar will make its way into Keyword towers. All the same, I will be going to the press event to see if there is any blue light on the horizon that signals the dawn, or whether they are all still asleep! ●



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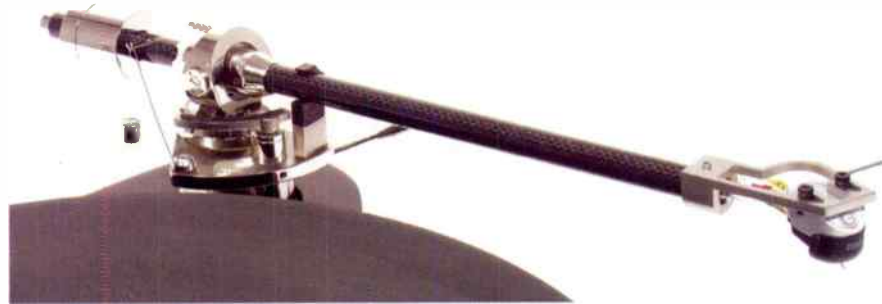
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thanks to its simple design, and the arm is supplied with a nifty all-in-one tool that serves as both a protractor for correct cartridge alignment and a stylus balance for setting tracking force. Thanks to this, I had no problem in getting the deck set up and spinning tunes within half an hour.

SOUND QUALITY

Back in the Forbidden City Liu's review I offered my opinion that the ST100 is a very fine arm, and it would appear that Consonance have improved it still further. I was delighted to note the impressive sense of spatiality and atmosphere that the LP3.1 and ST100 bring to vinyl. A good turntable should do this without breaking into a sweat, but you usually have to spend a few more hundreds of pounds to achieve such scale and depth. Compared to my reference at around the price, the Scheu Analog Black Diamond, the German contender is perhaps a little more precise, but everything is slightly more constrained within the boundaries of the loudspeaker. The Consonance definitely has more grandeur and passion to offer, pushing the loudspeakers out of the way as if they don't exist and simply filling the listening space with performers.

At the top end, cymbals sounded crisp and sprightly. Percussive strikes were snappy and shimmered off into the distance beautifully, and the Consonance moved effortlessly down the frequency range to meld everything into a highly convincing musical whole. Vocalists hung between the speakers with a lovely sense of being freed from the backing track, and this worked wonders with simple acoustic material or orchestral setups. 'Fell Down Fast' from Katherine Williams' 'Little Black Numbers' was an absolute delight; this is a simple and quite



basic recording that can sound rather dull and uninspiring on an average turntable, but the Consonance, with the help of a Goldring 2500 cartridge, had no such problems and pulled the recording out from the grooves to lay it out across the front of my listening room in a delightful way.

Increasing the intensity to Holst's 'Planets Suite' showed that the Droplet LP3.1 has no fear when the going gets tougher, keeping everything magnificently ordered and picking out individual instruments with effortless precision. This was not at the expense of the emotion of the performance, the Droplet perfectly straddling the gap between factuality and musicality, something that I tend to find that the Scheu's standard Rega RB250-based arm can occasionally fail to do. This was beginning to look like a landslide for the Droplet LP3.1 then, but as I swapped records,

REFERENCE SYSTEM

Scheu Analog Black Diamond
Goldring 2500 cartridge
Whest Two phono stage
Naim SuperNait amplifier
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basses seemed to drift off into the back of the mix, pushing individual notes together somewhat and failing to let them stand out as they should. This was shown by Duffy's 'Warwick Avenue', whose intricate bass line seemed rather hesitant and unsure of itself, meaning that the track did not quite come together as it should, despite the Consonance reproducing the track's vocals stunningly well. The Scheu Black Diamond showed its superiority in bass terms, breezing through such material with blistering levels of precision and filigree low end detail.

"the Consonance has grandeur and passion to offer, pushing the loudspeakers out of the way as if they didn't exist..."

eager to explore the deck's abilities, I became aware that there was something awry lurking in the depths of the Droplet's armoury. It turned in a disappointing wow and flutter performance, worse than that of the Forbidden City Liu's, which wasn't particularly good in itself. The motor itself is physically noisier than most I have encountered and the belt visibly rode up and down as the platter rotated, the upshot being that this made itself heard in the low end.

On the introduction to the Blue Nile's 'Walk Across the Rooftops', the steady synth note could be heard to waver slightly, and bass lines lacked focus. The deck never sounded slow or plodding - indeed it has a surprising turn of speed - but bass guitars and acoustic double

CONCLUSION

The Consonance Droplet LP3.1 impresses greatly - even more so than the Forbidden City Liu thanks to the difference in price and the few subtle improvements to the arm - but still falls short of being ultimately capable. On the plus side, that ST100 arm is an absolutely superb item and very possibly one of the best sub-£1,000 arms on the market at the moment, if not the best. It is well matched to the overall sonic character of the turntable, but the drive system still lets the whole package down at the bass end. Punch and drive is in plentiful supply, but detail and focus are behind the best. I have no hesitation in giving the Droplet LP3.1 a recommendation then, but the fact that it is oh-so-close to being class-leading is rather frustrating.

VERDICT

Capable turntable package that exploits its excellent supplied arm, but bass lacks precision.

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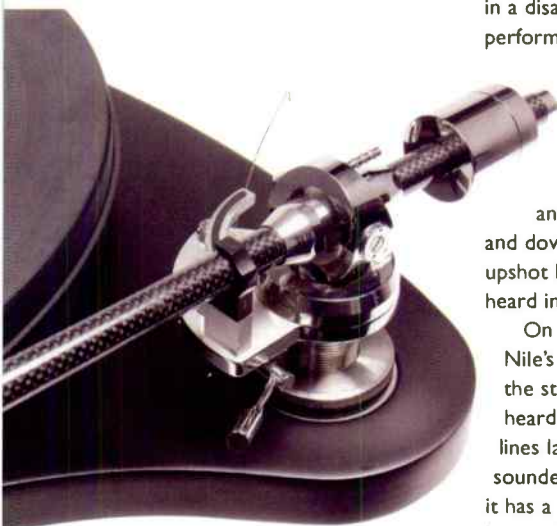
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Dumped!

What with talk of credit crunches and monetary misery, editor DP decided to lay down the gauntlet to Hi-Fi World's resident analogue-addicted Scrooge impersonator Adam Smith to come up with an entire high quality classic vinyl system for less than the cost of a cheap turntable. In the first of a two part feature, see how he rose to the challenge...

Judging by the contents of our bulging postbag, it would appear that many readers are catching the vinyl bug that we're so badly infected with here at *Hi-Fi World*. A number of correspondents, it seems, have a few hundred LPs tucked away in the loft, and have acquired sufficient intrigue from our ramblings to want to listen to them again, but don't want to fork out much to do so - or even disrupt their main digital or home theatre system.

So David challenged me to put a complete second-hand vinyl system

together for - say - half the cost of a new entry-level turntable. Now that was a challenge I couldn't refuse. Obviously, this budget largely ruled out our very own classifieds - where many more high end bargains can be found - so my staple sources of eBay, the car boot sale and the dump would have to be pressed into action and, as it turned out, an ideal component turned up at each.

A LOAD OF RUBBISH

Now, my local Household Waste Recycling Centre has proven to be highly fruitful in the past for audio

equipment as, thanks to modern recycling rules, such items are separated from the main rubbish. My local facility is extremely well organised in this respect and stacks all sorts of electronic equipment for a week or so to give people an opportunity to root through it and make purchases, before they finally hit the skip. As a regular visitor I know my way round the site well and, barely a week or so after my conversation with DP, something caught my eye.

The seasoned rummager like myself soon learns to distinguish

WHEN ONLY THE BEST WILL DO

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You don't need to be an experienced hi-fi buff to appreciate the differences, the new SE based CD players sound obviously better because it's unique new CD engine is 'made for high-end audio'. To learn more and download the new SE brochure go to www.servo-evolution.co.uk

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A load of rubbish for £60! Well, not quite Adam says. One man's rubbish is another's hi-fi.

from a distance something a bit better than the nasty Dixons/Argos fodder in the pile and sure enough, that pair of loudspeakers that looked deeper than their companions and with a familiar badge on the front turned out to be nothing less than a pair of original Wharfedale Diamonds – ideal as my eBay 'watch list' at the time was filled with Diamonds, Goodmans Maxims and various JFWs! Their tweeters were unmolested, the woofers did not rub or scrape when gently pushed in and out, the grilles were complete and unturned, and the cabinets were in good fettle apart from a fine smattering of orange paint splashes. A quick enquiry and I drove off, £5 poorer and two Diamonds richer. £55 left in my £60 budget, amp and deck to find!

My next hi-fi 'lucre' was at my local car boot sale a week or so later, and would provide power for the whole system. I had a rough idea of what I wanted, namely something in the budget Jap integrated or NAD 3020 mould, but original examples of the latter tend to be either

immaculate and overpriced, or cheap and knackered. My eye was first caught by a NAD 3240PE - a later and more powerful evolution of the 3020 and carrying an £8 price tag. The trouble is, it was caked in a thick layer of crud, the volume knob was missing and it looked like it had been kicked down the stairs and then stamped on a few times for good measure. The seller swore that it worked but I moved on. Good job too, as barely ten minutes later I struck gold - a dusty but sound Yamaha AX-300 priced at £15. A spot of haggling and it was mine for £12. This left me £43 for a turntable - a veritable fortune!

However, further car boot sales and trips to all the dumps in my local area over the next few weeks turned out to be fruitless, so I knew it was time to fire up the internet and head off to eBay. Once again, I had something of a simple Technics/Pioneer/Dual nature in mind and the Dual CS505-3 I found seemed to fit the bill perfectly. This is my

preferred variant of the 505 as it has a removable headshell that fits by clamping around the arm tube using an Allen bolt, and thus has a continuous run of arm wire, rather than the conventional socket-mounting type that the 505-2 used, and which Dual returned to for the 505-4. A spot of last minute bidding and it was mine for £31, plus £10 postage, and complete with a fitted Ortofon OM10 with good stylus. I celebrated by spending my last £2 on a couple of Bakewell flapjacks!

SOUND QUALITY

Of course, it is not as simple as dragging items like this home and plugging them straight in - see p107 for important details and Part 2 next month for more information on the turntable checking. However, with all necessary readiness work done, and the speakers sat atop some Atacama Nexus 6 stands, I dropped the stylus into the groove, and couldn't help grinning. Okay, so I'm not going to be selling my main system any time soon, but it really is astounding how much listening enjoyment you can obtain for £58.



This Dual CS505-3 turntable cost nearly £150 in 1988; Adam bagged one from eBay for just £31 in good condition...

Cueing up 'Diamonds on the Soles of her Shoes' from Paul Simon's 'Graceland', the Dual/Yamaha/Wharfedale combo bounded along in a lively manner. The bass line was solid and taut, the backing effects nicely spread between the speakers and Paul himself sang from perfectly within the centre of the soundstage. The system was more than able to pull the heart of the music from the grooves and attacked all genres with gusto. Dance bass lines were taut and pacy, acoustic material was pleasingly atmospheric and classical material struck just the right balance of being enthusiastic without straying into harshness. Additionally, because of the Dual's smooth nature, poorly pressed LPs or dodgy recordings were actually handled well - surface



Adam picked up a Yamaha AX-300 - a fine entry level mid-eighties integrated amplifier - for just £12 at a car boot sale...

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Wharfedale's classic Diamond loudspeakers - Adam's for just £5 at his local recycling centre!

noise is well controlled and the OM10 takes the rough edges off any unpleasantness. Maybe this is not what you want in an expensive, revealing system, but there's a great deal to be said for it in pure listenability terms on the bottom rung of the price ladder.

The overall balance of the system actually works very well, as the Dual is a sweet and musical LP

PREPARATION SAFETY

Of course, it is not just as simple as taking the items you find at the dump or car boot sale home and plugging them in! It is essential to carry out a few basic safety checks before hitting the loud button. In terms of amplifiers, turntables and anything with a plug, check the condition of the mains lead and make sure it is not frayed or damaged anywhere along its length - if in any doubt, replace it. Also, open up the mains plug, check the connections are tight and in the right place - you'd be amazed at how many people still do not know the correct colour coding for mains plug wiring! Finally, and most importantly of all, check the fuse. I am often disturbed by items I buy at dedicated audio fairs, supposedly sold by enthusiasts and people who know what they are doing, only to find the wrong fuse fitted. Nearly all hi-fi, with the exception of some more powerful amplifiers, needs a 3A mains fuse - to be sure, though, check the electrical rating plate on the back of the item and proceed as follows - Power rating less than 720W - 3A fuse; 720 to 1200W - 5A fuse; over 1200W - 13A fuse. If you fit the correct fuse and it blows when the equipment is switched on, never be tempted to fit a higher rating item to see if this does the trick. A fuse blowing is a sign of a fault and this must be corrected and not disguised.

Also, if you have bought something from the dump, there is every chance it may have been sat outside and possibly rained on, so whip the case off and make sure it is absolutely dry before plugging in. Whilst inside, take the time to blow or gently brush any dust from the insides with a paintbrush. I wouldn't generally recommend buying anything that is obviously soaking wet - I only did it once, thoroughly mopping the item in question out first, and then sitting it inside the airing cupboard for a week to fully dry out. Luckily it worked fine when I tried it, but pressing the power switch for the first time was still a nerve-racking experience!

CLEANING

Your precious new items are unlikely to be pristine and will benefit from a good clean. Personally I always use Unilever's 'Cif with Bleach' household cleaner as it cuts through dirt, grime and twenty years worth of accumulated cigarette smoke with ease. Apply it with a damp (not wet) cloth, clean off with another one and then dry fully with an old towel or similar. Rub very gently over writing on front panels however, as it will remove these if they are of the very basic transfer type found on some eighties cottage industry gear. Finally, for those hard to reach areas, nooks and crannies and heatsink grooves, nothing can beat an old toothbrush. I actually have a small case of eleven items of different shapes and sizes specifically for audio cleaning purposes but, then, I'm a nerd [no, not you Adam! - Ed.].

For turntable lids and glass or plastic display windows, window cleaner works a treat and for those stubborn marks or ancient stickers that have taken on the consistency of granite, Isopropyl Alcohol is the answer. To help scrape these off after the alcohol has softened them, it is a sad fact of life that, although science has put men on the moon and cured Tuberculosis, it has never succeeded in coming up with anything that works so effectively, without causing damage, than the human thumbnail. Best start taking those calcium supplements now...

Internally, a good spray of Servisol contact cleaner, available from Maplin, into the control potentiometers and switches will silence 'scratchy' volume controls and noisy selectors (unless they are completely worn out, in which case replacement is the only option), and a good rub with our old friend, Kontak contact cleaning fluid on a cotton bud, will restore a healthy shine, and a good connection, to those input and output sockets.

When it comes to loudspeakers, the above apply as well, and a damp cloth and a clothes brush can bring grilles up like new. For vinyl wrap cabinets, a squirt of Pledge furniture polish and a good buffing is fine but for real wood types it is best to find the correct wood oil from your local DIY emporium for optimum results. The orange paint splashes on my Diamonds disappeared with the Isopropyl/thumbnail treatment, but this is not recommended for real wood cabinets unless you intend to sand down and re-veneer, as it will stain them. Once again, take care when cleaning - paper cones do not take kindly to being made wet, and it is all too easy to have that cloth or brush slip and render your previously immaculately convex tweeter dome more concave than the manufacturers intended. While you're under the grill, tweak up all the drive unit bolts nice and tightly.

spinner, the Yamaha is a well rounded and nicely balanced individual and the Wharfedales are enthusiastic and peppy performers. What this means is that you get a sound with a clean and vivid top end, a sprightly and punchy low end, within the confines of those diminutive cabinets obviously, and a sense of pleasing openness across the midband. In absolute terms, some modern budget gear will, of course, bring about an improvement, but will cost considerably more than £58. Most importantly, nothing else from your local high street digital emporium up to three or four times this cost can even come close.

CONCLUSION

So then, genuine hi-fi vinyl enjoyment for under £60? Absolutely! My little exercise here proves very nicely that you can indeed obtain a properly musical and highly enjoyable performance for very little money if you know where to look, and don't mind taking a bit of a risk. There are plenty of unloved components floating around out there that have been cast aside because they are old fashioned, a bit ugly, or are leftovers from an upgrade that the owner cannot believe anyone would still be interested in. They are not always thrown out because they don't work! Take a little time to find the right items in the right condition and you'll find there are plenty of bargains out there, just waiting for you to snap them up. Be careful though, the whole thing can become addictive...

NEXT MONTH: turntables worth considering, and how to resurrect that old vinyl spinning friend you've just found in the loft...

FURUTECH DEMAG £1,245

In my column in September's *Hi-Fi World*, I covered a range of gadgets that claimed to demagnetise both your vinyl and CDs. Magnetic effects on both black vinyl and CD media have now proven to be a factor in degrading sound quality. Certainly, when I made comparative tests with 'The Talisman' from US-based Walker Audio, priced at £200 (www.audiophilecandy.com) and Bedini's 'Ultra Clarifier Quadri Beam', priced at £225

press the Erase button once, wait the sixteen seconds or so for it to do its job and you're done.

Comparisons were made with both the Talisman and Bedini. Compared to standard unprocessed black vinyl, the Demag treated disc displayed an increase in soundstage width and height. Instrumental separation was also superior, accompanied with a tightening in bass frequencies. Significantly, there

become tiresome, however!

On the CD test, without any treatment, a typical CD sound stage and stereo image resembles a box of frogs: it might set certain boundaries but within those, it's still a bit of a jumble. The Talisman fixes the stereo image and adds clarity to the music. The Furutech has all that but it widens the sound stage further, fixes the stereo image further



(sales@virtuososound.com), the improvements in sound quality for standard vinyl and CD, after using both products, was discernible and often startling...

Now, a third contender has entered the fray. Furutech, the high quality cabling outfit, also produces the Demag, priced at a rather weighty £1,245. Looking like a cross between a flying saucer and a large turntable, complete with a central spindle, the Demag is beautifully made. Weighing in at a hefty 25lbs, the unit is finished in both brushed and shiny chromatic metal with rounded edges and a trademark, heavy duty power cable. To decouple the unit from the surface, the Demag features a batch of screw-in spikes, with surface-friendly rounded tips. A sealed case, the only moving parts on the entire chassis are two buttons – 'power' and 'Erase'.

Installation is simple. Screw in the spikes under the unit, plug in the power cable and you're ready to go. The Demag is a flexible device because it can demagnetise vinyl, CD and cabling. In action, you can either place a vinyl record over the spindle or place a CD, label downwards, onto the flat surface or curl a length of cable around the surface. Then you

was a substantial removal of bass/mid bloom on all acoustic instruments including the voice. Finally, the Demag produced a substantial improvement of the stereo image. This effect was the result of pressing the Erase button once. In fact, pressing the button between three and ten times produced continual if diminishing improvements. This has to be balanced with the wait however, and if your patience will last in excess of two and a half minutes for a ten-times processing.

The Demag was superior to the Talisman, which admittedly did a great job for what it is. This may be because the Demag's processing is more consistent with the use of more powerful magnets. The Talisman, after all, consists of a single magnet which you wave over a rotating record as its spinning on the turntable. Demagnetising cables produced further improvements in sound by subtle degrees. However, I do wonder how often users will perform this particular job. Any demagnetisation is a temporary improvement. The effect will wear off over time. I would recommend 'demag'-ing your discs before every play. Plugging/unplugging cables every time you play your records may

and improves dynamics. The Bedini extends dynamics still further, tightening and extending bass frequencies and providing a grander, broader sound overall. On the CD head-to-head, the CD under review was processed three times on the Demag and just once on the Bedini. Processing the CD ten times on the Demag improved the sound again and brought its final performance a lot closer to the Bedini with the Bedini still having a slight edge.

Despite the obvious build quality, the price of the Demag is an issue. Over £1,200 is simply too much - £400-£500 would be a more reasonable asking price. I'd also like to see a variable timer for the Demag. It can become tedious having to press that Erase button ten times for every CD. Also, the cable option will be useful for some but a little used bonus for most people. On sound terms, the Bedini is still the king for the CD format with the Demag making a good fist of it. However, for the ultimate in vinyl demagnetisation, the Furutech Demag wins hands-down over the Talisman (still great value) and is the undoubted market leader. **PR** [contact: www.highendcable.cc.uk]

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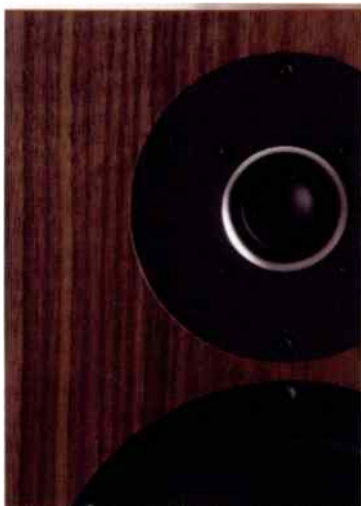
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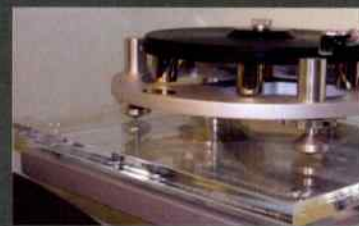
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Top Idol

Hi-Fi World is a fan of Icon Audio phono stages, so Noel Keywood was delighted to get the chance to try the company's flagship PS3...

Valve amplifiers gain a whole new layer of smoothness and dynamic sophistication when you add a valve power supply. And now, Icon Audio have thus equipped their superb PS1.2 valve phono stage, to move it ahead of its many rivals. Called the PS3, it costs £1,200 for MM only or £1,400 for the MC version, reviewed here.

After using the Eastern Electric Minimax valve phono stage for around a year, during which time it survived challenges from many potential rivals, Icon Audio's PS1.2 eventually had me swayed by its deep

soundstaging, more evident bass and darker tonal palette. The PS3 is, like the PS1.2, a two box affair with slightly quirky styling, one box with power supply, the other with the amplifying stages. The reason for two boxes, by the way, is to ensure hum doesn't appear. Valve phono preamps have very high gain plus input transformers to match low output Moving Coil cartridges - a sensitive combination best kept well away from mains transformers. So Icon put all the power supply gubbins in one box and the preamp in the other. The former has a 1.14m (3.5ft) long umbilical cable that plugs into the

preamp, so it can often be placed on the floor, the only proviso being that it is accessible because it carries the neat little toggle On/Off switch.

Icon make the power supply visually attractive in its own right by fitting two blue LEDs internally and one on the front panel. The front porthole reveals a glowing 5687 regulator tube and behind it lie an EZ80 full wave rectifier, plus an ECC83 which controls the 5687. It appears as if four LEDs and considerably more valves exist, but that's only because a polished stainless steel mirror panel sits behind this group of parts. A supply like this

provides little current and not a lot of volts too, so heat output is minimal and there's no thrum from the transformer.

The preamp stage has no fewer than five valves, one fat 6SN7 and four slimmer ECC88s. The latter are low noise double triodes for small signal amplification, whilst the beefier low impedance 6SN7 double triode acts as an output line driver, the 50 Ohm source impedance enabling the preamp to drive long cables.

The PS3's moving coil input transformers are a crucial part, wound in the UK and fitted with permalloy screening cases. We used UK sourced super high quality transformers like this in our World Audio Design KLP-PI and now World Design use them too in their WD Pre3, and in my experience they are the only way to get ultra high quality with super low noise, as there is no other way of exploiting the very low output impedance (1 Ohm or so) of quality moving coil cartridges.

Experienced in what is needed, Icon Audio add some interesting twiddly bits to the PS3. There's a Mono switch that causes out-of-phase signals, mostly groove noise, to cancel when playing a mono recording. There is also a volume control that allows the PS3 to be used without an additional preamp. It has enough gain for this under most circumstances, although with a super low output MC from Linn or Yamamoto and a solid-state power amp., volume may have to be turned right up (according to loudspeaker sensitivity). I used the PS3 with my World Audio Design 300B amplifier and a Yamaha A-S2000, with KEF Reference 203/2s and Revolver R45s. It ran at half volume with the 300B power amp. and had a darker sound with more muted highs than with the A-S2000 because with this integrated I could turn the PS3 volume control to maximum [see MEASURED PERFORMANCE].

The rear panel of the preamp carries a set of phono inputs for Moving Coil (100ohm input) cartridges and another for Moving Magnets (47k input). As MMs produce more signal this input bypasses the input transformers. A rotary switch on the front panel switches between them, so two turntables can be connected and switched between. You wouldn't normally use a stage this sophisticated for any but the best MMs, but an Ortofon 2M Black is good enough to deserve it. I used the PS3 with my usual Ortofon Kontrapunkt b moving coil, as always in a 12in SME312 pickup arm on a Garrard 401 in Martin Bastin plinth. These sit on marble base on a low,



heavy table. The rear also carries an earth lift switch to eliminate hum if a hum loop exists.

SOUND QUALITY

No surprise that the PS3 has a rich, almost dark tonality, with solid and firm bass. However, this is a superficial snapshot. The thermionic supply makes for a full bodied and ultra smooth delivery that flowed past my ears like finest Devon cream. It was sumptuous. Think of the slickest, silkiest and utterly relaxed flow of notes - an almost louche delivery. Well, it was so with Amy Winehouse's 'Rehab', echoes behind chimes fading into a silent background free from the slight patina of hash that, by way of contrast, seems to accompany solid-state supplies. In 'Back to Black', a slowly repetitive tambourine sent echoes shimmering across a wide and endlessly deep sound stage. 'Temptation' by Heaven 17 had Glenn Gregory's vocals sounding full and firm, the metronomic Linn drum machine possessing plenty of punch. I was made very aware of the various perspectives involved, including the distant nature of Carol Kenyon's accompanying vocals. But her 45rpm single 'Dance With Me' underlined just how firmly founded instruments sound via this phono stage, and how they seemingly have more dynamic force than usual too. Although separated by twenty three years, Alison Goldfrapp's 45rpm 'Ride a White Horse' similarly opens with a long, hypnotic drum and synth dance

beat and again the power of the drum and wonderful resolution of the synth's swirling sequences was vividly resolved. The PS3 has both visceral lows and deep timbral resolution. It resolved Jackie Leven's deep vocals in Clay Jug with a convincing richness that I found delightful - and very engaging too.

I had slight misgivings about listening at 12 o'clock on the volume control. Using a Yamaha A-S2000, full volume from the PS3 was more airy and incisive, most obvious with albums possessing strong treble, like Cat Steven's 'Teaser and the Firecat'.

The PS1.2 was - still is! - a very strong MC/MM valve phono preamp at an unusually low price of £600. The PS3 builds on its sound and its strengths to add darker, silkier silences and more dynamic push to seemingly expand dynamic range. It has full yet firm bass and probably the best resolution of instrument and vocal timbre going, as only as good valve amp can. It is perhaps for *aficionados*: as good as the Yamaha A-S2000 is amongst solid-state amplifiers my tuned 300B amplifier better displayed the PS3's strengths, so a sympathetic valve amp and loudspeakers are needed, plus a decent cartridge of course. Then the PS3 is toweringly capable in a way few other phono stages can manage.

VERDICT ●●●●●
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FOR
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- great dynamics
- MM and MC

AGAINST
- warm at centre volume
- idiosyncratic styling

MEASURED PERFORMANCE

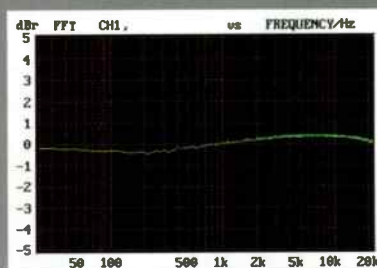
Equalisation was fairly accurate from 5Hz to 46kHz for MM, our analysis showing some emphasis of the 75µs characteristic above 1kHz, which will add a little sheen. Equalisation accuracy for MC had output rising steadily above 1kHz to measure +1dB at 17kHz, at maximum (and minimum) volume settings. The volume control rolled off upper treble a little, by -1dB or so at 20kHz, when at centre with both MM and MC. Low frequencies roll off below 7Hz so warp signals will be attenuated little.

Noise was low via the MM input, measuring 0.7µV equivalent input noise, IEC A weighted. This is low so hiss will be inaudible with MM cartridges. On MC noise measured 0.09µV a little more than is possible with input transformers, but still relatively quiet. There was no hum either. Both MM and MC have very high maximum gain factors of x314 and x3000 respectively, so very low output MCs will be compatible. From just 0.1mV through the MC input the PS3 will deliver 300mV output to an amplifier, just enough to drive most to full power. Distortion and overload levels were fine.

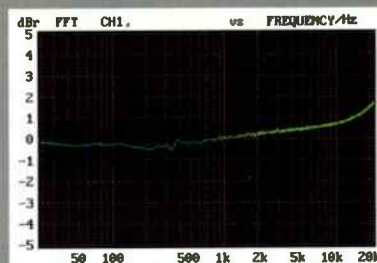
The PS3 measures well in all areas, with a small amount of treble emphasis. NK

Frequency response MM	5Hz-46kHz
MC	7Hz-17kHz
Separation (MM, MC)	51dB
Noise (e.i.n., A wtd.)	0.08µV
Distortion	0.06 / 0.11%
Gain (MM, MC)	x314 / x3000
Overload (MM, MC)	150mV, 15mV in / 30V out

FREQUENCY RESPONSE MM



FREQUENCY RESPONSE MC



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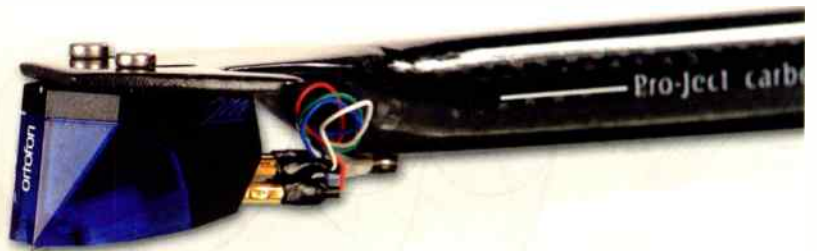
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FREE READER CLASSIFIEDS

TERMS AND CONDITIONS: Only one advert per reader. No Trade adverts. This section is strictly for readers selling secondhand hi-fi equipment only. Maximum length per advert is 30 words. Adverts over 30 words will not be accepted. Telephone numbers and E-mail addresses are treated as one word. Model numbers are treated as one word i.e. Quad 303 = two words. Email your advert to; classifieds@hi-fiworld.co.uk or fill in the form on page 129 and post it to Hi-Fi World Free Readers Ads, Suite G4, Argo House, Kilburn Park Road, London NW6 5LF. Sorry, we cannot accept adverts over the telephone. The Publisher reserves the right to judge submissions.

ACR ISOSTATIC RP 250, High quality Swiss-made Speakers. Colour: Black. Excellent condition – like new! Price: £550. Low-Bass, Midd-Bass, Magnetostatic Mids and Hights. Tel: 0151/2202500 (day-time), 0151/2915632 (evening), christianport@gmail.com, Location: Liverpool

QUAD ESL 989 loudspeakers, black grille cloth, in very good condition, complete with feet, spikes, instruction manual and mains leads. Purchased May 2002. £1900 07729 626598

MARANTZ DVD 6001 player. Brand new boxed, unwanted gift. Cost £350, will sell for £150. Kondo ksl acc 2 metre mains lead. Cost £250. Will sell for £150, less than 1 year old. Please phone 01323 461432 and ask to speak to Andy if interested.

SOMETHING SOLID speaker stands. Fully welded construction. Black. 63cm height. Mass filled (8Kg each). Spiked feet. Photo available. Ring for other dimensions. Quality stands. Vgc. £60. 01582 423791 (Beds)

QUAD ESL 57 bronze, CR Developments Romulus amp, WAD KSL3 floor standing speakers. All items in immaculate condition and sound superb. Can demo. Reasonable offers accepted. Keith 01246 238593

GARRARD 301 turntable, £350. Tel: 01798 342 020

WILSON BENESCH Torus infrasonic generator and amplifier both in mint condition boxes can demo £3,700. Tel: 02380 470107 mobile 07749174781 (Southampton)

METAXA CHARISMA pre-amp+phono (£500); Meridian D600 active speakers (£1500); Sonus Faber Electa Amator 2 (£1750); Sonus Faber Musica Amplifier (£1400); Revox B260 tuner (£350). Email: baresman@gmail.com; Tel: 07523211936

WANTED FAULTY or non working Quad 34 or 44 pre-amps, FM3 tuners, 405 power amps. Also required Denon MC step up transformer or similar. Contact Mike on 01758 613790 with price.

ROTHWELL INDUS passive pre amp. Mint condition. £300. Denon TU-1800 DAB tuner. Mint condition. £150. e-mail: alan395shona@btinternet.com

TARGET R4 Speaker stands. 600mm tall, very heavy, very stable. Mint, boxed. Due to weight, collect only. £180.00. Nakamichi DR2 cassette player. Mint, light use, manual. £120.00. Tel. (Malvern) 01684 572547

WORLD DESIGNS Phono and PSU, latest version, 6 months old, built by World Designs £450 ono. Audionote AN-S1 MC transformer, 8 months old £200 ono both in excellent condition Call Greg 01524 62809

LINN CLASSIC Amp/CD player (pre tuner model) c/w remote & owners manual, vgc £200 ono. AVI New Neutron compact bookshelf speakers (Mk1) in black ash on dedicated Target sand filled stands, vgc, £225 ono. A great amp/speaker combination. Birmingham area. 07887 696193

FOR SALE: Pair of ESL 63s Quads, refurbished, immaculate condition. All black ash. Can demo. Matched pair. Call Graham after 6pm 01482 641261 £900 ovno.

MARANTZ CD 6002 CD player, 2 months old, £140. Tel: 01205 750 314

FOUNDATION STANDS, black, together with extra item, boxed set of eight 'Perfect' spiked feet. £30. Buyer collects. 3 radio hi-fi books. £12 plus postage. Tel: 01453 546 191 (Gloucestershire)

AUDIO RESEARCH SP8 valve preamp with phono-stage, mint, boxed, £850. Quad ELS63 speakers, £650. Sonneteer Sedley phono amp £200. Mordaunt Short MS815 floorstanding speakers, mint, £195. Tel: 01432 275 203

PROJECT DEBUT II turntable adapted by Henley Designs to run at 78 rpm and 33 1/3 with modified pulley and belt plus new Ortofon 78 stylus. Cost over £200. Asking £140. Tel: 07710 828286

LINN LK280 power with £120 L.A.T. interconnect. Excellent £325. MF A3.2 CR preamp (£1000). Mint. £395. MF XLP/S v3 MM/MC as new £170. Alner Hamblin SA400 power (300 wpc) as new, £595. 01243 863 371

AUDIOLAB PREAMP 8000Q. Pair M.X. monoblocks, £1400. Denon D.P. drive MC phono preamp £150. British built. SME carry arm CA1 Model 3009 Series 3. £25. All boxed and virtually unused. Tel: 01254 390 456 (Lancs)

AUDIO ALCHEMY phono amplifier. Made in America. Lovely open sound. Mint condition. Will accept £150. Tel: 01254 330 343 (Blackburn, Lancashire)

SYSTYM 931S speakers, £150. Tel: 01344 776 445 (Berks)

WANTED: TANNOY Cheviot cabinets or similar. No drive units needed. Must be very good condition. Wanted: Garrard Zero 100 cartridge carriers must be mint. Tel: 01344 413 719 (Bracknell)

MISSION 700S speakers. Teak finish. 100w handling. Very good condition. £25. Also many Decca Phase Four records from the Seventies, mostly classical, all excellent, phone for listing. Tel: 020 8505 5311

KEF B139 BS, pair, light use, unmarked, £95. Tel: 0797 6669195 (Essex)

MICHELL ORBE SE (DC version), mint, boxed, instructions, £1200. Naim CD5, mint, boxed, instructions, £500. Naim 92-180, mint, boxed. Offers. Tel: 01386 446 756

MARANTZ PM17 MkII Signature, boxed, unused, excellent sound. Celestion A1 speakers, rosewood, perfect condition. Marantz (retail) £1500. Celestion (retail) £900. Open to offers. Tel: 020 7386 9177 (London)

QUAD 99 pre + remote, boxed, £499. Marantz CD63 II KI Signature, £299. Denon 2800 hi end DVD (£750) £225. Rotel RT950BX (£300) £60. Pioneer DVD350 £50, A110 amp £50. Kef C3's. cherry, £130. Sony SACD 705V (£470) £200. PX wanted: LP12, Sub, IMF. Tel: 01206 510 392, 07765 264 381

WANTED: HI-FI Yearbook 1981. Others for exchange. Leak Stereophetic FM tuner £30. Armstrong 525 amplifier £30. Quadrophonic records for sale. Tannoy M1 speakers, cherry finish, £50. Tel: 01708 457 691

MICHELL GRYO SE with Orbe upgrade kit + Q.C. power supply unit, Dynavector 10x4 cartridge with SMEV arm. Utterly pristine and as new. Buyer collects. Offers. Tel: 07813 829 657 (Tamworth, Staffs)

LOWTHER FIDELEO horns. Rosewood on Medite, £100. Ex4 drivers (£1468) £700. C45's (£480) £200. Ceramic phase plugs ex PM4's £50. Audion Sterling SE valve amplifier £400. Tel: 01709 555 403, Email: robert@sprowsen.fsworld.co.uk

DUAL CS5051 turntable and arm, auto stop, pitch control, excellent condition, owners handbook. £60 ono. Tel: 07525867805 (Worcester area)

WANTED: ELDERLY private collector seeks Hi-Fi Year books. Please telephone with your asking price including postage to 07710 828 286. Brighton area. Thank you.

CHORD COMPANY CRIMSON 1m pair interconnects for sale. £20 ono. NAD PP2 phono preamplifier £25 ono. Both surplus to requirements. Both brand new, boxed, unopened. Tel: 01794 513 003

NAIM NAT 02 tuner. Naim service/re-alignment. Unmarked, Mint condition, boxed and manual. Tel: 01639 641 043

QUAD 909 used less than one year. Boxed, complete with Kimber cable, £595. Kef Reference 3.2 in rose-nut. Boxed and completely unmarked. Efficient and spacious. £795. Tel: 01752 518868 (Plymouth)

LINN LP12, Lingo, Trampolin, Ekos, Adikt, T.Kable. Mint condition. £3100 ono. Linn Troika £70. Smoked dust cover £60. Hinges £10. 45 adaptor £10. Tel: 0121 552 8065

FOR SALE: 2m set single wire Chord Odyssey speaker cable. 2m set bi-wire Chord Odyssey speaker cable. Both with Chord Termination. £150 ono. May split. Tel: 01483 728 657 ask for Dave (Surrey)

REVOX B77 MkII four track 3 3/4, 7 1/2 speeds, 10 1/2" reels. £425 ono. In good condition. Sony TC 399 7" reels, 3 speed, 3 head, in good condition, £65. Tel: 01386 830757 (Evesham, Worcestershire)

MONITOR AUDIO MA III floorstanders, lovely condition with stands, spiked, £145. Pure DRX 701ES DAB tuner, mint, £100. Project XPression turntable, Ortofon cartridge, mint. Tel: 01904 634112

CLEARER AUDIO Copperline mains cable, new, £85. Chord Odyssey2 speaker cable, 8 metres, terminated, £110. Chord Company Solid2 interconnects, two pairs, boxed, guaranteed still, £80 each. Chord Company Prodac digital £45. Tel: 07813 896842

MITSUBISHI MICRO system 1979 separates £150. Sony cassette deck TC-K7BII £60, hardly used. Buyer collects. Tel: 0114 245 9567

VINTAGE HI-FI Naim amplifier, Linn LP12, Grace arm, lmf speakers. All 1970's, £500. Cyrus III amplifier, Sony X3000ES CD, Castle Durham speakers, £400. Buyer collects. Tel: Robert 01226 383053 (South Yorks)

PROAC D15 Response floorstanders, 6 years old, cost £1795, very good condition, sell £700. Also, A&R Cambridge T21, FM tuner, excellent sound and condition £45. Tel: Andy 01743 363 116

DUAL CS 5051 turntable plinth and cover. Dual cartridge, auto stop and pitch control. Excellent condition, handbook and original packaging. £60 Tel: 01905 456061

UNISON RESEARCH Hybrid valve equipment. Unico Secondo 120w/ch integrated amplifier with phono inputs, £925 ono (currently £1560). Unico CD player £825 ono (currently £1450). Excellent reviews. Mint. 2 pairs Rothwell attenuators £25 ono. Tel: 023 8073 8935

WANTED: GARRARD GT55P turntable. Must be in excellent condition. Wanted: Target older style Hi-Fi racks E6, TT2, TT4, TT5 etc. Must be in excellent condition. Tel: 01344 413 719 (Bracknell)

QUICKSILVER VALVE mono-blocks, 60 watts, Class A, expensive Croft upgrade with new Mullard EL34's. A delight to listen to. Conrad Johnson PV12 AL valve pre, boxed, offers invited. Tel: Stanley 07951 553 091 (London)

MARTIN LOGAN CLSIIIZ classic electrostatic speaker, including boxes, manual and leads. Good condition and working order. Can demonstrate. Near Tower Bridge in London. £2200 ono. Tel: Steve 07713 199 766

IMF AMBISONIC UHJ decoder, super stereo 'B' format. Master volume. Width layout 2 channel input. Outputs, left front, right front, left back, right back. £60. Tel: 01753 586 660 (Windsor)

WANTED: HI-FI yearbooks. Also old tape recorder magazines. Will pay postage. Tel: 077576 810 188 (Sheffield)

AUDIOLAB 8000Q preamplifier. Latest model in silver finish, excellent condition, remote control, original box and manual, £275 including postage in UK. Tel: 01803 297 691 or Email: ealesgordon@hotmail.com (south Devon)

SHANLING CD-T80 tube CD player. Immaculate, complete with manual and original box. £300. Tel: 020 8643 4260 (Sutton)

FOR SALE: One matching pair ESL 63s Quad, immaculate condition, black ash plus stands. Have to be seen. Can demo. Will deliver if near. £875 ovno. Tel: Graham 01482 641 261 after 6pm.

QUAD 606,, 44 Control unit, MM/MC phono boards. FM4, specimen condition, boxed, virtually unused, offers. Pandora mains purifier, boxed, like new £90. DNM Reson 3 metre pair. £25 Tel: 01254 390 456 (Lancs)

SANSUI SP 1001 10" bass, 6 1/2" midrange, 1" tweeter. Tone controls. Tri amp, 8 ohms, 40 watts, walnut cabinets, amazing sound, demonstration welcome £150 + carriage. Tel: 01455 220 214 (Coventry)

UNISON RESEARCH S6 integrated valve amp, Class 'A', re-valved, tube rings fitted, bargain valve loveliness, £695. Tel: 0161 480 7880

DENON D.C.D. 825, boxed with manual £50. Audio Technica MM to MC transformer £60. Marantz CD94, new drive belts, £170. S.M.E. S2 headshell £10. Nagaoka MP11, new stylus £40. and Boron Gold £50. Tel: 01277 219 639 (Essex)

SUGDEN HEADMASTER £300, Isotek Substation £375, Isotek mains leads x4 £25 each, AKG 701 headphones (very little use) £95. Tel 01233 470629.

TANNOY T225 D/L 2528 drivers. SPL 90dB, H. 715mm, W. 370mm, D. 290mm. New drivers, new Caps. Soniqs Sax. Very nice. £800. Visitow big 5 driver boxes, black, high spec, £300 ono. Tel: 01597 825018

FOR SALE: Isotex Orion mains filter, never used, Tannoy ST50 super tweeters, £300. B&W DM605.S2 speakers with integral 130watt subwoofers, £400. All ono. Tel: Peter 01642 559 078

CLASSIC TANNOY DC3000 dual concentric floorstanders. Superb condition. Rare real rosewood veneer. Alvin Gold favourite. 92dB sensitivity. Ideal valve amplifiers. 91.H x 26.W x 30.D cms, spikes, handbook, original packaging, boxes, £475. Tel: 01243 863 371 (Bognor, West Sussex)

VIENNA ACOUSTICS - Bach. Floorstanding speakers, quality beech wood finish. Good Condition. Sand filled for extended bass. Hi-Fi World recommended, only £450 ono (£1000 new) London, Tel 07944 528891.

NAIM NAP 250 Power Amplifier, Olive Case in original packing. Excellent Condition, £650. Contact Paul 0114 2507866 (Sheffield)

LINN GENKI CD Player, grey, excellent condition with Linn interconnects £250. Contact Paul, 0114 2507866 (Sheffield)

REGGAE & SKA 45s and LPs wanted - 1960 to 1980. Condition immaterial if priced accordingly. Any quantity from 1 to 1,000. Telephone 01732 832452 or email de.koningh@virgin.net (Kent)

LINN SONDEK LP12 (Black), Trampolin, Lingo, Ekos Arm, K18. £1000. Tel: 01635 869107 (Newbury, Berks)

NAIM AUDIO SBL speakers - black c/w passive X-overs. Excellent condition & boxed. £390. Yamaha KX580se tape deck, Dolby B,C,S NRHXPro immaculate £45. Teac T-R450 radio £35, both hardly used & immaculate. Price to include postage. Tel 07970 078653 Andrew (Workshop)

AUDIO NOTE Kit One £750 Audio Note ANV i/c £145 Oracle Paris turntable £365 Snell K's £195 Wanted Rehdeko RK1 F5A Tel 0113 2559475

STAX SR-007 Mk2 Omega 2 black earspeakers, mint condition, aluminium flight case, boxed with manual, (cost new £1595.00) genuine sale need cash £995.00 Tel: 01732 220664 eve

SUGDEN A2 laL pure class-A Amplifier, excellent condition, factory serviced, original packing, £475, tel: (01403) 255153 (West Sussex) or email: richermail@aol.com

VINYL LP'S Wanted: Rock : Folk : Jazz: Soul : Reggae : Blues: Classical : Memorabilia. Must be in Excellent condition www.tantrel.com tantrel@gmail.com 0845 0941997

TEAC GF-650 vinyl record deck to CD recorder £240. Teac CR-H100 CD/tuner/ amplifier with matching speakers & MD-H100 minidisc recorder £150. All excellent condition with remotes and manuals. Hertford 01992 589315.

dCS VERDI La Scala and Elgar Plus. Both in as new condition with all packaging and manuals. Fabulous sound and looks. £5500. Norwich. 07973468141. julianmusgrave@googlemail.com

MERLIN VSM MMe floorstanders, latest lead-free version, SuperBam, light use, boxed (£6000) £1,995, Berning ZH270 with all Berning upgrades, superb condition, cryoed output tubes, boxed, £2,400, 07889156202 (London)

ATC SIA2-150 mint with full packaging. One owner £1400. Buyer collects please, due to 19Kgs, and can demo. Private Sale. Contact: email Gary hifi_enquiry@yahoo.com or 01274 865145 (W.Yorks).

ROGERS MASTER Pre-amp Wanted, mark 1 or 2, preferably at least good condition. For sale, cv1075/kt66 new, boxed cv492/ ECC 83wa new, boxed. sensible offers. Graham, 07800 512889. lincolnshire.

GEC KT66 valves in original boxes NOS !! Rare in this condition!! I have five in total for sale. Buy with absolute confidence, Call Steve 07808 628236(M) or 02082240915(H) £60 each

QUAD II forty power amps & QC Twenty-four matching pre-amp, in cartons, in mint condition-stunning! Any demo £2200 inc shipping! Call Steve 07808 628236 or 02082240915 (Epsom, Surrey)

SIMAUDIO MOON Supernova CD player, mint, one year old. Complete with all cables, manual, remote, packaging box etc. Costs £4900, bargain at £2300 + post, call 0794 133 5175

UNIQUE OPPORTUNITY. FOR SALE Sony TC-152SD Portable Stereo Cassette Tape Recorder. Mains Battery. Complete original box, packing, strap etc. Beautiful order and condition. £100.00. shipping at cost. (Reigate) contact gerry@gerrystone.com

GARRARD 301 unmounted never used in original packing offers invited. Celestion vintage speakers model Ditton 66 excellent condition offers invited led@safe-mail.net Rick

SPENDOR BCI in teak, on trolley stands. Stunning sounding and in perfect condition. Original cartons. Any demo a pleasure £300 Call steve 07808 628236 or 02082240915

PIONEER A-300R Precision amplifier, never used, ever! £250. Pioneer PD-S515 Precision CD player, hardly used, £95. Pioneer PDR-609 CD Recorder, hardly used, £95. All boxed. 01484 865442 (Huddersfield)

WANTED CHORD Odyssey 2 speaker cable 2x3 m with silicon outer jacket + chord plugs. also wanted PMC DB1 wallbrackets please tell paul 01234 302769 or 07840428253

LEAK 3090 transmissionline speakers not many about these days, 4 way design, 60kg each, very nice condition, sound stage is huge, very easy to drive, £795, Worthing, 01903 231172

BLQ Q1 loudspeakers, 'cult' eighties stand-mount model, fair condition, good working order. Genuine offers please. Also Quad 77 integrated amplifier, excellent condition, £150. Buyer collects. Tel: 01268 774416 (Essex).

WORLD DESIGNS WD88VA for sale. KT88 Push-Pull Amplifier. Self-built Christmas 2006. Vgc. £650 Ono. Little used now hence sale. Dartford, Kent. 07754 408276 e-mail Dave.thebass@virgin.net







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QUAD 306 current dumping poweramp 50 Watts per channel Excellent condition and working order £170 ono Mobile 07502009541

FOR SALE, a pair of Elac CL 82 Mk2 bookshelf speakers complete with speaker covers, hardly used. Cost £400 new, selling for £150. 07732453644 henseleit_3dnt@yahoo.co.uk

NAIM NAP 250 Power Amplifier, Olive case in original packaging, excellent condition with Russ Andrews Power Kord - £650 ono. Tel 0114 2507866 (Sheffield)

TANNOY M15 + stands, Pioneer DV 656A DVD-A/SACD, Denon UPO 250 Power amp, silver, £60 each. QED Digit DAC £30. NAD 4020A, Rotel RT850AL Tuners £25 each. 01621 772884 (Essex) i_greenlade@hotmail.com

JORDAN JX92S full range driver in Matteis Transmission Lines. mtloudspeakers.co.uk. Finished in oak veneer with stereo imaging second to none. £895ono Call Jon, Stroud, Gloucestershire, 01453 750162

SUGDEN CD Master Bijou for sale £700 ono. Great machine, service / repaired in June 2007. Contact ewancameronscott@hotmail.co.uk.

B&W DM602 S1, £85. Partington 20" high stands, £45. Collect London. Base 01 isolation platform, £45. NAD PPI phono preamp, £20. Post extra. 020 86928129. email: webbestuff@fsmail.net

TANNOY MERCURY M20 speakers, excellent condition, £20 Telephone 01745 833183

LINN GENKI CD Player, Grey case, excellent condition with Linn interconnects and original packaging, £250 ono. Tel 0114 2507866 (Sheffield)

A & R CAMBRIDGE Arcam Alpha Tuner, Mint Condition, Still in original box with full instructions, £25. Telephone 01745 833183

NORDOST HEIMDALL Speaker cable 2m z-plugs single wire mint boxed £700. Heimdall interconnect 1m next-gen phono's mint boxed £250. 0121 744 2486

WANTED: Top quality Hi Fi separates and complete systems, Naim, Linn, Cyrus, Meridian, Arcam etc, fast, friendly response and willing to travel/pay cash. Please call me on 0781 5892458

FOR SALE : O.L. Illustrious Arm (stepped-tube) complete, in wooden box. Near-mint, usual small marks on headshell . Plain post & collar mount .Superb £950 ovno; Mark Jeffs 01745 815212 markjeffs@btinternet.com

TRANSPARENT REFERENCE interconnects, x 2 RCA, 1 metre and 1.5 boxed, mint condition, outstanding sound, £350 and £395. Reference speaker cable 2 metre, mint, spade and banana plug connection, £ 695, excellent cable .phone 003531 2954076

MERIDIAN DSP 5000's, 18 bit Remote. Cables. Boxes. £950.00 Phone 01243 576 073

QUAD 303 set of circuit boards and power transistors, good working order (s/n 32000), suit restoration project, £25 , tel: (01403) 255153 (West Sussex) or email: richermail@aol.com

TDL RTL2 SPEAKERS good condition. black bi-wirable floorstanders. £50.00 o.n.o Tel 01229 584509

KLIPSCH KG5.2 floorstanding speakers in oak. Very rare. Excellent all round condition. Grills included. Stunning sound. £275. 07725 072878 (Leicester)

JMLAB COBALT 826S floorstanding speakers - black ash/grey grills. 25-125W. Little used - excellent condition, stunning sound. 5 star review. Rrp £1399 - bargain at £399 (no offers). 01594 860165 or jeremy@thefriary.plus.com

ACR ISOSTATIC RP 250, High quality Swiss-made Speakers. Colour: Black. Excellent condition - like new! Price: £550. Low-Bass, Mid-Bass, Magnetostatic Mids and Hights. Tel: 0151/2202500 (day-time), 0151/2915632 (evening), christianport@gmail.com, Location: Liverpool

QUAD ESL 989 loudspeakers, black grille cloth, in very good condition, complete with feet, spikes, instruction manual and mains leads. Purchased May 2002. £1900 07729 626598

CLASSIC CONTACTS

When a classic goes 'poof' 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 those companies who specialise in getting a classic up and running again after its deposited a small ring of soot on your ceiling!

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: classisque_sounds@yahoo.co.uk www.flashbacksales.co.uk/classique

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 arms and cartridges. Tel: 01892 654534

AUDIOLAB
(Phil Pimblott, Leeds)
Renovation, repair and restoration. Specialist in valve hi-fi, radio transmitters, cinema amps, kit building.
Tel: 0113 244 0378 www.audio_labs.co.uk

QUAD ELECTROACOUSTICS
(Cambs)
Quad's service department, able to repair almost all Quad products, from the very first.
Tel: 0845 4580011 www.quad-hifi.co.uk

ARKLESS ELECTRONICS
(Northumberland)
Specialist in repairs, restoration and modifications to all amplifiers, valve or solid state, ancient and modern.
Tel: 01670 829891 Email: arkless.electronics@btinternet.com

SOWTER 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

EXPERT STYLUS COMPANY
(Wyndham Hodgson, Surrey)
Stylus replacement service for all types of cartridge. Including precise profiling for 78s
Tel: 01372 276604 Email: whodgson@btclick.com

Dr MARTIN BASTIN
(Shropshire)
Garrard 301/401 restoration, renovation and service. Special plinths; rumble cures, etc.
Tel: 01584 823446

ONE THING
(Coventry)
Specialist in electrostatic panel manufacture and repair. Can refurbish ESL 57s and 63s as well as Leak Troughlines and Quad IIs.
Email: one.thing@ntworld.com www.onethingaudio.com

D.K. LOUDSPEAKER SERVICE
(Dave Smith, Hornchurch, Essex)
Re-cone of hi-fi loudspeakers, high quality loudspeaker systems, P.A., power loudspeakers.
Tel/Fax: 01708 447 344

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

LORICRAFT AUDIO
(Terry O'Sullivan, Bucks)
Garrard 301/401 and their own 501 repair, spares and service.
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NEXT MONTH

It's never easy to tell when winter comes if you haven't had a summer, but by the time the last issue of this year hits your doormat, things are bound to be even wetter, darker and colder than August! So with this in mind, the December issue of Hi-Fi World is designed to warm the audiophile's heart, with the usual wide range of wonderful kit – including Icon Audio's sub £500 Stereo 25 integrated valve amplifier and Arcam's brand new budget FMJ CD player and amplifier. Leading the charge from the front is the superb Monitor Audio PL300 high end floorstanding loudspeaker, while vinylistas will love the freshly released Roksan Xerxes 20 Plus turntable. Meanwhile, digiphiles will be delighted with December's group test, where six of the best £1,500 CD spinners face off! Here's just some of what we hope to bring you...

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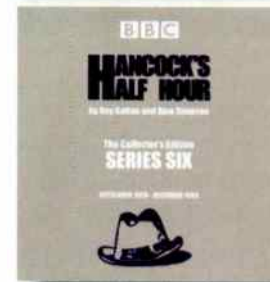
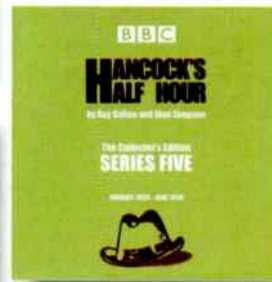
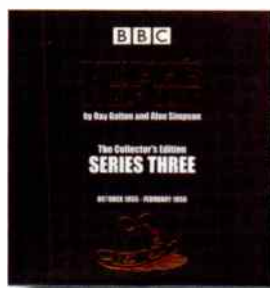
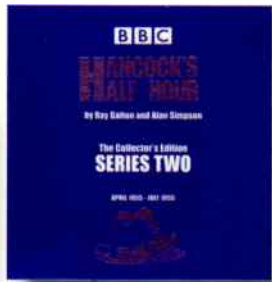
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DECEMBER 2008 - 9TH OCTOBER

JANUARY 2008 - 6TH NOVEMBER



HANCOCK'S HALF HOUR

SERIES 1-6

1954-1959

An iconic comedy programme, reinforced by the real-life tragic figure of the man himself, meant that Tony Hancock's comic creation was always lent an extra layer of pathos. The legend was slow to grow however. In fact, the radio show only achieved this status in retrospect, once Hancock had appeared on TV and more so, later, once Hancock had taken his own life.

Yet, the early Hancock issues have had a chequered history. The old vinyl LP copies of the shows you sometimes see in second-hand shops for example, removed all the theme and incidental music, castrating the final performance, in effect. Why? Because, at the time, the BBC didn't want to pay the royalties. Then the later cassette versions were direct copies of imperfect transcription discs. However, when the decision to publish the six current box sets covered here was made, sense prevailed and a grand search was made to include everything: music, missing bits, the lot. Mastering engineer Ted Kendall was given the brief to create the most complete version of the entire series as possible. Although fans recorded Hancock off air, during the 50s, the recordings were not generally wide ranging or of high quality.

"This meant," explained Kendall, "that for the first three series we only had the Transcription Service copies to work with. These were on 16", 33.3rpm, coarse groove discs." Coarse grooves are of 78rpm size rather than microgroove LP size. "I used my EMT 927 to run them, a 16" broadcast turntable that I rebuilt with the help of the Studer/EMT agents,

"A superb reissue from a legendary performer..."

F.W.O. Bauch, who were then still in business. The turntable comes with a 929 EMT arm plus either an Ortofon OM series or a Shure M44 with various 78 tips."

Kendall has strong views about extracting audio information from specialist sources such as 16" discs which differ from other mastering engineers, "A lot of people running 16" discs put them on a 12" platter and use a long arm. But the surface of the record is then not supported properly and you've got vinyl flapping about."

The EMT might be used for 16" discs but, digressing momentarily and keying into a recent topic seen in both editorial and letters within *Hi-Fi World*, Kendall did mention that his preferences for a microgroove disc source are a Technics SP10 or SP15. "They're rock-solid. They have powerful motors with no compliance in the drive: they're quiet and stable. They're also built very solidly. However, mine's in a custom-made, BBC plinth where the baseplate of the Technics is bolted to a half-inch thick aluminium slab and then that is compliantly mounted."

From the EMT source, Kendall was able to find the right EQ code for the 16" discs, using his own custom-built hardware, then the clicks and noise were removed using Cedar software. Part of the job was to make sure that the play-out music was complete. Kendall is proud of the fact that the entire episodes are included, this means playing all of the music, in full, although "the music was

all pre-recorded and not played in the studio, but inserted at the right place during the show."

Other shows from the first three series were found but none in good enough quality to issue.

For the fourth to the sixth series, thankfully more of the shows survived on tape as Transcription Reissues, one of various versions of the shows on file which included both transcription disc versions (original and reissue) plus a sound archive version (which was created after Hancock died). The sound archives were of varying quality, "Some were recorded at 7.5ips rather than 15ips and some were microgroove records cut on the BBC's own Type-D equipment – not great by modern standards." Often the transcription service reissues, on tape, were edited to twenty-seven minutes but, fortunately, all the edits were collected together and stored, in an aural lump, at the end of the tape. It was Kendall's job to rearrange this jigsaw, although he had to do it digitally, via a DAT copy.

Rare edits inserted into its proper place include one in which Hancock, in context to the story, jokingly talks about how he will commit suicide. This was removed as being insensitive at the time, by the BBC, following Hancock's death. Now, this poignant moment can be listened to in full. Which is where we came in. A superb reissue of a legendary series from an ultimately tortured, comic genius. Highly recommended.



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