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DECEMBER 2008

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EDITOR

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

ASSISTANT EDITOR

Adam Smith
e-mail: editorial@hi-fiworld.co.uk

DESIGN EDITOR

Faiza Chunara
tel: +44 (0) 20 7625 3129
fax: +44 (0) 20 7328 1844
e-mail: adproduction@hi-fiworld.co.uk

PRODUCTION EDITOR

David Noble
tel: +44 (0) 20 7625 3134
fax: +44 (0) 20 7328 1844
e-mail: classifieds@hi-fiworld.co.uk

ADVERTISING

tel: +44 (0) 20 7372 6018
fax: +44 (0) 20 7328 1844
e-mail: advertising@hi-fiworld.co.uk

ACCOUNTS

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

PUBLISHER

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

FREE READERS CLASSIFIEDS

tel: +44 (0) 20 7625 3134
fax: +44 (0) 20 7328 1844
e-mail: classifieds@hi-fiworld.co.uk

SUBSCRIPTIONS

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

PHOTOGRAPHY

David Noble
tel: +44 (0) 20 7625 3134
fax: +44 (0) 20 7328 1844

WRITERS

Steven Green, Paul Rigby, Tony Bolton,
Peter Comeau, Adam Smith, Patrick Cleasby,
Andrew Harrison.

hi-fi world

SUITE G4, ARGO HOUSE
KILBURN PARK ROAD
LONDON NW6 5LF
www.hi-fiworld.co.uk

verdicts

●●●●● OUTSTANDING
●●●● EXCELLENT
●●● GOOD
●● MEDIOCRE
● POOR
£ VALUE



I'm beginning to think it is me. For example, ten years ago, when the new Jaguar S-type car came out, I despised its awkward curves, bulbous waistline and cynical retro feel. Now, just as it has been replaced by the glamorous new XF, I'm really starting to like the oldster. Does this contrary logic explain why I suddenly find myself appreciating CD?

Perhaps it's the impending extinction of the little silver Frisbee that has caused me to change my mind? Not long ago I was hardly buying any and took every opportunity to bore everyone off their barstools about how inferior the format was to ye olde vinyl LP. Now, I find myself sneaking into my local Fopp, wearing dark glasses, a long overcoat and a false beard (well almost!) deliberately trying to buy the flipping things.

You see, I recently spoke to a key member of staff at a company that once used to earn its daily bread from selling seriously expensive Compact Disc players – and he told me they're hardly moving any now. In place of this, the company's new line of network music players is flying off the shelves... and this is but one anecdotal example; everywhere I go, I see evidence that CD is reaching the end of the road – like that old S-type Jag...

The thing is, as this month's group test shows, you can get a great sounding player for little more than £1,000 now. Compared to the sort of thing you'd buy ten years ago for £800, or twenty years ago for £600 (i.e. the same in real terms), CD players are better than ever. And it's only recently that silver disc spinners have got significantly better. Advances in transports, clocking and DACs, plus superior passive components, power supplies and tube buffered output stages, mean that the best is finally being made of what in truth was/is a pretty 'bad lot'.

I still love vinyl but am now surprised by how listenable CD is. The irony is that, as the players get better, so the discs get worse. We at *Hi-Fi World* have made a big noise about how bad most remasters are (they're compressed to sound more impactful, but end up as a plain old racket, with all the subtlety squeezed out). So I'm now in the bizarre position of buying used vinyl because I have to (because there are so few new LPs these days), and buying used CDs because I want to (because the new remasters don't sound as good). What a crazy world we live in!

David Price, editor



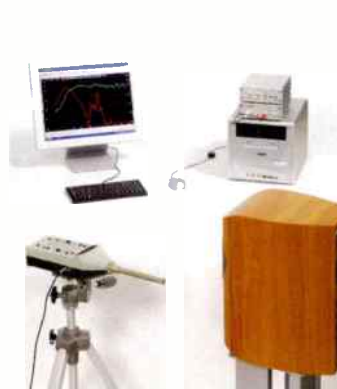
testing

To ensure the utmost 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.



ELECTRONIC MAGAZINE

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Tel: 603 9283 8171 Fax: 603 9281 3762 e-mail: info@millennium-audio.com

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15

Triode Corporation CD player meets Astin Trew, Cyrus, Raysonic and Stello rivals...



38

Cambridge Audio's brand new DacMagic - as good as its illustrious predecessor!



10

Monitor Audio's huge PL300 speakers serve up large doses of 'shock and awe'!

60

Rogers LS3/5a - these classic mini monitors are back on sale again!



100

Roksan's latest Xerxes.20 Plus turntable - a barnstorming high end vinyl spinner...



24

Icon Audio's Stereo 25 - the world's best entry level valve amplifier?

DIGITAL

£1,500 CD PLAYER SUPERTEST 15

David Price pits five of the best mid-price silver disc spinners against one another...

LINN SNEAKY DS 34

Patrick Cleasby sizes up Linn's new entry level network music player...

CAMBRIDGE AUDIO DACMAGIC 38

Tony Bolton auditions this brilliant new budget upsampling DAC.

LOUDSPEAKERS

MONITOR AUDIO PL300 10

Noel Keywood takes these superb new high end floorstanders for a blast.

SPENDOR S3/5R VS. AMPHION PRIO 510 26

Paul Rigby pits two very different miniature monitors against one another!

ROGERS LS3/5A 60

Haden Boardman tells the story of these iconic mini monitors, and reviews the latest versions to reach the market.

AMPLIFICATION

ICON AUDIO STEREO 25 24

A valve amplifier anyone can afford, Noel Keywood listens in...

PROMITHEUS TVC 40

Andrew Harrison auditions this very affordable transformer-based preamplifier.

RADIO

PURE EVOKE FLOW 37

Steve Green tries this superb new Wi-Fi/DAB/FM hybrid portable.

SYSTEMS

ARCAM FMJ CD17/A18 31

Adam Smith is most impressed by Arcam's brand new entry level FMJ CD player/integrated amplifier combination.

DIY

WDPRE3 REMOTE PREAMP 68

World Design preamp gets remote control. Peter Comeau explains.

FEATURES

SHOW TIME! 64

Noel Keywood and Adam Smith on September's Heathrow hi-fi show.

VINYL SECTION

VINYL NEWS 98

Paul Rigby with all the latest black plastic releases.

ROKSAN XERXES.20 PLUS 100

Adam Smith auditions this iconic turntable in its latest guise.

DUMPED! 105

In the second installment of his two-part feature, Adam Smith is your guide to the world of cheap turntables!

A.N.T.AUDIO KORA 3T SE III

Adam Smith auditions this super new budget phonostage...



7 NEWS

Words from the front...

23, 67, 81 SOUNDBITES

Quick reviews of Atacama's HMS1 loudspeaker stand and Furutech's audiophile fuse, plus the Benchmark DAC1 Pre and Chord Chordette Gem DACs.

59 COMPETITION

Your chance to win a Shanling MC-3000 CD system worth £1,000!

45 MAIL

Nine pages of your views, opinions and queries.

75 WORLD CLASSICS

Our pick of the greatest classic hi-fi separates.

82 SUBSCRIPTIONS

Ensure your copy every month and save money too!

84 AUDIOPHILE CD

Paul Rigby rounds up the latest audiophile releases.

87, 130 CLASSIC CUTS

The new Direct Metal Mastered version of Bjork's 'Debut' and Cliff Richard's '1958-2008' receives Paul Rigby's attention this month.

89, 91, 93, 95, 97 OPINION

The team get to grips with matters music, hi-fi and life!

121 DIAL-A-DEALER

A comprehensive guide to UK hi-fi retailers.

123 FREE READERS CLASSIFIEDS

Four pages of second-hand bargains.

128 NEXT MONTH

What we hope to bring you in the next issue.

129 ADVERTISERS' INDEX

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YAM DRAM

Yamaha's new £349.95 CD-S700 CD player gives the Japanese giant a presence in the budget two-channel market at last. It's an interesting little bit of kit, notable for its USB audio input on the front. It also sports a silent loading high precision CD drive, CD-R/RW disc playback compatibility, MP3 and WMA disc playback compatibility and an aluminium front panel. The 435x96x300mm machine weighs 6.2kg. It's partnered by the £449.95 A-S700 integrated amplifier, sporting "ToP-ART (Total Purity Audio Reproduction Technology)" no less! This seems to refer to its symmetrical internal design with "top-quality parts, ART (Anti-Resonance and Tough) Base and solid centre bar". It has a continuously variable loudness control, a remote controllable motor-driven volume control and Rec Out Selector. Output power is a claimed 90W RMS per channel into 8 Ohms. Vital statistics are 435x151x382mm and 10.9 kg. For information, click on www.yamaha-uk.com.

Yamaha CD-S700



Yamaha A-S700

T+A Musik Player



T+A Power Plant



E-TYPE

German manufacturer T+A has a striking looking new range of mid-price separates entitled the E series. The £1,499 CD player employs the completely new high-end loader and disc mech seen in the 1250R, plus its highly selected 24bit, 352.8kHz Burr Brown digital to analogue converters. There's a precision jitter-free oscillator and a high-quality audio output with switchable bandwidths. The £1,999 Music Player is "in essence a high-quality audiophile CD player that has been expanded to provide supplementary capabilities", say T+A. It can exploit other digital sources as a streaming client, with a network capable processor board that includes W-Lan, Lan, UPNP, USB and iPod interfaces. This results in the Music Player being "able to access anything that delivers music", such as internet radio, network music servers and USB media storage devices including iPod. The £1,499 AMP features a two-stage volume control with ALPS precision potentiometer, switch-mode output stages with the very latest, ultra fast MOSFET transistors and high power intelligent driver modules. The result is a highly controlled harmonious sound image, says the company, with 125W RMS per channel. For more information, click on www.taetelektroakustik.com.

GO WEST!

February 2009 marks the 22nd Bristol hi-fi show, which looks set to be a great way to spend the day for any self-respecting audiophile. With 118 brands already booked it's sure to be fun, but there's a twist this year, as the Marriot Hotel where the show is held is right next to the brand new £500 million Cabot Circus shopping and entertainment complex, which has only just opened. As such, car parking has been massively upgraded with 2,600 local spaces and there are now over 120 new eating and shopping opportunities local to the show - so bring her (or him) indoors along too! It runs from Friday 20th to Sunday 22nd February 2009, from 10am to 5pm each day.



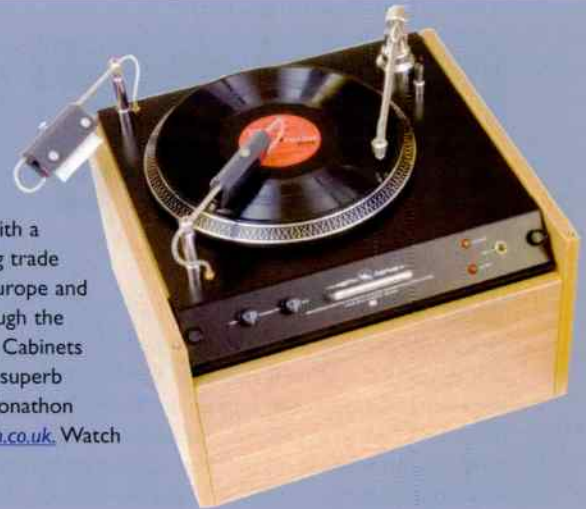
KEF INTRODUCES STUNNING NEW Q SERIES

KEF's Q Series has just been updated, "making it the classiest and accomplished speaker range available at these price points today", the company says. All models benefit from remapped crossovers to ensure inaudibly smooth transitions, and the floorstanding models, iQ50, iQ70 and iQ90, feature KEF's new Dual Composite Cone material and 'labyrinth' internal damping to deliver faster and tighter bass. The characteristically wide dispersion of the Uni-Q driver makes them as easy to position as they are to drive, and is further bolstered by the Tangerine Waveguide. The new Q Series is completed with a centre channel speaker, the iQ60c. Two New Real Wood Veneers are offered - Light Oak and Walnut - in addition to the successful vinyl finishes of Black Ash, Dark Apple and Walnut. Prices start at £249.99 for the bookshelf iQ10 and end with the £899.99 iQ90. For more information, click on www.kef.com.



WASHING UP!

In January 1969 Keith Monks set up a company to sell his unique Record Cleaning Machine to the BBC. Almost forty years later, Keith Monks Audio prepare for their upcoming birthday celebrations with a company relaunch. Several new products, including the new Mk.VII Omni (£2,995) which features a built-in wash system fully adjustable for all sizes of record, are being launched. With a new factory and increased production capacity, the company is "currently renewing trade relationships and is already setting about courting specialist high-end retailers in Europe and the Far East". Existing models range from the entry level Sovereign at £1,995 through the Mk.II Classic at £2,495, to the huge Mk.III Gemini unique twin turntable at £3,995. Cabinets are finished in Classic White or Royal Blue, with an option to upgrade to the new superb golden English Oak cabinet costing an additional £100. For more information, call Jonathon Monks on +44 (0)1983 857079 or point your web browser at www.keithmonks-rcm.co.uk. Watch this space for an exclusive review!



CA Sonata

SMALL TALK

Cambridge Audio's new Sonata is described as "a real hi-fi or home cinema – in miniature". At the heart of the action lies a powerful 2.1 receiver capable of delivering 40W per side. Available in DAB/FM and FM/AM configurations, this slender brushed aluminium box is supplied with a bespoke iPod dock controlled by Sonata's own Navigator remote. Offered alongside the Sonata receiver are

the optional £179 CD30 audiophile CD player and £179 1080p HDMI DVD30

DVD player. The £299 DR30 is the DAB/FM

2.1 receiver variant, while the £229 AR30 is the FM/AM

2.1 receiver with RDS. There's also a front mounted MP3 in socket

for other portable music devices, a full-function Navigator remote controls and a stylish custom designed metal chassis - only 270mm wide.

The company also has its first Blu-Ray/DVD/CD player out in early 2009.

Designed to be the perfect partner to the Azur range of AV Receivers the 640BD features full HDMI 1.3 output, including bitstream output of all the latest HD Dolby and DTS surround-sound systems plus internal decoding of Dolby Digital EX, DTS ES, Dolby Digital Plus, Dolby True HD and DTS HR surround-sound. A full set of analogue video outputs is supported, HDMI 1.3 video/audio, Ethernet, S/PDIF, Toslink and separate dedicated 7.1 and stereo analogue outputs. While natively supporting up to 1080p from Blu-Ray discs the 640BD is also able to upscale DVD discs to 1080p video resolution taking the viewer to the heart of movie action. Meanwhile, 24 frames per second

(fps) progressive scan True Cinema allows films to be watched as the director intended at their original frame rate without conversion for the most natural jog-free panning and motion possible.

The new Cambridge Audio Fusion is a fully integrated micro hi-fi system with a powerful 2.1 amplifier delivering 30W per channel and has a bespoke iPod dock, hi-fi quality CD player and DAB/FM tuner. Front mounted USB and SD card connections make it simple to access digital music from a wide range of devices. As well as hi-fi playback of LPCM CDs, the slot-loading CD player is also MP3 and WMA compatible. It sports a stylish custom designed metal chassis – just 215mm wide - available in silver and black. "This landmark product represents an important development in the history of Cambridge Audio", the company says. For details call 0845 090 2288 or click on www.cambridge-audio.com.



CA Fusion



CA 840BD



WEBWATCH:

www.theartofsound.net/forum

The Art of Sound is a new audio and music forum conceived by three friends, Steven Toy, Marco Pieraccini and Rob Cole. After observing established audio forums, they "had a vision of creating something different". It's certainly a friendly platform on which enthusiasts, dealers and manufacturers can exchange useful information – with a relaxed but inquisitive tone.

PHONOGRAPHY NOW

Phonography is happy to announce that it has now re-opened at new premises near Winchester, and can be contacted on 01962 777792 or via www.phonography.co.uk.





RECEIVING LOUD AND CLEAR

Arcam's new FMJ AVR600 is a beautifully styled new AV receiver containing a seven channel power amplifier and "some of the most advanced audio and video processing ever seen in an AV component", says the company. Arcam's first FMJ high-end AV receiver continues the company's unique collaboration with noted UK industrial designer Adrian Stokes. It is one of the few examples of high-level industrial design applied to Home Cinema (see www.asadesigners.com/). As you'd expect, it sports DAB and FM radio, the very latest digital audio/video processing, Dolby Volume, iPod and MP3 compatibility and optional networking with Internet Radio and PC Streaming. Five HDMI inputs and two HDMI outputs are part of its one hundred or so input, output and control connections. It serves 120W per channel with all seven channels driven, with new DTS-HD Master Audio, DTS High Resolution, Dolby TrueHD and Dolby Digital Plus decoding standards supported. For more details, click on www.arcam.co.uk or call +44(0)1223 203 200.

MI-FI

Myriad's new £1,250 'Mi' (Music integrated) is a new one-box music system offering "armchair iPod navigation on a high visibility full colour screen, excellent DAB and FM radio, class leading CD replay, Bluetooth MP3 connectivity and truly superb hi-fi performance", no less. Full digital signal processing allows digital audio sources, such as the Mi's built-in CD player and DAB radio, to be processed and amplified entirely in the digital domain, without introducing the distortions associated with conversion and analogue processing. Even conventional analogue signals, such as FM radio, are transformed to digital to optimise performance, the company says. The iPod interface is claimed to be special too – the Mi utilises data from the iPod to generate menus on its full colour display screen. DAB radio comes as standard, but there's also FM RDS too, and an alternative AM/FM version is available. The powerful Class-D digital stereo amplifier delivers 100W per side into 4 Ohms from within its compact 350x57x314mm case. There's even the option of the Myriad BluePlay receiver that can be used to receive high quality music streams via Bluetooth from an 'A2DP' compliant MP3 player. For information, click www.myriad.co.uk or call +44(0)1279 501111.



SUB-STANCE

Following a period of market unavailability, the Steve Millward designed Cetech carbon fibre Sub-Chassis is now back in full time production, with manufacturing now undertaken in Auckland, New Zealand. Borrowing heavily from composite specialist Steve Millward's own experiences fabricating precision parts for leading Formula One teams such as McLaren and Williams, the original Cetech unit utilised an aerospace-grade aluminium honeycomb section within a hand-laminated carbon fibre sandwich, which is both

physically strong and acoustically inert. This was designed to counter the known tendency of the LP12's pressed steel panel chassis to 'ring' and also provide for a far more rigid bolted connection to the armboard than is possible with Linn's standard issue screws. The Cetech Sub-Chassis is straightforward to fit to LP12s of even the earliest vintage "by anyone who is reasonably handy" and the process is said to take under three hours. For those who would rather entrust the work to a specialist installer, a number of UK hi-fi dealers are offering a fitting service that also includes new Linn springs, drive belt, black oil and a full service. The Cetech LP12 Sub-Chassis can also be ordered direct from the company's website www.derwent.co.nz at a cost of £299 (standard) and £325 (Cirkus version) with insured air shipping options to the UK from just £15.

BUDGET BENCHMARKS

Marantz says its new £200 CD5003 Compact Disc player delivers "outstanding new levels of performance for the price". It uses Marantz's new MI reference-standard chassis - a rigid, reinforced base, glass-fibre resin side panels and a three-piece construction front panel comprising thick aluminium and reinforced glass-fibre resin. Such solid construction virtually eliminates mechanical vibration, it is claimed. For the first time, HDAM SA-2 modules are used in the output stage of an entry-level machine, and are said to outperform regular IC op-amps. It employs the well-known CS4392 24bit/192kHz digital-to-analogue converter from Cirrus Logic, driven by a "dependable" CD transport mechanism and a new clock "which gives cleaner and more open sound". The result is a S/N ratio improvement of almost 10dB. There's also an Audio EX(clusive) mode which bypasses the circuits for the pitch control, digital output and the fluorescent display itself, all noise sources that affect pure fidelity playback.

The matching £230 PM5003 stereo integrated amplifier delivers a healthy 80W RMS per side with current feedback architecture, so far used only in far more expensive Marantz models. This technology offers fast and accurate signal handling, which results in a very open and precise musical image, it is claimed. The PM5003 also comprises independent preamplifier, power amplifier and tone control sections, while the power amplifier is a completely discrete design and the tone control amplifier is an active filter type. Under the hood you'll also find high-quality audio components including the use of Marantz's current feedback HDAM SA-2 modules, with short signal paths that are mirror imaged. There's also a tone defeat that ensures the shortest signal path by removing the tone control circuit board completely from the signal. The amp, also using the MI chassis, sports five line inputs plus a high quality moving magnet phono stage. For more information, click on www.marantz.co.uk.



MOVING...

Audio Classics have moved – the new address is: 159 Church Street, Westhoughton, Bolton, Lancashire BL5 3SW. For more information about their range of services, call or fax +44(0)1942 790600 or click on www.audioclassics.co.uk.

Heavy Mettle

If ever there was a high end loudspeaker built to last and dressed to impress, it is Monitor Audio's giant PL300 floorstander. Noel Keywood listens in...

Audio's new Platinum 300 range topping loudspeaker was the first thing that caught my attention. I know what Monitor Audio like and thrive on and guessed that the rest of their vast PL300 had been voiced to match this new tweeter, to sound equally fast, engaging and deeply revealing. I wasn't

far wrong, it turned out...

The PL300 is quite a monster. It stands over one metre high (1,113cms/43ins) and weighs a whopping 43.2kgs (95lbs) because it is so massively built. So it stays firmly where it is put, a large area plinth spiking in to the floor to make the whole feel very stable. Monitor Audio are the BMW of the loudspeaker world, giving all their products a level of detailing and finish that's a clear cut above price rivals. Even the rear ports look good - they're not just cheap plastic push-ins - and the connection terminals are lovely. Quite why I don't know, but there is even a leather covered front baffle, and a grill to hide it if you so wish.

I was happy to run the PL300s without the grilles. Their drive units look intriguing - well, to me at least - and grilles do nothing for stereo imaging in any case. Another small point is that ribbon tweeters are smooth, intense and directional in

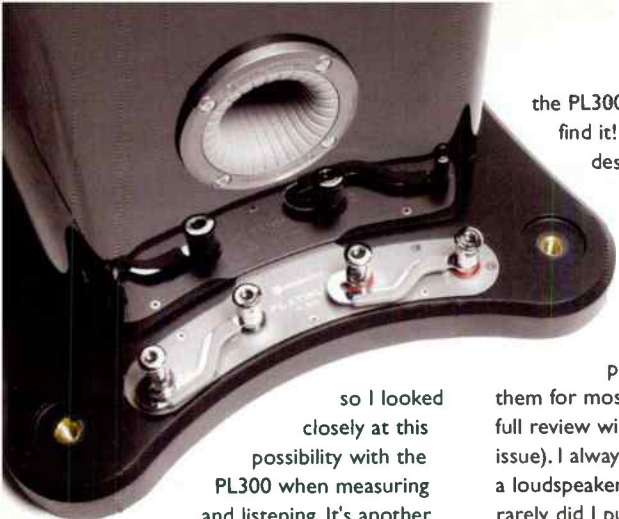
their output; it isn't a good idea to put things in their way. The huge cabinet has a deep gloss finish and the whole assembly looks very smart.

The PL300 has been designed to be not only technically effective, but also something of a sonic piledriver. Those two 8in bass drivers each have their own chamber and can transmit enormous acoustic power I found, to give a massive bass blow. I was going to say "a sledgehammer blow", but it isn't quite that, on which I will elucidate later. Their shallow concave cones are formed from a lightweight aluminium honeycomb, Monitor say, optimised using Finite Element Analysis to give a very light and stiff cone that acts as a "lightning-fast piston for a clearer more natural sound". They work smoothly up to 550Hz. Measurement suggested the chambers are identical and not stagger tuned.

Above 550Hz a midrange unit comes into play. It too uses the same lightweight concave cone made from Monitor Audio's lightweight aluminium honeycomb, again with no central dust cap over the magnet. Monitor Audio say it uses high strength Neodymium magnets for high sensitivity, to match that of the bass units. The midrange unit works up to a high 4kHz, meaning it crosses over at a very short wavelength to the tweeter. Crossing over here is difficult, a common drawback to using ribbons. Potentially, this affects vertical integration, making seating height more critical, but measurement showed this has been handled well and in use there was little phasiness as I moved vertically.

Few midrange units reach smoothly to 4kHz without breakup,

I've always had a partiality for ribbon tweeters since living with the Tonigen unit in the Heybrook Sextet. Think incisive treble that's cuttngly clear, yet at the same time supremely even, correct and uncoloured. There's always a hint of Wilkinson Sword to the ribbons I've heard, yet at the same time they've revealed detail no dome could manage and have proved impressive and untiring over time. So the new ribbon tweeter in Monitor



so I looked closely at this possibility with the PL300 when measuring and listening. It's another difficulty ribbons bring with them.

The benefit is that ribbon tweeters truly do work well, offering fast, clean treble that is smooth and always very insightful. They lift detail right out of a mix in a startling manner and in use this one did too. In spite of the difficulties I think ribbons are worth using and, as I mentioned earlier, the presence of a ribbon in this loudspeaker was an immediate plus point to me. I still find dome tweeters a little uneven and coloured in contrast to either an electrostatic panel or ribbon tweeter.

Monitor say the PL300 can run very loud, delivering 118dB Sound Pressure Level; I can believe it. Power handling is rated as 300 Watts so they can absorb a lot of power. Looking at a huge loudspeaker like this you might be tempted to think they need such large amounts of power, but peculiarly the situation is exactly the reverse. Well engineered big loudspeakers like this one need little power. That means most listening will be carried out at a few Watts, an area where all but the best solid-state amplifiers are at their worst. Add in the fact that the PL300 is so revealing it ruthlessly magnifies what an amplifier is doing and you end up with something of a matching problem. It isn't insurmountable of course, but how the PL300 sounds is very amplifier-dependent I found, after swapping in and out numerous amplifiers.

Best are low power Single-Ended valve amplifiers like the superb Almarro A318B replete with 6C33C and no crossover distortion. A good 300B amplifier will also work, because 300Bs are a proper audio triode with a silky smooth sound. Unfortunately, I tried an assortment of solid-state designs and found they all made the PL300 ribbon sound over-bright, sometimes screechy. Even a Class A Sugden A21a Series 2 didn't match, even if it did sound very good in many ways.

So a good amplifier is essential and if a solid-state amplifier matches

the PL300, all I can say is I didn't find it! Most high power designs will be unsuitable I suspect. I was fortunate in having a perfect match for the PL300s however, a pair of Icon Audio's new 845 monoblock power amplifiers; I used

them for most of the listening (a full review will appear in our Jan 09 issue). I always monitor power into a loudspeaker when reviewing, and rarely did I push more than 10 Watts into the big Monitor Audios - and even then I was hanging onto the settee to avoid being thrown over it by their massive bass!

Straight out of the box the PL300s sounded metallic and shouty; a lot of running in was needed. Editor David Price found the same with the PL100s some months back, but afterwards they will sound "almost warm" he told me. And that was the case; somewhere in there was a kind of warmth, but it wasn't attributable to the tonal balance but a lack of distortion hash, and low colouration giving dark inter transient silences.

SOUND QUALITY

The PL300 Series are Monitor Audio's new flagship loudspeakers, but they haven't sought to make them a more academically refined version of the excellent GS60 I reviewed and was very impressed by in our August 06 issue. The opposite in fact. The PL300s are pumped up versions of what Monitor Audio do so well generally. The large cabinets issue thunderous bass that runs deep and has conspicuous presence. There's no asking "where's the bass" with this one, and it is of the deep furniture moving variety too. At times I was a little disappointed by the fact that there's the same sort of tubbiness that affected KEF's Reference 103/2 I reviewed recently. It comes from a small amount of bass peaking and this relatively under-damped characteristic makes for a feeling of great bass vigour, as if the 'speaker is eager to play a bass line. Switching our Pioneer PLC-590 turntable to 45rpm and putting on Goldfrapp's 12in single 'Ride a White Horse' had a subterranean bass line start suddenly and forcefully, somewhere beneath me it seemed. The PL300 has the feeling of being able to travel endlessly downward with nonchalant ease, very much like the Meridian DSP-7200 I reviewed in our November issue.

This isn't artifice either; measurement showed the Monitor Audios were strongly exciting the

24Hz main mode of our listening room, so they really do go super low in practice, and the sense of freedom to their bass lies both in its lightly damped nature and this extension to subterranean depths. It also accounts for the small sense of tubbiness, but at the same time that is not to say they either boomed or slurred. Quite the reverse, bass lines from the big PL300s strode along with a muscular grip that rhythmically underpinned Ride a White Horse with great confidence. This also gave drums both scale and power, so the opening kick drum on Steve Earle's 'You Belong to Me' hit me firmly and forcefully in the stomach in a way few other loudspeakers have managed.

Only Tannoy Yorkminsters could eclipse the PL300s here, which puts them well up the scale of ability in this area. What applied to rock also applied to Classical, the kettle drum in 'Mars, Bringer of War' from Holst's Planets had a lovely resonant quality and a strength that made it stand out nicely from the instruments around it.

One small reservation I have with low frequency reproduction is that in a smaller room with modes closer to those of the loudspeaker's prodigious low frequency output the PL300s will likely induce room boom, making bass sound heavy, a problem I suffered with the Yorkminsters. They worked beautifully in our big listening room, but not in my medium sized lounge (the only reason I did not buy them!). I suspect this is why Monitor Audio have shelved upper bass downward a bit, to lessen such an effect.

Another difficulty, one I also ran into with the KEFs, is that with solid-state amplifiers bass was even heavier - and generally too heavy for my liking.

As you might expect from a set of aluminium drive units there is a light timbre, characteristic of all Monitor Audio loudspeakers. Yet at the same time the PL300 saw so far into music it revealed extraordinary levels of detail. My attention was drawn to some amusingly ornate and deft stick work by the Zutons drummer as he pulled off a rapid stream of small percussive strikes in the background to Valerie. This was the ribbon working its magic, extracting fine details from the mix seemingly with magical ability and laying them out with a firm precision beyond the vaguer sound of a dome.

A fine



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World Radio History

demonstration of both this strength and also the extraordinarily strong dynamic contrasts was made obvious, perhaps surprisingly, in Holst's 'Jupiter', from 'The Planets' suite. I usually find it easy to sit through our Naxos recording without being drawn in, putting this down to the often distant nature of classical recordings. The PL300s changed this. From the fine yet sonorous tinkling of bells at the start, through the succession of firm and powerful kettle drum strikes, to beautifully dense and detailed reproduction of strings as they enter with the main theme, the PL300s were masterful. I was drawn right in by their deep insight, vividly crisp timing and thunderous power. Yes, strings are bright, even from the graphite anode of an 845 valve which is a 'dark' source, yet the purity of the treble, its lack of phasiness and the way temporal strands were well separated made the questionable tonal balance aurally acceptable; bright did not equate to 'screech' with this loudspeaker, a benefit of very low distortion and colouration.

Just to dive into technicality quickly, the ribbon unit is measurably prominent and also has an unusually smooth frequency response, which means a lack of local resonances that beset dome drive units. That's why ribbons sound good: it's simply because they are good - measurably so. You will hear this with the PL300, every time someone hits a cymbal or shakes a tambourine. It was something I loved about the Heybrook Sextets, as characterful as they were in other areas. A big technical difference here is that Monitor Audio's midrange unit

reaches right up to 4kHz to meet the ribbon, so there's none of the warmth of the Sextet. However, there are a few wiggles at the top end of the midrange unit's output and these account for a small amount of cone colour that I occasionally became aware of. Spinning Duffy's 'Warwick Avenue' on the Rockferry LP I was aware of a hint of this colour to sibilance in her voice. Aluminium drive units possess a light air about them but there is usually a small giveaway somewhere and as good as it is the midrange unit reveals small limitations here, avoided by a good electrostatic panel for example.

But talking about Duffy brings me to Patti Smith - sorry about the obscure logic! The PL300s beautifully revealed the deadpan delivery of Patti Smith, her lack of vocal inflection but the gruff strength in her voice; listening to 'Gloria' captured all this beautifully. Duffy by way of contrast uses inflection as an art form, her vocal gymnastics and richly modulated tones being made very evident by the PL300s. Again it was a performance that had me spell bound by its closeness, its vivid dynamic range and fantastic clarity. In spite of the emphasis of highs, I found old LPs (I use mostly new re-pressings for reviewing) that commonly sound awful, like The Who's 'My Generation' where Roger Daltrey seems to be singing into a baked bean tin, were handled with aplomb. You get to hear how bad the basic recording is, that's for sure, but performances retain their dynamic vigour and were thoroughly enjoyable.

The PL300s image sharply and have good focus. The ribbons integrate well subjectively and there's

little change in image quality vertically, although listening on an axis between midrange and treble is perceptibly best. There isn't quite the sense of height a dome driver achieves, because ribbons don't throw much energy at the ceiling, but the PL300s still arrange a convincing array of well hewn images across the sound stage.

CONCLUSION

The Monitor Audio PL300 has been made characterful to entice, I believe. Its thunderous bass brings life to all performances, even those where the drummer was put under the stairs! But at times I wished for a slightly drier, more concise quality. It's a small point, but measurement suggests easily achievable. Similarly, Monitor Audio's superb ribbon tweeter has been made just a little too prominent, making suitable solid-state amplifiers difficult to find.

All the same, paired with the right ancillaries this big beast sounds breathtakingly fast, dynamic and clean, just as Monitor Audio like it. The engineering is both unique and impressive. Classical music lovers will revel in the way they pinpoint individual instruments and grace strings with a rich harmonic structure. Rock lovers will adore the clarity and dynamic power. The PL300s bring life to music and can be overwhelmingly enjoyable, offering a sound that's both genuinely and conspicuously high fidelity at the same time.



MEASURED PERFORMANCE

Monitor Audio's Platinum PL300 delivered exactly the results I would expect from a quality ribbon tweeter and good cone midrange. The ribbon tweeter in truth, with the microphone placed on-axis, measures almost ruler flat, as good ribbons do. Apart from high accuracy, this also connotes to extreme - by dome standards - lack of colouration.

There's a small but obvious step down at 1.5kHz in output of the midrange unit, but otherwise it too has an impressively flat frequency response down to 350Hz. Below 350Hz overall level is lower than that of higher frequencies, suggesting a lack of body to vocals. Low bass below 100Hz suddenly rises upward to form a wide plateau down to 60Hz, after which forward output falls abruptly and the ports

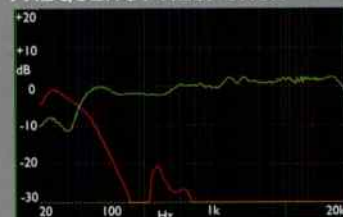
come into play. Tuned to 32Hz these take output way down to 20Hz and lower. Our 28ft room had its main mode at 24Hz strongly excited by the PL300s. This will give the loudspeaker prominent low bass, plus seismic subsonics.

Sensitivity measured a high 90dB and overall impedance 6 Ohms, DCR measuring 4 Ohms as is common nowadays. The impedance curve is nicely smooth above 100Hz and this is useful as it helps reduce amplifier matching problems. The usual twin peaks of a reflex are there and need suppressing in a loudspeaker of this cost and stature.

The PL300s measure well, ignoring the lower midrange plateau dip. This will draw body and smoothness from the sound. Otherwise, expect them to run high beautifully, due to the smooth ribbon

tweeter, go low with eye-popping weight, but sound more technical than accurate. NK

FREQUENCY RESPONSE



IMPEDANCE



VERDICT

Serious 'statement' speakers with an unusually clean, fast and open sound underpinned by truly muscular bass.

MONITOR AUDIO PL300

£5,500

+44(0) 1268 740580

www.monitoraudio.co.uk

FOR

- extraordinary dynamics
- powerful, deep bass
- very sensitive

AGAINST

- amplifier critical
- prominent treble
- technical colour balance

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Over the past year, we've seen a veritable flood of high performance mid-price Compact Disc players launched into the hi-fi world. With this in mind, David Price thought it was time to see how all his recent fave raves compared...

Five Stars

In terms of improbability, you'd think it would be hard to surpass Boris Johnson becoming London mayor or Peter Mandelson coming back from Brussels to bolster Gordon Brown – but such events are mere trifles compared to the spectacle of yours truly (an analogue addict if there ever was one) doing a CD player group test...

Trouble is, about two years ago I began to take an interest in the new silver disc spinners coming out at around the £1,000 price point. It was just an innocent, passing whimsey you understand, but the next thing I knew I had volunteered myself for a CD player group test and couldn't think of a way out.

Of course, if I was a politician I would have declared to Noel at that point that it was merely a 'pledge' rather than a 'promise'; an aspiration rather than a commitment; but I'm not – and so faster than you could

say 'bitstream' I found myself sitting in front of six of the blessed things!

The results, published in November 2007, brought a new name to *Hi-Fi World* readers. AstinTrew's superb AT3500 more or less walked it, and suddenly I found myself recommending it to all and sundry. After that, it was regularly pulled out of its box to do battle with new, rival machines – and almost every time it won the contest, on points if not by a knockout.

One year later, and things had finally got to the stage where I had to pit the AT against its rivals, in the rarefied analytical conditions of a five-way group test. Once again it was time to unplug my turntable and phonostage, so as to make all spare mains sockets available as a stack of CD spinners arrived in my listening room...

Frankly, I wasn't expecting the high sonic standards set by this latest crop of mid-price machines.

Indeed, all the CD players reviewed here are worthy of warm recommendation. Even now, in the late autumn of Compact Disc's life, there's a good reason for buying a new machine.

So here we have four of my fave rave silver disc players of the past twelve months tussling for position, from Messrs AstinTrew, Cyrus, Stello and Raysonic, plus one wildcard – just as before – from Japan's Triode Corporation...

THE TESTS

The testing procedure was simple; warm each one through for twenty four hours on repeat, and then A-B it against the Cyrus CD 8SE (chosen simply because it is the cheapest of the group), swapping the mains leads and interconnects each time. That way you've got no disparity between warm-up cycles or wires. My review system was, in fairness, a little more revealing than you'd expect for machines of this price – a Sugden MC IA4 (£3,500) integrated and Yamaha NS1000M loudspeakers, with Silvermann Clarity 1 mains lead (£60) and Missing Link Cryo Reference (£405) interconnect. It gives a very neutral, open and expansive sound; so much so that even vinyl can sound bright with the wrong phonostage.

THE CONTENDERS

CYRUS CD8 SERVO EVOLUTION	£1,100
STELLO CD-T100/DA100 SIGNATURE	£1,270
ASTINTREW AT3500CD	£1,150
TRIODE CORPORATION TRV-CD4SE	£1,450
RAYSONIC CD128	£1,599



CYRUS CD8 SERVO EVOLUTION £1,100

This machine has made something of an impact since *Hi-Fi World* first gave it a rave review several months back. There was nothing at all wrong with the previous CD8x it replaced, but the new Servo Evolution mechanism gives it a real edge over its predecessor. With a bespoke CD platform engineered from scratch, Cyrus claims 20% fewer read errors than the Philips based CDM 12 mech used in the previous CD8x.

Fine build is in evidence, with the same beautifully diecast 78x215x360mm chassis (3.5kg), inside which are twin toroidal power transformers feeding 11 regulated power supplies, with extensive use of star-earthing. A precision quartz reference anti-jitter circuit keeps the datastream from the mech in check, en route to the 24bit current output DAC and fully balanced analogue filter. Round the back is the familiar Cyrus PSX-R power supply upgrade option socket. With the new slot loading arrangement, the fascia looks cleaner than ever, and the LC display is crisp with its switchable green backlighting. Disc operation is smooth and silent; don't confuse with this with the sort of cheap loader you get on car CD tuners. Track access is the fastest here.

SOUND QUALITY

The CD8 SE showed real depth of abilities across music types. I found it unfailingly even handed, without harshness even through my 'brightly lit' reference system. Indeed, the Cyrus falls on the soft, euphonic side of the fence for an all solid-state machine. Still, there's nothing soggy about the CD 8SE; its combination of grip, tonal purity

and detail is truly special.

Kicking off with Japan's 'Taking Islands in Africa', the non-remastered original digital transfer on a Japanese pressing of 'Gentlemen Take Polaroids', the Cyrus was neutral to a tee, letting the flavour of the superb original analogue recording flood out. Despite a complete lack of grain, I loved the insight the machine had into different instruments – including those gorgeous Roland Juno analogue synths, which had beautiful texture. Sylvian's sultry voice was also accurately captured with a dark chocolate taste.

The Ones' 'Flawless', a stomping house classic, heavily EQ'd and compressed with all sliders set to '11', showed another side to the CD 8SE. Despite that tonal smoothness, it really got into the groove. There was a slight loss of 'bite' to hi-hats in absolute terms, and bass was a tad on the rounded side, but still I was beguiled by this machine's brilliant innate rhythmic grip and innate musicality. The Cyrus has a special and complex sound that is sweet and soulful but forensically detailed and dynamic at the same time. A highly distinguished performer.

MEASURED PERFORMANCE

Frequency response of the CD 8 SE shows a very slight lift up toward high frequencies our analysis shows, an unusual trait. This is likely to help give the Cyrus a light balance, plus good delivery of detail. Reaching down to 2Hz at the low end of the scale means that its bandwidth is wide.

Distortion levels were low throughout the player's dynamic range, measuring 0.0005% at -6dB down to a low 0.19% at -60dB, so the Cyrus is linear. However, the IEC A weighted EIAJ Dynamic Range value was a little off the best, measuring 110dB when 112dB is possible.

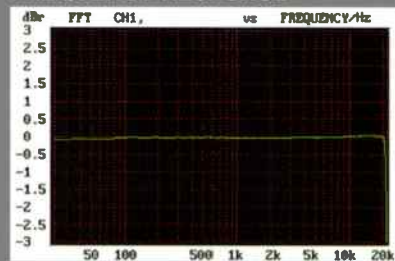
Output level from the analogue outputs was quite normal, measuring 2.2V, and jitter from the digital output was low, if not quite as low as some other similarly priced rivals. The result was a measured 300pS with a -70dB tone, whilst random jitter hovered around 10pS over much of the audio band frequency range, rising a little below 100Hz.

All in all, the CD 8 SE returns a neat set of measurements showing it is fundamentally a well designed player. It will sound clean and will likely have a light but detailed sound. NK

Frequency response (-1dB)
CD 2Hz - 21.2kHz

Distortion (%)	
0dB	0.0004
-6dB	0.0005
-60dB	0.19
-80dB	2.4
Separation (1kHz)	125dB
Noise (IEC A)	-104dB
Dynamic range	110dB
Output	2.2V

FREQUENCY RESPONSE



DISTORTION



VERDICT

Creamy smoothness allied to great grip, speed and insight makes for a unique sound at this price.

CYRUS CD 8SE £1,100

Cyrus Audio Ltd

+44 (0) 1480 435577

www.cyrus.co.uk

FOR

- beguilingly musical sound
- detailed and dynamic
- smooth, insightful tonality
- design, build, upgradeability

AGAINST

- slight bass softness



ASTINTREW AT3500CD £1,150

This is the company's top of the range CD player, and basically a cooking AT3000 with a number of strategic tweaks including a higher performance clock with dedicated power supply, plus Class A biased DAC filters and upgraded power supplies with a number of expensive passive components including Auricap capacitors. The player itself employs a Phillips VAM1202 transport and CD711 servo, isolated from the main casework by a thick aluminium base plate with compliant anti-resonance damping. A Burr Brown PCM1738 DAC is powered by the expensive 'C core' transformer running separate power supplies for each section, and ECC88 double triode valves are featured in the analogue output stage.

This 430x340x110mm machine is the second largest in the group after the Raysonic, and heavy at 9.1kg. Its neat front panel is complemented by venting on the case top, along with elegant heatsinking around the side. With flush-mounted hex-head fixings and excellent gunmetal/titanium paintwork, it's a nice looking machine. At the rear there's a single coaxial digital output and a set of analogue output phono sockets.

SOUND QUALITY

The Ones' 'Flawless' was first in the disc tray, and I was fascinated to hear a flatter, hazier and more dynamically compressed performance against our benchmark, with a more vague top end. In fact, the treble lacked clarity and sparkle. In the midband, I recognised the AT3500's characteristically expansive soundstage; the Cyrus seemed just a tad narrower from left to right, as the AstinTrew threw images wider 'stage left' and 'stage right'. Still, it was less

happy at pushing images out into the room, or hanging them behind the speakers, making for a less-dimensional sound. The AT's bottom end proved conspicuously more powerful however, with a considerably fuller and bigger sound. Trouble is, it was also looser, and I found myself beginning to crave the Cyrus's more subtle nature...

Japan's 'Taking Islands' was a dramatically different experience to the Cyrus; Sylvian's voice was creamier, sounding far closer to Bryan Ferry's crooning on Roxy Music's 'Avalon' than the David Bowie that I'm reminded of when I usually listen to his voice! The AT's wider midband suited the epic quality of the song,

while the sweetness of that valve output was nice with those classic synths. But I did still feel the AstinTrew to be opaque across the midband. Indeed, moving to The Smith's 'Some Girls Are Bigger Than Others' (again a non-remastered, non-compressed Japanese pressing of 'The Queen is Dead'), revealed the AT3500 as actually quite foggy; I felt myself craving for the Cyrus's superior focus and insight.

Despite its hazy sound compared to the reference, I have to say that the AT was still a hoot to listen to; it remains consummately musical. Trouble is, its competition has got tougher.

MEASURED PERFORMANCE

The AT3500 has just a trace (0.1dB) of low frequency lift across a band, starting at 400Hz or so. Although low in spot level, its broadness may be sufficient to perceptibly increase energy by a small amount, just sufficient to give this player some extra body to its sound. As high frequencies roll down above 17kHz there should be no brightness to the sound. Results were identical at 44.1 or 96kHz upsampling.

Distortion levels were higher than usual at high levels, but second harmonic only in nature, so this will be inaudible. That the Astin Trew is linear is borne out by its fine -60dB result, responsible for an excellent dynamic range value of 111dB.

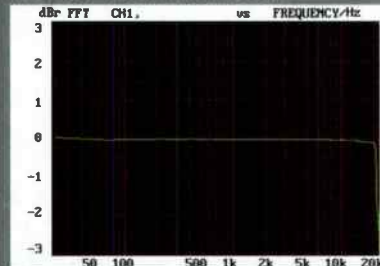
The only area of concern in this player lies in the jitter that exists on the digital output and is likely to affect analogue stages, as it measured a high 300pS random, and up to 600pS with programme - high values. Better reclocking is needed.

The AT3500 measures well in all areas except jitter. To what degree this impacts sound quality, in balance with positive factors, can only be assessed by listening tests. NK

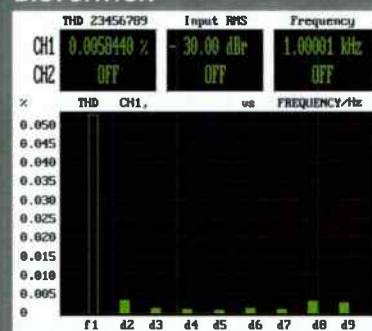
Frequency response (-1dB)	CD	4Hz-21.1kHz
Distortion	0dB	(%) 0.042

-6dB	0.02
-60dB	0.22
-80dB	3
Separation (1kHz)	115dB
Noise (IEC A)	-110dB
Dynamic range	111dB
Jitter	500pS
Output	2.4V

FREQUENCY RESPONSE



DISTORTION



VERDICT ●●●● £

Wonderfully warm, expansive and musical sound – but lacks focus compared to the best of the rest now.

ASTINTREW AT3500CD £1,150

Astin Trew

+44 (0)1491 414494

www.astintrew.co.uk

FOR

- expansive midband
- euphonic tonality
- engaging musicality
- big bass

AGAINST

- lack of focus
- curtailed depth perspective



STELLO CD-T100/DA100 SIGNATURE £1,270

The CD-T100 transport is satisfyingly compact at 212x55x290mm, so when sat next to the DA100S it's the same size as a conventional CD player. Its fascia has only the basics – transport controls plus a large red LED display that's very easy to read from a distance. I used the 'Inter IC-Sound' (i2s) connector to link it to the DA100 Signature DAC, but there's a range of other options. The DAC is a true 24bit, 192kHz upsam-

pling design, said to have a jitter-free timing circuit and 6th-order digital filter, plus a fully discrete Class A analogue output stage. The unit features 1% tolerance metal film resistors, WIMA polypropylene capacitors, Cardas RCA connectors, and Neutrik balanced connectors, plus an impressively sized (for a DAC) 25VA toroidal transformer. The Stello is the cheapest here to offer balanced XLR outputs, and is well built and finished, if not up to the superbly hewn Triode Corporation.

SOUND QUALITY

This player has an immediacy that none of the others here possess. There is grip in abundance, making even the CD 8SE seem a little loose where it matters, and brilliant focus with the crosshairs of its lens pointed right at the attack transients of each individual note. The Ones' 'Flawless' was barnstorming; sounding more intense and confident. It served up vast amounts of detail, from bottom to top. By comparison even the super-detailed Cyrus sounded lighter, looser and more laid back in some respects.

However, I couldn't help thinking the Stello sounded a little colder and more mechanical too – it struggled to string all of its power, grip and detail into something as musically convincing as the Cyrus. 'Taking Islands' was a case in point; the Stello locked on to all the little doody bits, all the little production effects, with aplomb – but couldn't quite deliver the epic feel of the Cyrus or the warmth of the AT. Move to Steely Dan's 'Doctor Wu' from the UK remaster of 'Katy Lied' and the Cyrus romped ahead of the Stello in the tunefulness of the piano playing and the rhythms of the hi hat work.

All the same, pure electronica in the shape of Kraftwerk's 'Tour de France' was a joy. The Stello is the audio equivalent of a brilliant, crisp autumn morning; it's able to throw clean white sunlight onto everything around it. Musically, it lets you lock into one strand in the mix and stay with it effortlessly. A brilliant 'hi-fi' CD player then, and flexible too, but not for everyone all the same.

MEASURED PERFORMANCE

Frequency response of the CDT100 and DA100 Signature combination was level across the range, with just a gentle drop down towards 20kHz which will ensure a smooth top end, and extension down to 2Hz at the low end. Distortion levels were low across the board, with a more than acceptable figure of 0.24% at -60dB.

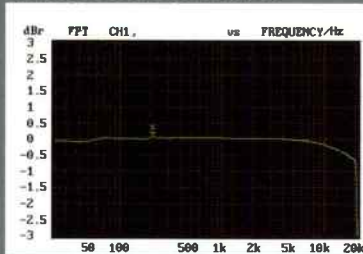
The EIAJ dynamic range figure was again a respectable value of 109dB; a little short of the best at 112dB but fine all the same. Channel separation was good at 88dB and noise levels from the player were very good, measuring -105dB. Results were consistent across both balanced and unbalanced outputs, the former also giving an output level figure double that of the unbalanced, as is common.

Measuring jitter from the output of the transport gave a Random Jitter figure of 8pS with program related elements reaching up to 40pS with a -80dB signal. Changing to the AES balanced output dropped the Random jitter figure to around 5pS and almost completely removed the program related components, so this output gives excellent results. We were unable to test the I2S data link.

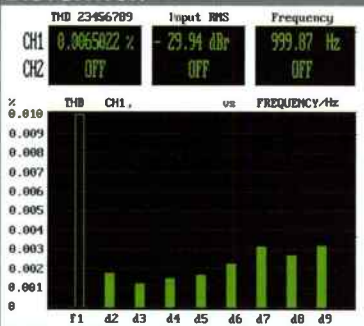
Engaging upsampling on the DA100 Signature DAC did not affect frequency response, but lowered the noise floor of the unit further - removing a noise peak at 39kHz and dropping the level at this point by 15dB. All in all, the Stello pairing measure well and should turn in a fine performance together. AS

Frequency response (-1dB)	
CD	2Hz - 20.4kHz
Distortion (%)	
0dB	0.05
-6dB	0.022
-60dB	0.24
-80dB	2.9
Separation (1kHz)	88dB
Noise (IEC A)	-105dB
Dynamic range	109dB
Output (unbalanced/balanced)	2.4/5.2V

FREQUENCY RESPONSE



DISTORTION



VERDICT

Highly detailed, powerful and insightful sound will delight many, but its slightly mechanical nature will leave others cold.

STELLO CDT100 £595

STELLO DA100 SIGNATURE £675

Select Audio

+44(0)1900 813 064

www.selectaudio.co.uk

FOR

- pin-point precision
- superb frequency extremes
- muscular dynamics
- connectivity

AGAINST

- mechanical feel



TRIODE CORPORATION TRV-CD4SE £1,450

At just 340x330x00mm, this player is small but immaculately finished, as you would expect from a Japanese machine. The red steel wrap casework is the best of its type I've seen, while the chunky aluminium fascia looks beautiful, and the buttons have a quality feel. The display is multicoloured, which is nice, but doesn't dim completely when you switch it off, which isn't! Inside is a Sony CD mech feeding Burr Brown PCM1792 DACs, with a single 6922 valve buffering the analogue output stage. Its 24bit, 192kHz upsampling is denoted by a little glowing light in the display. In addition to RCA phono outs, balanced XLRs are fitted.

SOUND QUALITY

Where the Stello packed a mighty punch but ultimately failed to land the knockout blow on the Cyrus, I began to get the sense that the Triode Corporation was capable of doing so. Japan's 'Taking Islands' showed it to be a beautiful sounding machine; rich, smooth and warm like the AstinTrew, but lacking the cheaper machine's weaknesses. Where the AT3500 sounded a little opaque and out of focus across the midband and treble, the CD4SE was locked on with almost the accuracy of the Cyrus.

Think of the TRV-CD4SE as offering most of the tonal warmth of the AstinTrew with most of the delicacy and insight of the Cyrus, and you're getting close to the mark. For example, bass is prodigious like the AT, but better controlled. It also has a more believable tonality; although sumptuous it does more than just 'be there' in large amounts. Instead, it sounds like it is inextricably linked to the lower midband, making

for an even, natural and non-boomy sound rather than being the silver disc equivalent of a 'loudness' button.

The midband is magnificent. Steely Dan's 'Doctor Wu' showed a gorgeous piano tone, making the Stello and Cyrus seem just a little too 'solid-state' for my taste. Like the AstinTrew, this red devil is very wide from left to right, but unlike the AT it goes back and reaches forward too, in a natural and effortless way. Treble, meanwhile, is among the best of the group; tonally silky yet atmospheric and detailed; hi hats have a metallic clang, yet a velveteen shimmer too.

Moving to The Smiths' 'Some

Girls...' and this CD player fell back a little against the Cyrus. Although I'd definitely vote for its beautiful, dusky tonality (the Cyrus was brightly lit by comparison), I was less impressed by the CD-4SE's grip on proceedings. This album isn't brilliantly recorded, with some odd processing and studio goings on, and the Cyrus seemed better able to sort the wheat from the chaff in the mix, so to speak. The Triode Corporation lacked just that last few percent of the Cyrus's insight, and made for a slightly less engaging and understandable musical experience – still it was very enjoyable all the same.

MEASURED PERFORMANCE

Our frequency response analysis clearly shows a slow roll off toward high frequencies, although it is mild and the upper -1dB limit is a normal enough 21.3kHz. All the same, the tilt is sufficient to give this player an easy sound, lacking forward treble and possibly with a tad more warmth than usual. I got the same result from balanced and unbalanced outputs.

Distortion was high at peak output, measuring 1% second harmonic, caused by the valves. At -6dB this had lessened to 0.5% and at -60dB the player measured much like all others, returning a 0.2% distortion value. Better is possible from valves, a common peak value being around 0.3%, so the CD4SE isn't too good here. The effect isn't likely to be easily detectable, although some muddle may exist.

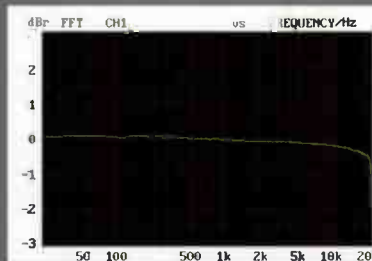
The player possessed a high EIAJ dynamic range of 111.5dB, which was encouraging. Jitter on the digital output wasn't low, peaking at 300pS, a poor result.

The TRV-CD4SE will likely have an easy sound and a relaxing, probably spacious presentation because it measures respectably. It may lack a little in clarity or similar though, due to the presence of jitter and peak distortion. NK

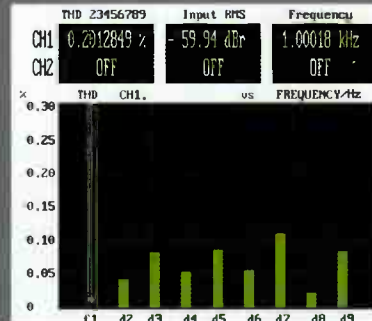
Frequency response (-1dB)
CD 2Hz - 21.3kHz

Distortion (%)	
0dB	1
-6dB	0.49
-60dB	0.2
-80dB	4.1
Separation (1kHz)	
Noise (IEC A)	89dB
Dynamic range	-104dB
Output	111.5dB
	2.3V

FREQUENCY RESPONSE



DISTORTION



VERDICT

Beautifully subtle and finessed sounding machine, but with real insight and serious power too.

TRIODE CORPORATION
TRV-CD4SE £1,450

AngelSound Audio
+44(0)1923 352479
www.angelsoundaudio.co.uk

FOR

- beautiful tonality
- midband delicacy
- spaciousness
- prodigious bass

AGAINST

- euphonic, not neutral



RAYSONIC CD128 £1,599

Inside the immaculately hewn 8mm thick aluminium (480x300x130mm, 1.1kg) case sits a suspended Sony KSS-213Q mechanism powered by a large C-core transformer, feeding a Burr Brown PCM1732 (an old chip that combines the HDCD decoding and filtering from the classic Pacific Microsonics PMD100 with a 24bit/88.2kHz upsampling DAC).

This in turn drives a full Class A triode vacuum-tube output stage giving single-ended and balanced operation, with a smattering a designer label passive components including Mundorf and Solen capacitors. Personally, I found the blue uplighting a bit naff, but at least you can turn them off. Round the back there's an IEC mains input, RCA and XLR phono outs and a single coaxial digital out.

SOUND QUALITY

Surprisingly perhaps, this proved the brightest sounding player of the group, and upfront in its music making in a way which reminds me of a stock Technics SL1200 turntable in its scale, boldness and musicality. Still, it's also a little compressed and tonally homogenous all the same.

Steely Dan's 'Daddy Don't Live in New York No More' is a fine case

in point. Through the Cyrus it's a very even sounding, subtle track with Walter Becker's guitar parts really pushing the song. Via the Raysonic, it's an altogether fiercer and more forward piece of music, Donald Fagen's voice assuming more of John Lennon-like 'grit' and desperation to it. Suddenly the percussion becomes a more key part of the song, and you're constantly listening to the drummer's stop-starts. Of course, these are easily audible through the Cyrus too – indeed they're more pronounced because the CD 8SE has superior dynamic contrasts – but the Cyrus is subtle enough to also let that guitar work become mesmeric. On the Raysonic, it seems to compress everything upward – making all the strands of the mix loud – and just belt the song out for all its worth.

Japan's 'Taking Islands' was expansive alright, but still the CD128 lacked finesse, investing everything with a slightly edgy tone. However, the disco bump-thump of 'Flawless' by The Ones was a joy, giving an adrenaline rush strong enough to make ageing clubbers get off the sofa and out to dance on Friday nights. The Raysonic is one for thrill seeking headbangers then; it's about heavy metal in more ways than one.

MEASURED PERFORMANCE

The anti-alias filtering of this player was a little unusual, putting a small +0.3dB peak into the response at 10kHz. Although small it is enough to be perceptible, adding a small degree of brightness to the sound, if in a different manner to the occasional peaking at 20kHz some players suffer. A small amount of disturbance in this convolved impulse analysis, seen as lumps and bumps, was caused by the presence of some hum and noise the player suffers. It is not readily audible, but affects this particular test due to the low energy within a raised cosine pulse. Steady tones confirmed the performance depicted, and noise measurement returned a relatively poor -80dB unweighted result, or -87dB IEC A weighted, upsampling on. As CD goes this isn't especially good, being caused by 50Hz, 100Hz and 200Hz hum harmonics at low level. The balanced XLR is quieter, returning -96dB.

Distortion levels were low and much the same through XLR and phono, except at 0dB where XLR lacked the second harmonic of the phono outputs, suggesting XLR bypasses the output valves. XLR output measured 4.84V, double that via phono. Upsampling had no effect upon distortion.

There was a little programme related jitter on the digital output, measuring around 70pS, which is a little higher than well clocked machines.

The CD128 exhibits a few small blemishes under measurement. However, it still returns a decent

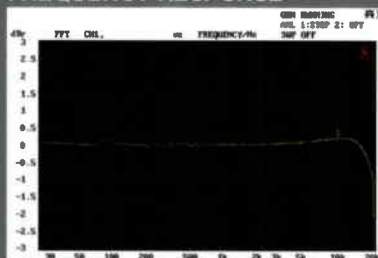
set of figures and will likely sound entertaining. NK

Frequency response (-1dB)
CD 4Hz-21kHz

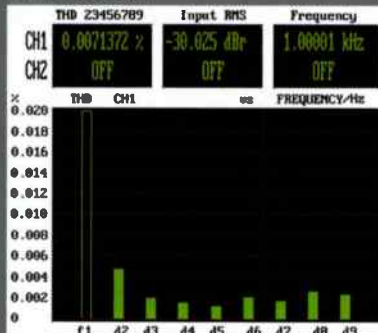
Distortion	(%)
0dB	0.19
-6dB	0.09
-60dB	0.3
-80dB	2.8

Separation (1kHz)	108dB
Noise (IEC A)	-87dB
Dynamic range (EIAJ)	108dB
Output (unbal/bal)	2.4/4.8V

FREQUENCY RESPONSE



DISTORTION



VERDICT

Powerful, commanding sound but lacks finesse compared to the best of the rest. Superlative build and fine value all the same.

RAYSONIC CD128 £1,599

Rochester HI-Fi

+44 (0)1634 880037

www.rochesterhi-fi.co.uk

FOR

- exuberantly musical nature
- expansive soundstaging
- build, styling, ergonomics

AGAINST

- upper midband forwardness
- dynamic compression



All the players in this test are at least very good, and some do even better still. In terms of their market position they sit in that difficult middle ground between vague, mechanical sounding budget machines and the barnstorming, dramatic high end designs, and to my ears all justify their prices. Indeed, you really have to spend a good deal more to get genuinely better all round – for example, the £3,895 Accoustic Arts CD Player 1 Mk 2 gives stronger bass, more expansive sound-staging and a less processed feel. Still, all the players here do well on this score, and are a quantum jump up from even the best £900 machines.

So, in reverse order, in fifth place comes the Raysonic CD128. It is big and bold alright, but in absolute terms is also forward and edgy with a slightly mechanical rhythmic feel compared to the others. Still, I feel it has real potential as an ownership proposition, and is likely one of the best machines on the market to mod. After that guarantee period runs out, I'd be pulling those stock 6922 valves straight out and fitting New Old Stock Mullards, or even getting the existing ones Deep Cryogenically Treated. Then I'd be knocking on the door of Audiocom or Trichord for a clock mod and possibly more; I suspect the CD128 is a high end player with cost savings made to keep the price down, rather than the other way round. As such, methinks there's audiophile gold hidden within!

In fourth place is the AstinTrew AT3500. This may raise some eyebrows, because I've been singing the praise of this player for nigh on fourteen months now. So I was genuinely surprised that it didn't do better in this company, which shows precisely how good this company is. The AT still has a brilliant bass – it's big and full of life, with a lovely warm and bouncy quality. At the price, and especially in most weak-kneed budget systems, this alone makes it the best one to recommend. It's also wide open and very naturally musical too – so it was all the more surprising that the Cyrus at just £50 more showed

it up so much in terms of focus, grip, dynamic contrast and even musicality, in some respects. Still, you know where you are with this machine; if you want a conspicuously old school 'valve' or 'analogue' sound, it remains the one for you.

In third place is the Stello, which in some respects sounds like it should be in first. So powerful, confident, clean and well articulated is its nature that it sounds like a scaled down high end player rather than a turbocharged budget design; funnily enough it reminds me of classic eighties Japanese high end – Sony's CDP-X55ES and the Stello must have been related in another life. By this I mean it has a beautiful 'hi-fi' sound; so detailed, so direct, so crisp, so smooth and so powerful – yet the Stello transport/DAC just didn't quite float my boat rhythmically. It is a touch mechanical, but like the Michell GyroDec some may buy it precisely because they don't want a gushing, romantic, 'LP12-style' performer. Either way, it's superb – and the more electronic or classical music you listen to, the more you'll like it, I suspect.

Second is the Triode Corporation TRV CD-4SE. I just didn't expect it to be this good. It's easiest to conceive of it as how the AstinTrew

everything sound like they were recorded in the same studio, but the Triode Corporation is very much a step above the fray in this respect.

Whereas the old Cyrus CD8x couldn't really match the AstinTrew, the new CD 8SE pretty much bests it, showing you just how much of a leap forward the Servo Evolution mech is. For this writer, the new CD 8SE is redoubtable; it has a wonderful natural musicality, tremendous dynamic accenting and a sense of ease that Linn LP12 owners all know and love so. For £1,150 it has fine tonality too; impeccably even and neutral, only through my ultra-revealing reference system and/or against far more expensive opposition can you detect a faint tonal hardness in its upper mid – and I do mean faint. In absolute sonics terms, I'd say the Triode Corporation just about wins it by a whisker, but the reason I'm making the Cyrus top of the pops is that it's £300 cheaper and ultimately the better package. It's a remarkably good machine for the money, and the addition of PSX-R makes it more upgradeable than any of the others here, too.

So, speaking as a vinyl junkie who spent much of the eighties and nineties wishing that CD had never been invented, I am surprised to

“Interesting isn't it that affordable CD players are only really starting to come good a quarter of a century after their inception?”

should sound if it had another £300 of designer componentry inside; the rough edges of the AT are nowhere to be heard, but its brilliance is still there. The result is a very *un-Japanese* sounding Japanese CD player; subtle, naturally musical and beguiling, yet it has a massive bass and a wonderfully expansive midband, allied to one of the sweetest trebles around. It's a brilliant companion if you set real store by a recording's tonality. So many digital disc players make

find myself so impressed by both the Cyrus and Triode Corporation machines; they're not quite the equal of £1,500 worth of turntable, but not as far off as CD spinners from just a couple of years ago were. Interesting isn't it that, just like ye olde vinyl LP, affordable CD players are only really starting to come good a quarter of a century after their inception? So does that mean iPods will reach audiophile standard in 2028? Ermm... I think not!

*On stage and at home,
Jools Holland's sound is pure Yamaha*



Powered by music

Products featured: CD-S1000 CD player and A-S1000 amplifier

On the road and in the studio, Jools depends on his Yamaha piano for its clarity and purity of tone. At home, he enjoys the same standards of audio excellence thanks to Yamaha's total dedication to the listening experience.

You can too. Visit www.yamaha-uk.com to find out more.



World Radio History



ATACAMA HMS I £170

Atacama has a deserved reputation for quality hi-fi furniture and loudspeaker stands. The HMS series of loudspeaker stands are a case in point. Aimed at the audiophile market and made from heavy gauge steel, the stands are constructed in

a stable tripod configuration. Each of the steel pipes is hollow when constructed, but to improve stability can be filled. Atacama recommends that, instead of the traditional sand filler, you use the company's own replacement – Atabites. These are delta shaped steel chips that provide three times the density of regular sand and, because of their shape, the steel Atabites interlock to reduce air pockets. Priced at £24 per 9kg tub, the Atabites did an effective job of providing an effective mass loading on the HMS 1s under review. One piece of advice, position your stands in the room of operation before you fill them with Atabites. It's a lot easier to move tubs of Atabites around the house than awkwardly heavy stands! Although supplied with screw-in carpet spikes, you can - if you want to save your carpet from excess damage - buy a set of Spike Shoes (£12.99 for four) which sit underneath the spikes. However, I would personally prefer to sacrifice my carpet as the spikes help couple the stands and speakers to the floor,

increasing the quality of your stereo image immensely.

The stands come supplied with a set of four isolation gel pads made from polyurethane elastomer which act as a isolator from the speaker stand's top plate. Secondary benefits include a non-slip and non-scratch fit for the speaker's veneer. Adding the pads, which are supplied on a single, peel-off pad, enhances both bass and soundstaging and even adds a dose of clarity to the performance.

As the pads are constructed with a dimple shape on the upper side, I would also consider adding a blob of Blu-tac to the dimple and pressing the speaker on the result. Doing this, effectively couples the speaker, making the speaker 'one' with the stand and your floor. Tests proved that the stereo image improved still further and that the bass was both tighter and subtly extended. The result is truly excellent and affordable audiophile loudspeaker stands; there are better designs around but you have to pay an awful lot more. **PR** [Contact: www.atacama-audio.co.uk]

soundbites

FURUTECH T-13A FUZE £39.95

Never let the importance of a clean mains power supply be understated. The magazine is in no doubt about the difference it makes, and that means everything 'in circuit' – from your mains cables to whether or not your computer or fridge is getting power from the same ring. Although not a fan of ridiculously expensive mains leads (they do work, but the cost/benefit is marginal with most systems), we'll happily recommend readers invest in decent cabling and keep the connections scrupulously clean with isopropyl alcohol. That even extends to the fuses inside the mains plugs; removing the layer of grit and oxidation from a standard fuse with T-Cut (or suchlike) and then cleaning off the residue yields real sonic rewards. So yes, even fuses can make a difference to the sound of your system, and if you don't believe us then you can try cleaning yours for yourself!

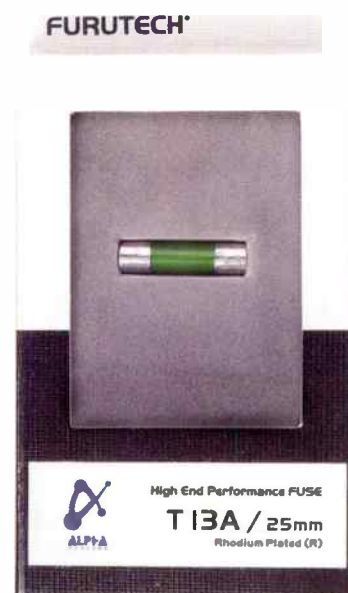
Another, less dirty and more elegant solution comes in the shape of Furutech's T-13A 'high performance fuse'. They replace your standard

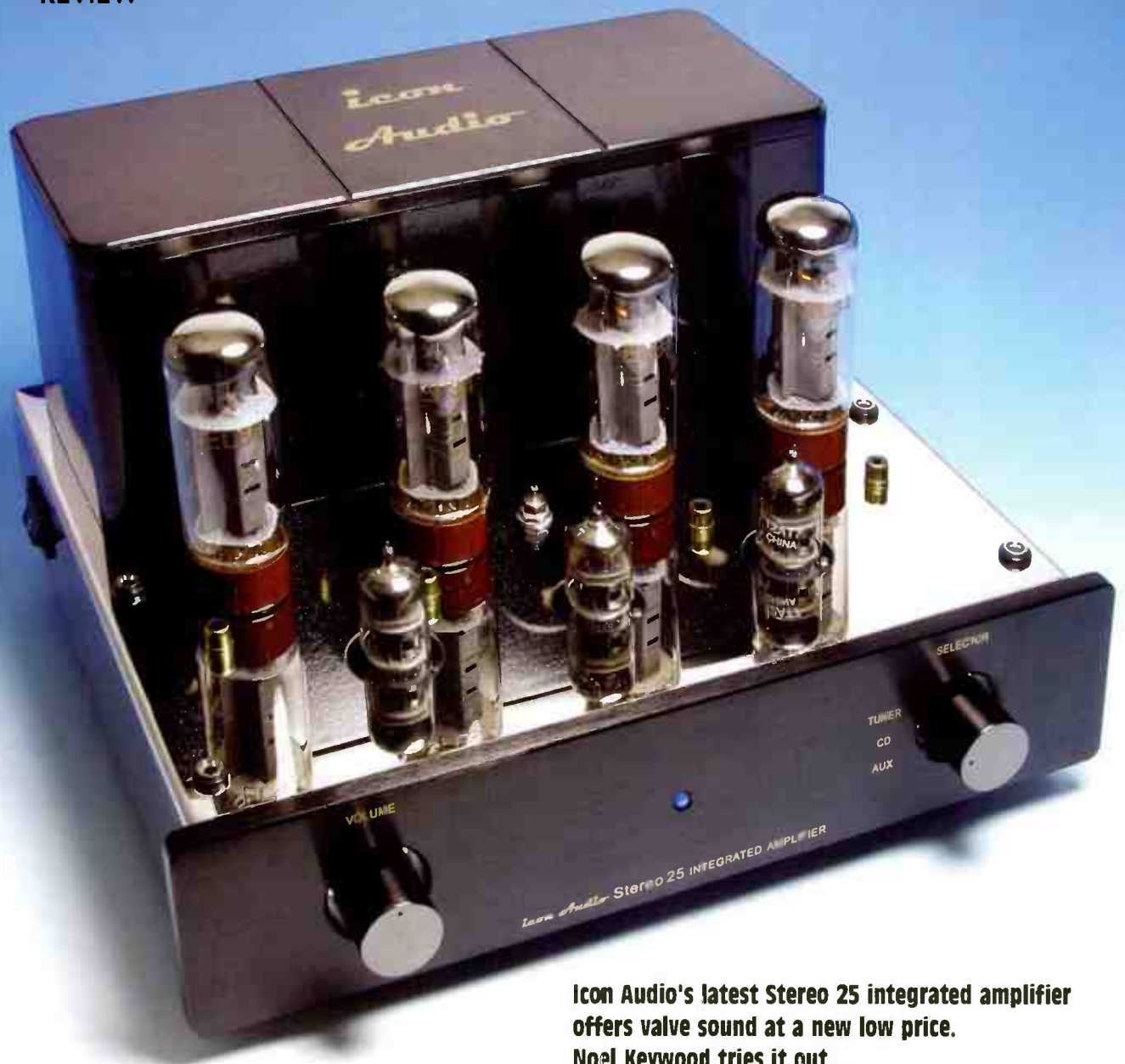
T-13A items and claim even better sound than a freshly cleaned stock item. It uses a pure silver (Alpha) conductor which has undergone Furutech's Super Cryogenic and Demagnetisation Treatment - and the copper end-caps are rhodium-plated. Best results come if you take the opportunity to clean the fuse holder before fitting the Furutech; obviously you don't want years of scunge going straight on to that squeaky-clean rhodium contact surface.

This done, the difference in sound is more than you might expect from the simple substitution of a fuse. We noticed an obviously smoother and less grainy sound compared to a standard item, with superior air and space in the treble and a more fluid and musical midband. Obviously, these changes weren't dramatic, but they were real all the same and were cumulative; so replacing the fuse in the turntable power lead and CD player made additional improvements to just doing the amplifier power lead. Many will balk at the cost of what's basically just a short piece of wire in a little metal tube, but in

terms of the subjective upgrade the Furutech really does have a position in life. **DP**

[Contact: www.audiophilecandy.com/]





Icon Audio's latest Stereo 25 integrated amplifier offers valve sound at a new low price. Noel Keywood tries it out...

New Entry

The popularity of valve amplifiers has grown strongly worldwide over the last ten years. But they still have drawbacks; price is too high for many and power too low as well. The best way to tackle low power is to use a high sensitivity loudspeaker, meaning a decent floorstander. The issue of price is a little more difficult. The solution manufacturers adopt is to head East and manufacture in China. And that's where Icon Audio source their latest attempt to produce a valve amplifier anyone can afford, the Stereo 25 priced at just £499.

For this modest sum you get an equally modest amount of

power, 25 Watts per channel from a pair of EL34 output pentodes running in push-pull. This is a classic arrangement and a safe choice too because the EL34 is an inexpensive valve in plentiful supply.

What to make of 25 Watts? It's fine providing you don't have a small bookshelf loudspeaker or something exotic like an electrostatic that you want to drive really loud, as loudspeakers like this usually need lots of power. By way of contrast a modern floorstander like the Monitor Audio PL300 I review in this issue produces a massive 90dB and nearly blew me away with the Stereo 25 connected. So this amplifier's modest power isn't necessarily a

drawback, depending mostly on the loudspeakers it is used with. Icon Audio have a valve amplifier friendly loudspeaker in their product range, the £995 MFV3 and the £340 Q Acoustics 1050i we tested last month [*Hi-Fi World*, November 2008] is a good choice too, being as sensitive as Monitor Audio's PL300 but a little less expensive!

Budget it may be, but the Stereo 25 is nicely put together. It has a polished stainless steel chassis and the control knobs feel solid and rotate smoothly. Weighing just 15kgs it is relatively light too, an easy lift by valve amplifier standards, if not by those of Class D. Compact dimensions enable it to be placed on

a 12in shelf and a width of 32cms and height of 22cms allow it to fit into most set ups. There are three sets of inputs with a rotary selector to choose between them. Measurement showed sensitivity was high, so just about any source can be handled natively, except LP.

The rear panel carries phono input sockets, plus heavy duty loudspeaker terminals that accept 4mm plugs, spades or bare wire. There are 8 Ohm and 4 Ohm output options. Only the power switch, situated at rear on the left side of the chassis could be awkward to use.

Switch on is silent, a small blue LED lighting on the front. The glow of the filaments is just visible and for those who want to see more the top cover lifts off freely, as it is unsecured.

The Stereo 25 uses what is termed compound bias. It self adjusts to accommodate differences between valves but needs occasional adjustment; Icon Audio suggest it is checked yearly [see MEASURED PERFORMANCE].

Although not quite as compact as a solid-state amplifier the Stereo 25 is fear-free and no more intrusive; just as it should be for this sort of entry-level product. It looks a lot more interesting of course, especially with the top cover off. But does it sound like a valve amplifier?

SOUND QUALITY

Spinning Phil Collins 'I Don't Care Anymore' on a new 200gm vinyl LP had drums sounding tight and impactful with a hard, fast edge to them that emphasised speed. There was plenty of body to Collins' voice but it was timbrally a shade lighter than I know it, shrinking chest size by an inch or two. Horns opening the next track had a good solid blare, cutting out of our Spondor S8e loudspeakers strongly - I jumped just a little. I know this opening sequence well and it was a little larger than life from the Stereo 25. Impressive, that's for sure, but not quite as I know it from a valve amplifier, but then this is classic EL34 sound, light, bright, fast and detailed. Cymbals were forceful and rim shots fired from the loudspeakers with menace.

Switching our Pioneer PLC-590 turntable to 45 rpm, Amy Winehouse's 12in single 'Tears Dry On Their Own' had firm, tuneful bass that reached down endlessly, it seemed. I ran the Stereo 25 alongside a Sugden A21a Series 2 that was icily clear but made the Spondors sound bloated at low frequencies, whilst the Icon amplifier told a completely different story. It isn't usual for a valve amplifier to sound both fast and

fluid in its handling of bass lines and drums yet the Stereo 25 proved to be unusually lithe in its presentation of lows, although never too heavy.

Dropping back to 33rpm for Duffy's 'Rockferry' brought a little weakening of the rich textural patterning within her vocals, exchanged for slightly more specific enunciation it seemed, but again I wasn't overly convinced about this swop. However, spinning Goldfrapp's 'Supernature' CD on a Yamaha CD-S200 clearly pinpointed just what the Stereo 25 was doing well. Rasping synth jumped from one loudspeaker whilst bass pulsed deeply between them and Alison Goldfrapp's vocals hung clearly between; it was a sharply outlined and dynamic presentation that would startle anyone expecting a nice soft valve sound. The Stereo 25 has real punch, combined with good control and it sounds dramatic with material like this.

The Stereo 25's strengths translated well when it came to handling Classical programme. Violins were brightly lit but well picked out as the Royal Philharmonic played the Prelude, Act III of Wagner's Lohengrin. I was impressed by the way basses grumbled deeply in the background whilst horns blared triumphantly in front of them. There was a good sense of space around instruments, convincing stage depth and a nice spread of cleanly defined instruments in a large assembly between the loudspeakers. The Stereo 25 is not so much svelte as controlled and vigorous - and it maintained this presentation across a broad swathe of classical programme.

CONCLUSION

The Stereo 25 strikes me as a classic EL34 valve amplifier. As I said earlier it has a fast delivery that will not be a shock to anyone transferring from solid-state. There's more depth to its sound than solid-state can muster and surprisingly lithe and expressive bass that will appeal to Rock fans and Classical music buffs equally. I'd



have liked a broader tonal palette; as it stands the Stereo 25 matches solid-state amplifiers here perhaps, but doesn't show what a good valve amplifier is capable of.

The delightful smoothness and liquid clarity of a good valve amp - qualities that those coming to valves may be hoping for - isn't really available either. Perhaps I am too wedded to the silky but expensive 300B valve, or overly impressed by the clean, punchy KT88. EL34s never quite did it for me, but I have heard them sound very good, albeit in an amplifier considerably more expensive than the Stereo 25.

So Icon Audio's budget amplifier is good as it stands; it is exciting, squeezing about all you can expect from valves at this very low price. There are, inevitably, technical limitations, in the transformers I suspect, so the full benefits of a valve amplifier aren't quite there. All the same, it offers an interesting alternative to transistor amplifiers, with tighter bass and stronger dynamics, and that may be good enough for all those unwilling or unable to spend more.

VERDICT ●●●● £

Worthy budget valve amplifier that gives a flavour of the breed, if not the full experience!

ICON AUDIO STEREO 25 £499
Icon Audio
(C) +44 (0)1162 440593
www.iconaudio.co.uk

FOR

- fast sound
- decent dynamics
- compact and attractive
- super value for money

AGAINST

- limited power
- opaque sound

MEASURED PERFORMANCE

The Icon Audio Stereo 25 produces 25 Watts only if a high 3% distortion figure is used. Using a more conservative 1% figure the Stereo 25 manages just 7 Watts. The reason for the dramatic reduction is that the amplifier distorts steadily by slewing, almost certainly due to its budget output transformers, behaviour that produces third order and higher odd order harmonics. This isn't ideal by any means and it usually adds a glassy edge to the sound, although some like the sense of incisiveness that prevails, identifying it with 'speed'. At low power though the Stereo 25 is relatively linear and distortion free, so its sound is very power dependent. Bias on our sample measured 6.6V against 7V recommended and I found 8V gave slightly better linearity so the amplifier was run at this bias voltage.

Sensitivity was high at 210mV and hum very low at 0.5mV. Noise (hiss) was also low. A damping factor of 4 is reasonable and bass distortion kept in check providing 5 Watts or so is drawn. Frequency response was wide and flat within the audio band.

The Stereo 25 has limitations; it lacks the low levels of distortion that better output transformers bring. However, used conservatively with sensitive loudspeakers it should sound clean and open. NK

Power	25 Watts
Frequency response	6Hz-32kHz
Separation	76dB
Noise	-98dB
Distortion	0.12%
Sensitivity	210mV
Damping factor	4

DISTORTION





Two Tribes

Diminutive dimensions aside, Spendor's S3/5R and Amphion's Prio 510 mini monitors have remarkably little in common, finds Paul Rigby...

Show me a genius and I'll show you a person with more than their fair share of imperfections. Don't stop though; tell me exactly why (s)he's a genius. Tell me what makes them so special and feel yourself become excited on their behalf. Feel their passion within you...

There are three heroes on my list: Winston Churchill, Bill Shankley and John Peel, each reflecting my own interests in history, football and music. Each individual was incredibly good at their job. Yet, each individual was fatally flawed in other aspects of their personality. Each made mistakes. Yet what they did well, they did better than anyone else. They amazed us.

Speaker design reflects precisely this contradiction - witness my reference Quad ESL-57s modified by One Thing (www.onethingaudio.net). Some observers say this is the best loudspeaker currently available, others think it's simply not a good enough all rounder. The same goes for the two mini monitors you see before you, which like my human

heroes are both flawed, yet both also display elements of genius that makes them so well worth auditioning.

The look of the Amphion Prio 510s is such that it will impress even before you sit down on the sofa with your proverbial cup of coffee. Beautifully built, measuring 315mm high, 158 wide and a grand-hall like 265mm deep, the design shows considerable care and thought under that veneer (be it black, white, birch or cherry). The two chunky, well made, brass binding posts, which feature a tension ring to prevent over tightening, are able to take spade plus banana connections. There's also a useful orifice for a bare wire connection. Speaking of orifices, the bass port arrives with a foam plug to enable you to use the speaker as a semi closed box design, so you can position the speakers close to a wall or perch them on a bookshelf. Removing the plug does provide extended bass response, however.

The specially made treble unit, with a titanium membrane, features a modified 'waveguide' horn chamber with a wide flare. The bass/midrange

unit is a 5.25 inch Peerless Nomex model which was co-created with Amphion to extract the maximum sensitivity from the small cabinet. One of the principal features of the 510s is its low crossover frequency: 1,600Hz instead of the more normal 3,000Hz region. This takes the troublesome crossover a little further away that all-important 'presence' area that the human ear is so sensitive to.

Based on the original S3/5, the diminutive Spendor S3/5R (measuring just 305mm high, 165mm wide and 180mm deep and a little lost, even on the compact Atacama stands) is another interesting baby box - albeit very different to the Amphions. It's a closed box design with two new drive units, the larger of which is the re-engineered bass/mid unit that sports a focusing magnet motor-pole extension (the cone-shaped device you can see in the centre of the bass/mid unit). The cone material is what Spendor call ep39 ("engineering polymer") whereas, for the S3/5, Spendor utilised a simpler mineral loaded polypropylene.



The new tweeter unit is a 20mm soft-dome model. Whilst matching the sound characteristics that fitted into the original S3/5, Spendor say that this new tweeter unit was fitted to improve the clarity and sweetness of the response. Using a synthetic polyamide material – or artificial silk – for the cone, the tweeter itself is a standard production item from SEAS with a tweaked specification featuring a modified dampening material. This, like the bass unit, feeds to two brass binding posts ready for connection by either banana or spade connections. You can also attach a bare wire cable, if you so wish.

SOUND QUALITY

Starting with the Spondors, I found they should really be positioned two to three metres apart and toed in to reduce side-wall reflection, standing close to the rear wall. Tests confirmed that a directed position just outside your shoulder is fine. Properly sited, I found them very impressive performers, with the accent very much on couthness and finesse.

For example, even with the strident, peak-limited Sugarbabes song 'Stronger', which is almost unlistenable via my Quad ESL-57s, I was amazed how the Spondors took this track in their stride. The spitting, harsh treble was removed at a stroke whilst the upper mid-band was tamed and, for the first time, I could relax and enjoy the music. Bass exhibited admirable extension for such a small box, the lower registers

showing that the S3/5Rs like to rock out and impressing me with its truly commanding and startlingly powerful performance. It felt as if P.G. Wodehouse's masterful butler Jeeves had breezed in and sorted the awful recording out without so much as breaking into a sweat.

That forgiving upper midrange and treble does have a flip side, however. On Linn Records' newly released 'Complete Piano Works Of Maurice Ravel', a deft display of complex and adroit playing from Artur Pizzarro, the Spondors revealed a fluid bass response but both the midband and treble were rather too polite to extract the drive and the zeal of the performance. Whereas the Quad electrostatics marked each note and separated the plucking of the piano string from the thud of ivory on wood, the S3/5Rs preferred to present the performance as a single, well mannered 'whole'.

Such comments could also be committed to the New York Trio's jazz piece, 'Begin the Beguine', via Japanese import label Venus [see p98]. The S3/5Rs accounted for all parts of the work but didn't squeeze the last elements from each band member, preferring instead, for a more courteous and respectful approach: both treble and midrange thus appeared a little restrained. However, that observation was joined by the welcome, broad, soundstage and the meaty, lower registers, emanating from Jay Leonart's bass fingering which gave drive and a sense of balance to the overall performance.

Further revelations occurred whilst auditioning the Spondors via the transparent Avid Acutus turntable. Playing Crosby, Stills & Nash's self-titled debut via the Classic Records' 45rpm edition showed the bass to be nicely extended with an easily followed bass riff. Upper registers neglected to pick out the attack of plectrum on acoustic strings but the perfect harmonic vocalisations were sweetly portrayed exposing both charm and coherence to the performance.

The contrast with the Amphion Prio 510s couldn't have been more stark. Pushing the Sugarbabes' track, 'Stronger', through the 510s was quite a shock. These speakers are transparent, sometimes devastatingly so – and quite bright into the bargain. Their response to the track was to reduce it to an unlistenable screech. I half expected the 510s to throw down its speaker cables and storm out of the room in a huff. As it was, they stood there and pointed an accusing finger at the record label Universal/Island and shouted, "look at what you have done!"

I moved swiftly to the rather more professionally mastered Artur Pizzarro and the Prelude to Ravel's 'Le Tombeau De Couperin', and you could sense the relief emanating from the 510s. Treble positively sparkled. These speakers love the piano, that much is clear. The Amphions have no problems in tracking the sometimes complex finger work during the piece, competing well even with the Quad 57s.

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Distributed by SCV London: benchmark@scvlondon.co.uk

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World Radio History

The 510s also approved of the vinyl test and with the New York Trio's 'Begin The Beguine' the speakers continued to sing. That piano, this time played in a rather more swinging fashion by jazz-man, Bill Charlap, exuded both life and dynamism whilst the accompanying cymbals gently tapped by drummer, Bill Stewart, were surrounded by both air and space. Once again, the lower bass registers demanded by the upright bass were absent which sometimes made this reviewer feel like I was being presented with the edited highlights of a great performance. That said, the upper bass tones were sprightly and taut and every single drum in the entire drum kit was promptly labelled and recognised without a problem.

Playing the Crosby, Stills & Nash album, upper bass tones were firm and lively but lower bass again lacked weight and much of the bass guitar was difficult to follow in its entirety. The 510s' inherent transparency did provide a fast, detailed and rhythmic reproduction of the vocal harmonies however, whilst the acoustic guitar detail was picked from the mix and due emphasis was given to the string attack. The 510s did, once again, sound brightly lit which led me to wondering if the Naim pre/power amplifier was a little too forward and whether a Sugden A21 might have been a better aural match. One final point, remember to remove the easily missed bass/mid unit metal grille to improve sound and remove the possibility of intrusive vibration.

CONCLUSION

Both designs glittered with elements of genius, both performing well for their respective target audiences. The point is of course that these are not one and the same - the Amphion Prio 510 is a perfect transducer for smoother classical and jazz music, spotlighting the midband and upper registers, whereas the Spondors give a sweeter rendition of more aggressive pop, rock, electronic and dance music (all of which now suffer from peak limited mastering). As ever then, choose according to your system and musical tastes; this done neither will disappoint.

REFERENCE SYSTEM
 Avid Acutus/SME IV/Benz Glider cartridge
 Trichord Dino phonostage
 Naim CD5 CD player
 Naim NAC 112 preamplifier
 Naim NAP 150 power amplifier
 Quad ESL-57, One Thing modified loudspeakers
 Atacama Nexus 6i loudspeaker stands

VERDICT ●●●●
 Satisfyingly musical yet highly finessed sound makes these excellent all round mini monitors at the price.

SPENDOR S3/5R £725
 Spondor Audio
 ☎ +44 (0)1323 843474
 www.spondoraudio.com

FOR
 - couth, balanced sound
 - taut, tuneful bass
 - build quality

AGAINST
 - over polite for some tastes
 - needs powerful amplifier

VERDICT ●●●●
 Glassy clarity makes for tremendous detail and insight, but smooth ancillaries essential!

AMPHION PRIO 510 £900
 Amphion
 ☎ +44 (0)1623 517000
 www.koretrade.co.uk

FOR
 - transparency, transients
 - sparkling upper registers
 - build quality

AGAINST
 - slightly shouty midband
 - needs smooth amplifier

MEASURED PERFORMANCE

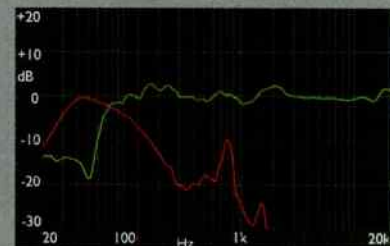
The small Prio 510 has a distinctive tweeter that cuts in lower than usual, 1.5kHz instead of 2.5kHz. Crossing over at a longer wavelength usually improves integration and gives smoother off axis sound. The tweeter itself is very smooth across its operating range and this bodes well for treble quality. A small peak at crossover may well add a little sharpness to vocals though, possibly emphasising the 'spitch' of sibilance. Because the bass/midrange unit possesses slightly more output than the tweeter the sound should have a good sense of body and warmth. Bass rolls off steadily, so this is an over-damped design best used close to a rear wall. With a -5dB point at 70Hz, downward extension isn't quite as good as some, but the port is broadly tuned, centred at 50Hz, and extends output downward usefully.

Sensitivity was on the low side at 84dB SPL from one watt of input (2.84V). The impedance curve is relatively flat though and power draw from an amplifier will be even, there being far less reactance than usual. Impedance measures 6.2 Ohms overall,

so the Prio is identical to most others here.

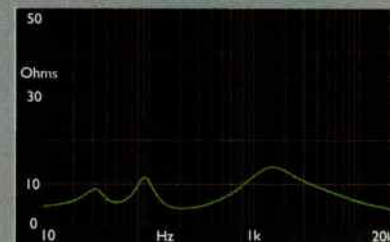
This is a well designed compact loudspeaker that should sound smooth and well balanced. NK

FREQUENCY RESPONSE



Green - driver output
 Red - port output

IMPEDANCE



MEASURED PERFORMANCE

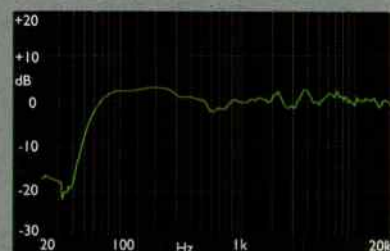
The tiny Spendor has no port: it is a sealed 'infinite baffle' design. This gives it a single peak in its impedance curve, at bass resonance - and it occurs at 73Hz, a relatively low value for such a small enclosure. By peaking up output a little here Spendor have coaxed the box down to 50Hz (-5dB) - as low as many large floorstanders! It won't manage this at any great volume without sounding strained, but it does go very low for its size. Better, bass output is quite smooth and runs up to 300Hz, so the S3/5R will have obvious bass and plenty of warmth and body in its sound. Continuing the good news is an unusually flat midrange and treble that is likely to sound smooth and colouration free, as well as natural and accurate. This should handle vocals and violins well. For such a small cabinet the S3/5R manages an impressively wide and flat frequency response, far beyond reasonable expectation. Being an IB suggests it will have quite tight, bouncy bass too. Certainly, there's no low bass to excite large room modes.

Small loudspeakers are usually insensitive and the S3/5R doesn't escape this limitation, producing a low 80dB Sound Pressure Level (SPL) from one nominal watt (2.84V). That's so low 40 Watts would be a minimum, and bear in mind that much more than 120 Watts would be too much

because small voice coils have less thermal capacity than big ones and will overheat if over driven. The reason for extra low sensitivity is a high impedance value of 9 Ohms no less. The load is reactive too, so it's a bit off-the-wall here. Valve amplifiers set to 8 Ohms should be suitable, if they have at least 40 Watts on tap.

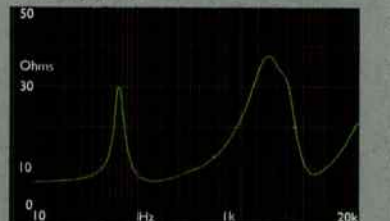
The S3/5R measures very well for its size and its a carefully considered and well executed design. NK

FREQUENCY RESPONSE



Green - driver output
 Red - port output

IMPEDANCE



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Glam Shock

Arcam have revamped their top DiVA designs into Full Metal Jacket clad beauties. Adam Smith checks out the striking new CD17/A18 CD player/integrated amplifier combination...

I must confess an affinity with the more affordable end of Arcam's range. You see, as someone whose hi-fi systems have mostly been made up of good quality (and on occasion, not so good) second-hand items, the number of brand new separates I have bought over the years probably only just scrapes double figures. Maybe this would not be so surprising normally, but as the number of items I have owned in total is well into three figures, you can see what a bargain hunter [or 'tightwad' – Ed.] I am.

However, one item that sticks in my memory was an amplifier, bought at a time when I had come into a little money, and when I had been through around three amplifiers one after another which all expired, the last one taking one of my loudspeakers with it. Consequently, I decided enough was enough and I bought a shiny new amplifier and loudspeakers and, as the quick witted amongst you will probably have already guessed, that amplifier was indeed an Arcam – an Alpha 7.

Arcam just keep on producing high quality, well designed and fine sounding equipment. Having started

up in Cambridge in the mid 1970s with the classic A60 amplifier, they have grown over the past thirty or so years to manufacture a highly competent range of amplifiers, CD players, tuners and receivers, with diversions into loudspeakers, Nica TV tuners and on one memorable occasion, a cassette deck, along the way. More recently, they have gained rightful praise for their Solo all-in-one units, which have proved to doubters that you can indeed fit real hi-fi into a small box and sell it at a reasonable price. The core two channel separates have not been forgotten however, and the new FMJ A18 amplifier and CD17 CD player mark the entry into Arcam's FMJ series, which has grown to take over the old DiVA range.

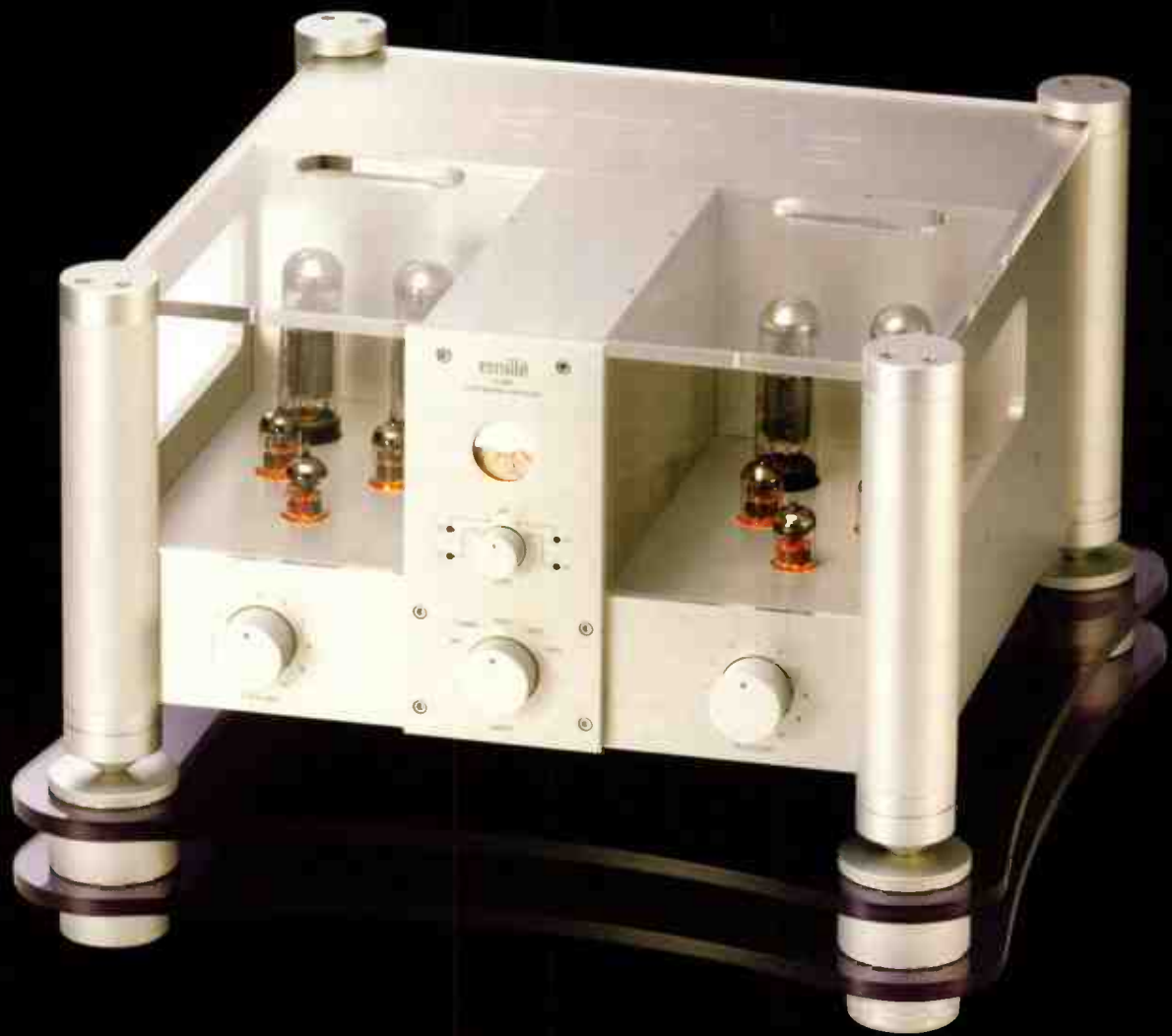
The A18 amplifier replaces the DiVA A70 and is rated at 50 Watts per channel. It is based around a logic-controlled preamplifier and a toroid based power supply, all mounted in a case that uses Arcam's 'Mask of Silence' and 'Stealth Mat' SDS (Sound Dead Steel) based damped chassis to reduce both resonance and EMC problems; hence the FMJ moniker – it stands for 'Full Metal Jacket'. The A18 offers six

line level inputs, plus an MM phono stage and a front-panel mounted auxiliary 3.5mm jack socket for MP3 players. Additional line level outputs are offered for using the unit as a preamp or adding further power amplifiers for bi-amping duties, and it can also be configured to run in a unity gain mode as part of an A/V setup. Vital statistics for the amp are 85x430x275mm and it weighs a sturdy 7.2kg.

Its CD17 stablemate is virtually the same size and a little lighter at 5.1kg, but no less lacking in technology for this. Once again, the chassis is SDS-based to minimise mechanical noise which should bode well for reliable information retrieval from the disc. Further down the line, the CD17 sports an 'extremely accurate digital clock' and makes use of Wolfson 8741 DAC chips in the digital to analogue convertor stages. The player also incorporates anti-clipping processing to reduce distortion from discs with high output levels and comes fitted with two pairs of analogue outputs, plus coaxial and optical digital types. The large green display is easy to read and displays CD text from compatible discs, although I

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did encounter a slight hiccup when auditioning began, in the form of my two 'reviewing compilation' CDs. These are two discs I have compiled that contain music that I know well and with which I begin most auditions, but the CD17 refused to play them any further than track 2. Other CDs and CD-Rs proved fine, however, so this would appear to be an anomaly...

SOUND QUALITY

Fed with alternative material and thoroughly warmed up, I could not help but notice how Arcam have indeed evolved, as editor DP found in his review of the FMJ A38 amplifier recently. It has been said of some of their older designs that they are very pleasant but a little 'safe' sounding, and this was exactly why the Alpha 7 and I eventually parted ways. However, with a pair of GLL Imagio IC130i loudspeakers connected up - slightly different versions of the very loudspeakers that prompted the sale of my Alpha 7, due to the rather dull sounding nature of the

sharp focus before me and with just the right amount of filigree detail that made intakes of breath easy to pick up on, but not distracting. Equally, instruments were pushed gently but positively out into the room to make each performance an atmospheric one. Hugh Masekela's 'Stimela', recorded live at Blues Alley, pulled me right into the action and ensured that not a beat of the track, or the tiniest cough from the audience was missed. Equally, Donnie Munro's magnificent acapella version of Runrig's 'Always the Winner' recorded live at the Royal Albert Hall had the hairs on the back of my neck standing up with the emotion.

The smile of enjoyment that this had elicited so far turned into a proper grin once I turned the pace up a little, however. Slipping Propellerheads' 'Take California' into the CD tray had the room doing a highly passable impression of a nightclub, with the Arcams pounding out the synth bass line with gusto. As I edged the volume control towards the unsociable end of its

phonostage, which proved a fine performer, with good levels of detail and low noise, if slightly lacking the sonic scale of a good mid-price standalone unit. In a world where such a device can be quickly bunged into an amplifier's case as an afterthought, however, this is still a very good result.

By the time my listening finished, only one small issue had come to light, which was a slight midband emphasis at times, making some singers sound a little 'chesty'. Swapping boxes around pointed the finger of accusation at the CD18, as substituting another player removed the problem completely, but swapping out the amplifier left it still lurking in the background. This is by no means a failure point for the CD18, but just means that it has a slightly more notable sonic character than some of its price rivals such as the Cambridge 740C. The latter is a rather more even-handed performer across the midrange but does tend to lack the top end sweetness of the Arcam. As always, listen and let your ears decide.

CONCLUSION

I have no hesitation at all in recommending this new Arcam combo, as they are both highly accomplished performers that offer superb performance and value for money at their price point. The CD17 CD player sounds slick and precise, taking everything in its stride without ever a hint of fluster. The midrange chestiness noted is something to be aware of, but certainly not a cause for concern, and the CD17 is never less than a highly enjoyable musical companion, as long as it plays all your CDs, of course!

However, for me the star of the show is the amplifier. With the A18, Arcam have successfully brought the likes of my old Alpha 7 right up to date in terms of styling, build and facilities, but most of all, in terms of sound. With the latest FMJ models, the company has once again proved a force to be reckoned with and I am struggling to think of another amplifier at the price that is quite as well-rounded in all areas. The older DiVA A70 and CD73 were tough acts to follow, but in donning their 'Full Metal Jackets', the newcomers suddenly have far more striking market presence.

"In donning their Full Metal Jackets, these Arcams suddenly have far more presence..."

combo - the A17 and CD18 painted a totally different sonic picture. This is a beautifully balanced CD player and amplifier setup that removes the word 'safe' immediately from your mind.

Quite striking is the fact that this pairing sound rather more expensive than you would expect. All too often, units around the £500 price mark sound fine, but taking a listen to something costing a few hundred pounds more makes you realise that they are ever so slightly lacking in polish. Not so these new Arcams - both are poised, sophisticated and highly revealing musicians, but without veering off into harshness on the one hand, or towards stodginess in the other. As a result of this, music comes alive before your ears in a way that belies their price. Vocalists stood firmly centre-stage, locked into pin-

scale I was impressed at how well the A17 stayed in control as things grew louder. However, all that low end grunt was not at the expense of bass detail or timing - the Arcam pairing stayed taut, focused and expertly detailed at all times, whether the low end action was provided by synthesiser, guitar or acoustic means.

Wandering through a few of my old favourites, it proved difficult to find anything that the Arcams *didn't* like. They romped through classical symphonies, powered rock out with fine gusto and added just the right levels of atmosphere to anything I threw at them. I even swapped to vinyl and tried out the A18's MM

REFERENCE SYSTEM:
LAD GAJ 942/Helius Aureus Gold/Goldring 2500 turntable
GLL Imagio IC130i loudspeakers

VERDICT ●●●●●
ARCAM CD17 £500
Fine affordable CD spinner that brings Arcam's creamy sonics and fine build at an affordable price.

FOR
- engaging, musical sound
- build and finish

AGAINST
- subtly pronounced midband
- CD-R playback glitches

VERDICT ●●●●●
ARCAM A18 £450
Even-handed nature and superb sound make this one of the best all-round amplifiers at the price.

FOR
- dynamic, musical nature
- lack of sonic rough edges
- design, build, finish

AGAINST
- nothing at the price

Arcam
+44 (0)1223 203200
www.arcam.co.uk



Linn's new Sneaky DS is the company's most accessible – and in some ways most interesting – network music player to date. Patrick Cleasby performs a close inspection...

Sneaky Peek

Linn Products were pretty much 'first to market' with their DS range of hi-fi network music players. The Klimax DS that editor DP reviewed some months ago was an important statement of intent for the company, signposting the way ahead for top notch music. Capable of working at up to 24bit, 192kHz resolution and playing an infinite number of songs from computer hard disk, it was a striking departure from the company's optical disc-based high end music machines. And now, according to the company, it is outselling them!

Since then of course, we've seen this concept trickle down the range, through the Akurate DS and Majik DS, right down to the Sneaky DS you see here. And for me, in some ways, this is the most interesting, as it takes the network music concept and runs with it.

Of course, Linn didn't invent the idea of network music, played off a computer hard disk drive. For that you have to go back a good few years, and remember the likes of the Roku Soundbridge and Slim Devices Squeezebox. Nor did Linn uniquely conceptualise 'high end' network music, as the SlimDevices Transporter has been fulfilling that role for the past couple of years, until Linn took the idea to a much higher price point.

In terms of pricing, the £1,000 Sneaky Music DS is a rival to the Transporter, but works in a slightly different way. It is designed to be hidden in unobtrusive locations

(such as underneath the stairs), piping music into homes via its wireless connection to a PC, which then serves as the 'remote control', and drives a pair of speakers via its internal 20W per channel stereo amplifier. Alternatively, you can take the signal from the 'pre out' sockets, so the Sneaky becomes simply a source component, connected by RCA phono leads to your hi-fi amplifier, like the Transporter.

The Sneaky connects wirelessly to your PC, and uses uPnP software (such as Twonkyvision) to play songs from your computer's music library. Alternatively it can access Network Attached Storage (NAS), effectively a hard disk drive full of music files which plugs straight in to the Sneaky's network. You can even hook it up to a small portable wireless device (such as those from Nokia) to act as a bespoke remote control, so you don't need to touch your computer at all whilst playing music - or even have it switched on. All these are optional add-ons though, so you'll have to budget a bit more than the Linn's initial £995 purchase price for fancy wireless remotes and big hard drives...

Once up and running, the Sneaky plays MP3, FLAC and WAV media formats – it's a great shame that as yet there is no AAC compatibility because that is how so much music is now stored (thanks to the ubiquitous nature of Apple's iTunes). The Sneaky DS will also connect to the Internet (providing a connection is available through your network), giving you

access to thousands of Internet radio stations via the Shoutcast system.

LIVE AND DIRECT

Regular readers will know I run a Transporter, which is an excellent way of getting hi res music off a computer, although you do need an external DAC (or in my case I use a digital input of my reference Arcam AVR350) because its built-in item is nothing special in audiophile terms. With this in mind, the Sneaky was inserted into my system, initially connected digitally via a Chord Prodac Pro coaxial cable. Its slim but robust case can either be installed horizontally or vertically, with the lit Linn badge (the only display on the unit!) switching orientation appropriately. The cleverly-designed supports either function as four posts for the horizontal pose, or two feet for the vertical.

Once up and running, I began to listen to the baby Linn using my Ripfactory Ripserver as the Network Attached Storage device and my MacBook Air as a controller, running the safest Linn Auskery Mac OS X Beta software. There were a couple of small issues with this package with OS X Leopard 10.5.4, but generally it worked very well – and via PC the Twonky server software worked flawlessly. Of course, the 'universal Plug'n'Play' nature of Twonky means you are always free to seek out other uPnP controllers, with versions existing for Nokia N series phones, and versions currently under development for the iPhone platform.



As a digital source component, the Sneaky DS performed superbly, offering clearly superior sound to my reference Transporter on 16/44.1 uncompressed FLAC music files. The finely honed musicality of the Sneaky as transport was plain to discern - a current favourite tester for live band sound, overly-compressed rock music is the powerful swagger of 'I Will Possess Your Heart' from Death Cab for Cutie. Where inferior transports can render the whole into a sonic mush with crushing cymbals, in the hands of the Sneaky it was the clearly separated, non-fatiguing and enjoyable rush that it should be. Similar results were obtained by feeding it 24/96 FLAC vinyl rips - the debut album by Kiss sounding strong, open and dynamic, and making a laughing stock of the nineties 16/44.1 remaster...

On more delicate, naturalistic material like the fantastic Shelby Lynne recording 'Just a Little Lovin', the fidelity of the results using the Sneaky was breathtaking, and

thoroughly convincing in its superior musicality. Via its internal DAC, the Sneaky also impressed, with a typically Linn sound that majored on speed and grip. Tonally it was a little dry in absolute terms, but not really any more so than the Classic music system, for example. I found the Sneaky a fine sounding source component in its own right.

The built in amplification may be of use to some; obviously it's no substitute for a full sized hi-fi stereo amplifier, but still works impressively for 'local use' in kitchens, bedrooms or other such locations where it complements the main system rather than replaces it. I found it very listenable; tight and musically engaging yet decently refined. Obviously, power is at a premium so you'll need to partner it with decently efficient boxes.

WORLD VIEW

Although similarly priced to the current market favourite, the

SlimDevices Transporter, Linn's new Sneaky DS differs in a number of ways. Firstly though, its primary similarity is that Linn's emphasis on losslessly compressed FLAC (Free Lossless Audio Codec) as the ideal digital format chimes with the Transporter's native support for this open codec. Linn endorse the use of the PC CD-to-FLAC ripping software Ripstation Micro from Ripfactory. The Sneaky also supports the commonplace uncompressed PCM (WAV or AIFF) and compressed MP3 formats, and has the usual optical and coaxial digital outputs, and line analogue ones.

Where it differs from the Transporter is that

it doesn't attempt to cope with either iTunes AAC (protected or not) or the more *outré* open formats like APE and OGG.

Secondly, in place of the Transporter's balanced outputs and efforts to flog itself as a DAC on the side, the Linn has the integrated amplifier enabling its intended second room functionality.

Finally, for the high-end music recordist (or DVD-Audio ripper!) the Sneaky's maximum PCM spec is 24bit 192kHz, and all points in between whereas the Transporter tops out at 24/96, and has only recently properly added the likes of 24/88.2 (essential for DVD-Audio rips such as Beck's 'Sea Change') by firmware update.

In common with its more mature Linn DS siblings the Sneaky thus takes care of the 'transport' part of the classic three tier network system (as discussed last month - storage/control/transport), but it also requires the addition of an appropriate media storage and library management tier and physical control capability too, so plan and budget for more than the £1,000 the Sneaky will cost you.

For Linn this generally means the recommendation of a suitable NAS (networked attached storage) device, usually Netgear or the like, with an inbuilt uPnP (Universal Plug and Play - enabling a free and open choice of control software) Twonky media server to fulfill the storage requirement, and their own proprietary LinnGUI and LinnConfig software for the physical control.

CONCLUSION

Having recently adjusted my sights from living with Apple Lossless and iTunes to running an 'open source' FLAC music library that's more universal, the Linn Sneaky DS is an ideal way for me (and anyone else suitably allied to FLAC) to access our music in very high quality. And with the imminent option of handheld uPnP (Universal Plug and Play) control from iPhone/iPod Touch developers such as Ripfactory, the Sneaky proposition becomes just as convenient and attractive as Transporter with a Squeeze Controller. Indeed many will find it all the more versatile thanks to its built-in amplification and more rugged build. Needless to say then, an audition of this excellent 'affordable audiophile' network music player is heartily recommended!

RANGE ROVING

I was lucky to compare the Sneaky DS to its more expensive Linn brethren at Manchester's House of Linn. To fully elicit the fine-nuanced distinctions between the members of the DS family I elected to use a high resolution track from the Ripserver box of tricks which has pushed me towards plumping for FLAC as my lossless archive format of choice. The track used was the 24/88.2 'The Golden Age' from the aforementioned Beck 'Sea Change'.

Auditioned against the 16/44.1 version of the same track, the shimmery wash of slightly phased guitars underlying the track was just fuzzy at CD resolution on the Sneaky and an active Akurate system, but rapidly focused into a correct-sounding guitar sound at 24bit resolution. But the onset of the vocal revealed that the separation and clarity of the track's different elements could be bettered, and that was what happened when the Majik DS was substituted for the Sneaky, along with a more convincing snare sound.

The next upward increment was to swap the Majik for an Akurate DS. Once again, the step-up was palpable, with Beck's vocal obtaining an other-worldly and genuinely spine-chilling richness and resonance. It's easy to see what you're getting for your (more) money, but this shouldn't negate the Sneaky's efficacy at its price point.

Finally, before packing up the Sneaky and taking it for a trip down south, the current lack of Mac configuration software made it necessary to get the groundwork done for a trouble-free Mac environment set up. To this end we made sure that the Sneaky's amplifier was turned off, since this should ensure a slight performance advantage when using the Sneaky simply as a transport.

thanks to: Brian and Trevor at House of Linn [+44 (0)161 766 4837, www.houseoflinn.com] Manchester for their painstaking advice, dem and loan of review stock!

VERDICT

Superb entry level package with versatility and future compatibility built in at a great price; only a lack of AAC functionality draws comment.

LINN SNEAKY DS £995

Linn Products Ltd.
+44 (0)500 888 909
www.linn.co.uk

FOR

- exemplary sonics
- rugged build
- open standard

AGAINST

- no AAC

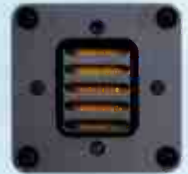


ADAM
PROFESSIONAL AUDIO

The ADAM ART Tweeter

Accelerating Ribbon Technology

ADAM's unique folded ribbon diaphragm moves air four times faster than any driver in any other loudspeaker, resulting in incredible clarity, breathtaking detail and imaging like you've never heard before.



Home Monitors

From the moment of their introduction, the professional S Series line had an immediate impact on the professional audio world, and has received many awards from a plethora of sources. The Home Monitors are three passive versions derived directly from this professional series. They have been designed with the explicit goal to provide the passionate music lover with the same precise sound of the studios.

In addition to the ART tweeter which ensures the best possible clarity and precision in the high frequencies, the Home Monitors captivate the listener's ear with the stunning performance of the HexaCone™ woofer. The extraordinary properties of this material permit the low frequencies to match the quality of the high frequencies by providing a precise and powerful (yet never overemphasized!) bass.



HM1

HM2

HM3

ADAM professional monitors are at home at some of the most prestigious studios around the globe:

Abbey Road Studios, Sir George Martin & Gilles Martin (Beatles 'Love'), The Prodigy, Kevin Killen, The Chemical Brothers, Dani Elfman, Dave Pensado, Philipp Nedel, etc...

 **ADAM**

Evocative Thinking

Pure Digital has taken its time releasing its first Wi-Fi Internet radio, but the Evoke Flow was worth the wait, says Steven Green...

The Evoke Flow is Pure's first Wi-Fi Internet radio, and the unit also supports DAB, FM and is upgradeable to DAB+. Also, in common with all Wi-Fi radios I've used to date, the Evoke Flow features a media player that allows music to be streamed wirelessly from a computer.

Pure has given the Evoke family a thorough makeover with the design of the Flow, with glossy black replacing the rather twee wooden look, and the excellent yellow text on black background OLED display caps off a modern and stylish design. The control panel, with its four touchscreen 'buttons', is also highly contemporary in terms of its design; these are nice and responsive when pressed which can't be said for all touch-screen user-interfaces...

Setting up the Flow simply consisted of searching for Wi-Fi networks followed by entering my network's password (the Flow supports the WEP, WPA and WPA2 wireless security standards), and Pure has launched its own Internet radio portal (www.thelounge.com), which allows users to enter their favourite Internet stations, listen again streams and podcasts, which then appear instantaneously on the radio's menus. The website interface itself was somewhat clunky to use though.

Navigation was a bit of a mixed bag overall. The Flow offered some good features: scrolling through lists was easy because the large display showed five lines of text at a time, and this was also aided by an intelligent fast scrolling feature. But navigation through the menus could have been more intuitive, although I did get the hang of it eventually.

The Flow performed very well playing Internet streams, as playback was reliable, Wi-Fi range was good, and streams started quickly. Performance when streaming music on the media player was equally good when playing compressed audio files, but playback of uncompressed .wav files was rather stuttery, which will have been due to .wav's far higher bit rate level. One very good feature that was available on the media player, the Listen Again streams and on podcasts, was that as well as the ability to pause the audio, it was also possible to fast-forward and rewind through streams, which many Wi-Fi radios aren't able to do.

The Flow's media player was stable when working with both Windows Media Player's UPnP server and Pure's Flowserver software (which is actually the TwonkyMedia UPnP server that Pure has licensed). In terms of audio formats, the manual says that the media player supports MP3, WMA, AAC, Real and MP2, as well as the PLS and M3U playlist formats, although I wasn't able to play AAC or MP2 files. There was also an issue with some of the UK commercial stations' 128kbps WMA Internet streams, which the Flow would only play back at 32kbps. Pure is aware of this issue, and they will be releasing a firmware upgrade to fix it early next year – hopefully they'll fix the issue with the MP2 and AAC files at the same time. Pure will also be releasing a firmware upgrade for the Flow before Christmas to provide support for the new formats the BBC is going to start using for its Internet streams over the next few weeks, when they will also be improving sound quality at long last!



IN USE

Reception on DAB was good, with no bubbling mud on any of the multiplexes I can receive. Reception quality on VHF/FM was poor though, but it always is on DAB hybrids. The Flow provides 20 preset locations for DAB, and 10 each for FM and Internet radio, although an unlimited number of favourite Internet streams can be stored via the website interface.

Sound quality was excellent, a vast improvement upon how I remember the Evoke-1 and 2 to have sounded. When playing cleanly encoded music, such as on higher bit rate Internet streams and tracks on the media player, it sounded as good, if not better than any Wi-Fi radio I've tried to date. The Flow delivers a big and dynamic sound – and a surprisingly high volume for such a small device – but the audio was still clear and very well defined.

One characteristic of the sound that the Flow does share with the older members of the Evoke family was its weighty delivery of speech, which lends presenters' voices a pleasingly rich and a touch husky edge.

Overall, any radio that combines Wi-Fi Internet radio, DAB, DAB+ capability and wireless music streaming is already at the cutting edge, but the Flow then adds a touch-screen user-interface plus superb sonics to make this the Wi-Fi radio to beat this Christmas.

VERDICT

Modern design, superb sound and support for every radio band worth receiving should put it at the top of every radio fan's Christmas list.

PURE EVOKE FLOW £150

Pure Digital

+44 (0)1923 277488

www.pure.com

FOR

- superb sound quality
- touchscreen user interface
- fine overall performance

AGAINST

- unintuitive menu structure
- clunky website



Like everything else in this world, hi-fi suffers from the whims of fashion. Back in the late eighties, every digital devotee was running a separate transport and digital to analogue converter, whereas twenty years later it is hard *not* to find a one-box CD player. Some of us find this quite odd, considering the fact that now more than ever, we need offboard digital converters with a plethora of inputs for everything from our Freeview box to our Media PC – whereas back in the eighties just about the only thing you could plug in to your fancy DAC was a DAT machine!

It was all the more curious I think, that until recently, any audiophile wanting to upgrade his CD player – or running a separate transport – would have to look really

Hey Presto!

One of Cambridge Audio's best ever products was the DACMagic digital to analogue convertor, which boasted serious engineering at a very low price. Now, fifteen years later, comes its replacement. Tony Bolton listens in...

hard for any new DAC to buy at all, with the result that prices of second-hand DACs such as Cambridge Audio's classic DACMagic, were actually rising!

The original was designed in 1994 by John Westlake, formerly of Pink Triangle. It was a very impressive design considering its £149 retail price, offering HDCD compatibility via the fine sounding Pacific Microsonics digital filter. Digital to analogue conversion was done by a pair of Philips TDA 1305 '18bit' hybrid chips, as used in the Naim CD3.5, and this was carried over to the next DACMagic 2. The following 2i came with various subtle design revisions and then became the DACMagic 2 Mk.II, which used Analogue Devices AD712JN output chips. The series ended in the early part of this decade with the DACMagic 3.

Now for 2009 comes the new DACMagic Upsampling DAC – and it departs from the old design in almost every way. Whereas the previous models were of standard 430mm width, this is a very compact 215x52x191mm and weighs just 1.2kg. This light weight is partially due to the power supply transformer being housed in a fairly bulky 'wall-wart' which reduces the chance of interference. Cleverly – and recognising the ever more crowded hi-fi and/or AV racks that we all run – the new design can be used either horizontally on little pads, or vertically, standing in the rubber 'shoe' provided.

Mounted on the substantial aluminium front panel are three buttons. One selects power on or off, another selects the source from the choice of two S/PDIF or optical

digital inputs, or the USB socket. The last button is for filter selection. There are three to experiment with. The first setting is called Linear Phase, and is the same as used on the Company's flagship Azur 840C Upsampling CD player. It features what is called 'constant group delay' in which all audio signals are delayed as they pass through the filter so that they are 'time-coherent' at the output. Some experts feel that this type of design can cause 'pre-ringing', which is where a slight pre-and-post-echo of the signal appears.

With this in mind Cambridge Audio have provided another filter option called 'Minimum Phase'. This has been optimised so that there are no pre-ringing characteristics in the time domain, which some argue can affect the transients of percussive sounds. The drawback is that group delay is not constant so there could be a slight loss of time-coherence.

The final option is the 'Steep filter'. As its name suggests, this filter provides a very steep drop in the frequency response over 20kHz (-82dB @ 22kHz). A slight roll off at 20kHz (-2dB) is also provided. The trade off is a little more pre-and-post-ringing. Cambridge Audio claims that the other two filters both give 0.1dB roll off at 20kHz and 10dB by 22kHz.

The back panel is well populated with matching S/PDIF and optical sockets for the two inputs. Beside these is the USB socket. Outputs consist of either balanced XLR or unbalanced phono, and a digital output. The former both output the upsampled signal, whilst the latter is a though loop, outputting a digital signal in the same state as it was input. The mains supply socket resides on the far right.

Inside, the actual signal conversion is carried out by a pair of Wolfson WM8740 DACs operating in dual differential mode. A Texas Instruments 32bit Digital Signal Processor eradicates jitter, and the Adaptive Time Filtering upsampling technology was developed exclusively in conjunction with Anagram technologies of Switzerland. This upconverts 16-24bit audio data to 24bit/192 kHz information, with a corresponding increase in quality. This applies with any sample rate of 32/44.1/48/88.2 or 96kHz being input.

SOUND QUALITY

This DAC offers a multitude of uses, one of the most obvious being the upgrading of an older CD player. With this in mind I dug out my ten year old Teac VRDS 10SE. In its day this was a well regarded £800 machine, noted for a particularly fine transport mechanism. However, the sound of progress was revealed when the Teac's venerable Burr Brown chipset was convincingly seen off by the new DacMagic package. The Teac's bass seemed wallowy and soft compared with the precision and definition offered by the outboard unit. Treble was smoother and seemingly better extended via the Cambridge Audio, and the stereo imaging improved noticeably, with a far greater sense of the depth of the performing area. This is something that I feel few digital sources do very well; most offer good width across the stereo image but little sensation of the other dimensions. So, to get this level of air and space from a £200 unit was an impressive feat.

Trying the different filters proved interesting. The differences were very subtle, and won't be revealed by quick A-B-C changes between them. Extended listening at each setting caused me to settle on the Linear filter most of the time. I enjoyed the fullness and accuracy of the bass in particular, feeling that the Minimum Phase option didn't quite have the definition to the rhythm. Dance music, be it modern Progressive Trance, or mid thirties Swing, had more of the snap and sway to the beat that I am used to from listening to the vinyl and shellac originals, when CD versions were replayed through the Linear filter. The Steep filter setting became my second choice, sounding particularly good

"an excellent tonic for older budget CD players, and a great upgrade for modern computer/AV set-ups..."

with I Musici playing a selection of Baroque classics. More complex orchestrations from Beethoven seemed to get a bit congested at times, leading me to revert to the Linear setting again. Overall tonality was impressively clean although I felt that the weight of the sound could slightly err on the light side for my sensibilities. The Berlin Philharmonic sounded a fraction less substantial than I would have expected during some of the crescendos.

Changing source to my MacBook via the supplied USB lead caused some initial concern. The otherwise very comprehensive handbook only mentioned connections to PCs. A quick call to Cambridge Audio confirmed Mac compatibility, and the advice to access 'System Preferences', go to the 'Sound' option, and select the USB option on the 'Input' page.

Sound should then flow out of your hi-fi, and like me you'll probably be surprised at the improvement in the sound quality compared to the strangled results obtained from the headphone socket. It improved in all aspects; bandwidth, imaging, timing, finally convincing me that replaying music from a computer instead of a CD player needn't be a second rate experience. I tried all the filter settings again, spending more time using the Steep option than with other sources, but I still felt that ultimately it lacked the feeling of air around the performer that was offered by the Linear one. Returning to the S/PDIF connections, I wired in a Freeview digibox and a cheap DVD player. The performance improvement in the sound was again huge. Previously lost background sounds now seemed to occur

naturally 'somewhere over there' well behind the TV.

CONCLUSION

The new Cambridge Audio DacMagic isn't going to give Chord's QDB76 anything to worry about, but for just £199 it's a tremendously effective upgrade to ageing nineties CD players and DACs alike – plus all that new digital paraphernalia you've amassed for your TV, DVD and radio consumption of late. It has a very clean, open and airy sound; the Anagram Technologies upsampling giving atmosphere and finesse to the treble, while lower down the midband is detailed with unusually realistic depth perspective at the price. Bass is taut and tuneful, and integrates nicely with the upper regions. In absolute terms it's a little tonally dry, but considering its price tag, it is churlish to complain. As such it is an excellent tonic for older budget or mid-price players, and a great upgrade for modern budget computer/AV set-ups.

VERDICT ●●●●●
Superbly packaged, fine sounding and flexible DAC at a great price.

CAMBRIDGE AUDIO
DACMAGIC £199.99
Cambridge Audio
☎ + (0)845 900 1230
www.cambridge-audio.com

FOR

- detailed, spacious sound
- flexibility, USB input
- solidly made
- value

AGAINST:

- nothing at the price

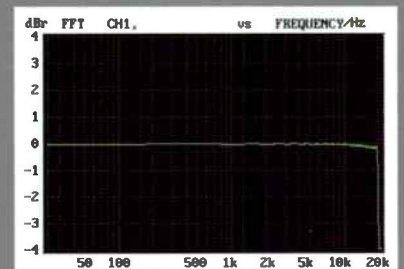
MEASURED PERFORMANCE

The DAC Magic has a wide, flat frequency response our measurements show and there was almost no change at the three filter settings. Both Min (minimum) and Lin (linear) Phase both gave a very sharp roll off at 20.1kHz with no sign of stop band ripples or throwups. The Steep setting, shown, curtailed response just a fraction, to 19.8kHz (-1dB) but did not affect pass band response, so sound quality differences will not be attributable to changed response shape as is often the case when alternative filter schemes are on offer. The flat response shown usually gives obvious treble from CD, lacking the slight warmth that a gentle roll off introduces.

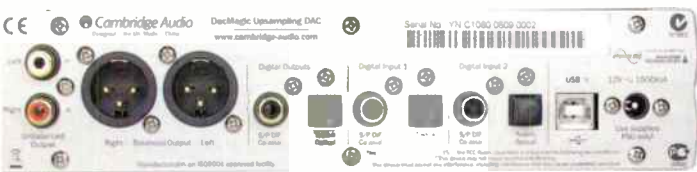
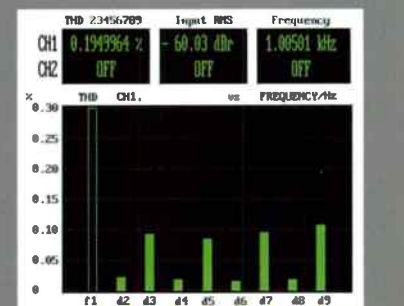
Distortion levels were as low as the best convertors available, a figure of 0.2% at -60dB being as good as it gets with 16bit resolution. As a direct result EIAJ Dynamic Range measured a very high 114dB, so the DAC Magic should sound clean. Output was normal at 2.1V via the unbalanced phono outputs and 4.2V from balanced XLR. Measured performance from XLR was otherwise similar to the phono output. The DAC Magic gave an impressive measured performance and is an imaginative design. NK

Distortion (%)	0.0005
0dB	0.0008
-6dB	0.2
-60dB	4.5
-80dB	
Separation (1kHz)	112dB
Noise (IEC A)	-115dB
Dynamic range	114dB
Output	2.1V

FREQUENCY RESPONSE



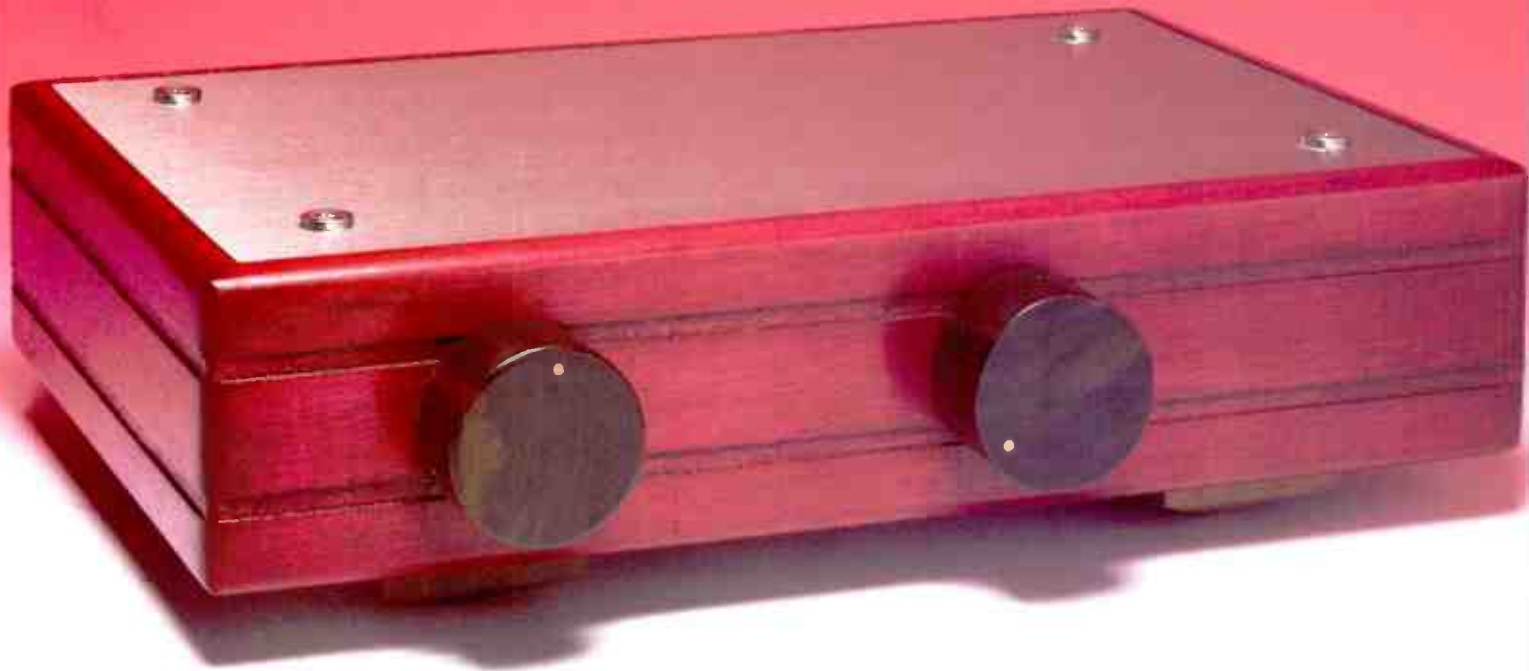
DISTORTION



Frequency response (-1dB)
CD 4Hz - 20.1kHz

Kuala Shaker

The Malaysian-made Prometheus TVC preamplifier really moves Andrew Harrison...



Overlook the preamplifier at your peril! If your amp comes in two or more boxes, it's tempting to think the power amp is the final arbiter in the amplification equation. Yet this innocent looking box that sits between your turntable, CD player or other source on one side, and the power amp on the other, can shape the whole system sound – for better or for worse...

Most preamps are active, using transistors or valves to buffer and amplify the music signal from input to output. Less common but with their own following are the passives, typically using a potentiometer (variable resistor) or a network of resistors to attenuate incoming signal. And then there are the transformer volume controls such as this, even more niche perhaps but with some highly attractive benefits [see TRANSFORMERS].

Kitted out in a wooden box with steel top and bottoms, this minimalist little Prometheus TVC preamp has qualities that can bring out the best in systems comprising components many times its price. While not perfect and certainly not a universal tonic, in the right context this TVC could really sing. And the headline news has to be its price. It's only

available mail order from its maker in Malaysia, but even after postage and taxes, it could be yours for well under £400.

IN DISGUISE

As with some of the best preamps we've heard – such as the much vaunted Music First Audio Passive – the Prometheus is a transformer volume control, albeit one without any offer of extra gain to help you out with quiet sources. Instead you get a 23-position switch that attenuates from 0dB ('full volume') down to around -42dB in 2dB steps. With equidistant steps, perceived spacing at low volumes is coarse, and in practice you may find yourself running out of fine control just before you hit the full 'mute' position.

There are two main versions available, a single-ended type with four RCA phono inputs and two phono outputs, and a balanced version with one XLR balanced and two RCA phono inputs. This version, with one each of RCA and XLR outputs, was the model tested here.

The transformers are all wound in-house, using 4-nines oxygen-free copper, with 4-nines soft annealed silver used for internal preamp bus wiring. The cores, which influence final sound quality, are said to be a mixture of m4 and m6 laminates

stacked together.

Built around a red-stained wooden box, the Prometheus TVC can best be described as a little 'homespun' in its appearance; think cigar box with knobs on. Attempts at aesthetic sophistication aren't helped by the clashing control knobs, themselves beautifully figured in ebony but somehow not balanced with the rest of the red-effect casework. The wood is actually Merbau, a Malaysian hardwood, and is available in natural light finish too. There are no feet fixed to the box but you do get a set of three loose stunted pyramids of wood, to balance the preamp on. Also available are tall ebony cones, for an additional \$80.

Equally absent are any legends or writing on the box. Labelling is not necessary for the front, though, once you remember that the left knob switches between sources, with balanced input at 12 noon, and the two phono inputs at 2 and 3 o'clock positions. At the back we find five pairs of sockets for the various ins and outs, again unlabelled. The phono sockets are silver-plated and so may require some buffing up periodically to combat the inevitable tarnish.

As a totally passive unit, there's no mains inlet or active components inside. Instead there are just two El-core frame transformers, one for

each channel, with a loom of thin copper wires sprouting from their cores and soldered to the multi-way volume switch.

SOUND QUALITY

As you'd expect from a passive preamp, the Prometheus TVC is supremely quiet, adding no hiss or noise of its own. It also seems well-shielded against RFI pickup, and even in my home location between two large radio and TV transmitters there was never a hint of RF breakthrough nor of low-level mains hum. Comparisons with the Music First Audio Passive Magnetic are inevitable, even though my normal reference transformer volume control is around four times the price.

The Prometheus had something of an old-time flavour, as it sounded a little darker in the high treble, preferring to hold your attention to the midband rather than show off scintillating but distracting upper frequency extension. Playing the Bruch Violin Concerto, there was a notable reduction in stereo soundstage width, with the orchestra more closely packed into a centre space, ultimately leading to less explicit description of the hall acoustic space. Lower down, string sections lost some of their lustre, earning instead a edge of steeliness. That upper mid tonal coloration was also found on acoustic guitar and male vocals, with for example Al Stewart having a little more husk, and his guitarist's nylon strung acoustic guitar suggesting an impromptu refit with steel strings.

Generally warmer sounding, music through the Prometheus also had a slightly softer bass quality, a little plusher and less extended into the lowest octave but still attractive in its velviness. While not exactly smeared in the time sense – in fact the Prometheus majored on temporal integrity – I felt it was subtracting some detail here which will make games of 'name that bass guitar model' a little more challenging than with a more transparent control unit.

Lest this should all sound too negative, here's the good news. The Prometheus TVC also preserves the great values of a transformer-coupled preamp, namely the rhythmic drive, the wholesome depiction of the big

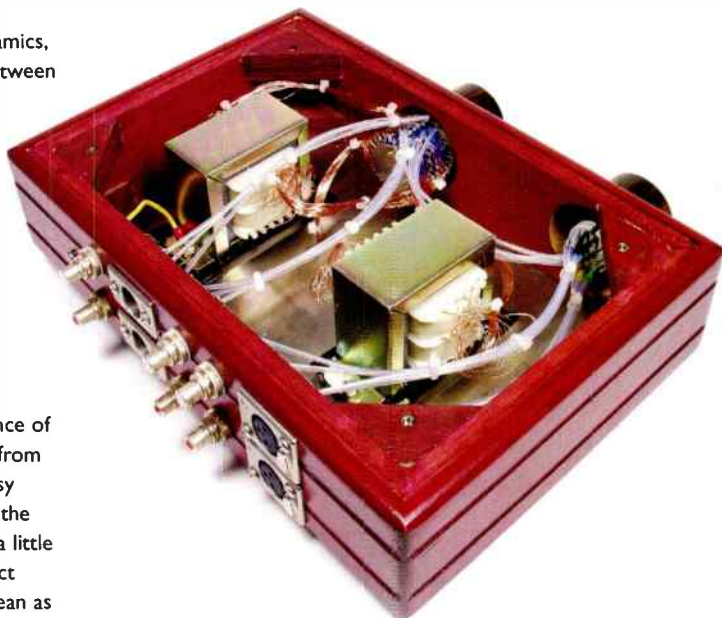
picture as well as low-level dynamics, and the unforgettable spaces between notes. But that's not to say the Prometheus was entirely promiscuous. Rather than go with all music indiscriminately, it did seem to favour some types over others...

Take good foot-tapping blues and swing jazz, for example. Imelda May is a young rockabilly singer with a talented swing band behind her, and the Prometheus drew out every ounce of musicality in the performances from her album 'Love Tattoo'. The cosy sound of the Prometheus made the floor tom-toms in 'Knock 123' a little less distinct and even if the effect throughout was not quite so clean as the Music First would have us know, the final effect was still intimate, open and entirely free of HF tizz and spit. 'Creamy' would be a more apt description. More so than with other preamps, I was drawn into the slow, quiet unfolding of the song, and Imelda's rapport with the mic.

The Prometheus had a valued window on dynamics, and was able to reproduce the transients of real sound, from loud percussive impacts to gentle decay of room reverberation, free of transistor glaze and valve hiss. From the Squirrel Nut Zippers album 'Hot', the cheeky trumpets and crashing cymbals of 'Memphis Exorcism' became playable at high volumes without ear harm. So not a preamp for obsessive detail-spotters; more one for enjoying the emotional drive of the sounds.

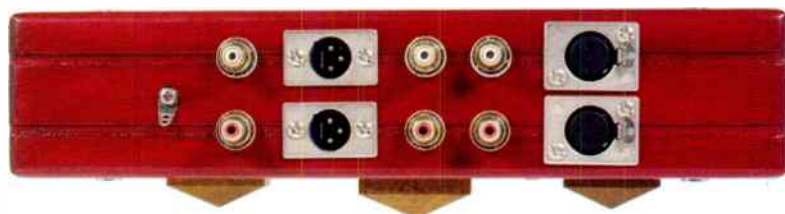
CONCLUSION

Just the tonic for a digital system that has a little more effusiveness than you may like, the Prometheus TVC preamplifier has the important qualities of musical integrity that will keep you listening when more explicit preamps have you reaching for the TV remote. While it's not as expansive in either frequency or soundstage terms as reference transformer volume controls, it should not be taken as patronising to say that this preamp has a very likeable and engaging sound, so smooth at the top and with a knowing grasp of real music. As such, at just £350 (approximately), it is superb value for money and comes highly recommended.



TRANSFORMERS

In the UK, the most talked about transformer volume control is made by Music First Audio, the hi-fi manufacturing division of transformer specialist Stevens & Billington. Other exponents of the technology include Ypsilon Electronics in Greece, who manufacture a high end statement TVC selling for around £20,000, and Bent Audio in Canada who make the TAP-X for around US \$2,000. Unlike conventional passives which 'waste' input signal by dumping unwanted current to earth, a transformer conserves the music signal in a way that Prometheus Audio likens to a car gearbox, stepping down the unwanted high revs of, say, a CD player's 2V output to the required level for listening. And in contrast to resistive passive solutions, both input and output impedances are highly optimised for good signal transfer at most real-world level settings, presenting an easy high input impedance for the source, and a low source impedance for the power amplifier. In the words of Prometheus, "when a TVC is adjusted for low volume level it actually makes things easier for the source, much like a low gear makes things easy for your car engine."



VERDICT

Warm and engaging yet dynamic and musical sound makes this a super value entry level preamplifier.

PROMITHEUS TVC £350
(inc. shipping & duty)
Promitheus Audio
www.promitheusaudio.com

- FOR**
- dynamic, musical sound
 - quiet and mostly fuss-free
 - good impedance matching
 - value for money

- AGAINST**
- slightly veiled tonality
 - basic looks & construction
 - mail order only



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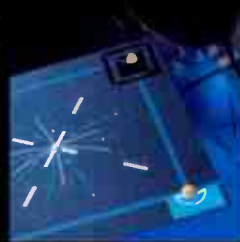
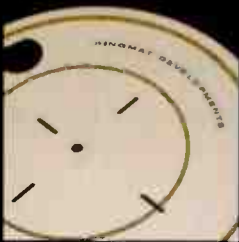


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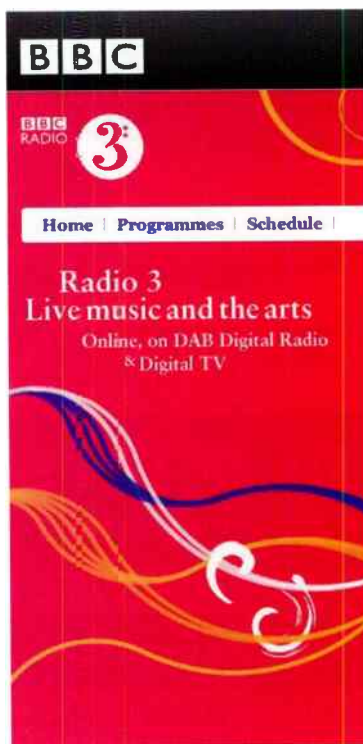
Letter of the Month

LISTENING FATIGUE

I have always loved listening to the Promenade Concerts broadcast live on Radio 3, but in the last few years my pleasure has been quite spoiled by the use of limiters on FM that squash the dynamic range. One can hear these being applied, so the effect is not subtle and I for one now find listening to these concerts (and, for that matter, much of Radio 3's recorded output) distressing.

In desperation I bought a rather nice Denon DAB. This sounds OK with the back-up hi-fi system in the living room, but the tuner is not pleasant through the main (top class) system. This is, I suppose, due to the low bit rate – the BBC, I believe, now keep 'R5 SportsX' going even when there is no live event to cover. Such a shame. Is there any way to hear R3's output at the quality I remember? By satellite? Broadband? I belong to a Radio 3 pressure group but can get no clear answers from the Corporation, even sending them, 'why oh why' type letters brings no sensible response from the corporate apparatchiks. So could a pukka radio engineer offer some advice apart from, 'keep listening to your LPs'? Sincerely, and in some desperation,
Roger Simmonds.

We don't have any good news for you Roger, unfortunately, or at least not at the present time. I'm afraid that Radio 3's bit rate does go back up to 192 kbps on DAB when Radio 5 Sports Extra goes off-air, so it sounds like you simply don't like the quality provided by 192 kbps with the MP2 codec. And I can't say I blame you, because I don't like it either. The bad news, though, is that the BBC also uses 192 kbps MP2 for Radio 3 on all of the digital TV platforms as well, so the quality is no better than on DAB – apart from when Radio 3's bit rate is reduced on DAB when Radio 5 Sports Extra is on-air, because the bit rate stays at



192 kbps on the digital TV platforms.

The BBC could very easily use higher bit rate levels for Radio 3 on the digital TV platforms if it wanted to, especially on satellite. The BBC has 231 Mbps (231,000 kbps) of capacity at its disposal on satellite, and they would only need to re-allocate 64 kbps – a measly 0.03% of the capacity – to increase Radio 3's bit rate to 256 kbps, which would provide a marked improvement in quality. Your Radio 3 pressure group could always write to the BBC Trust about this, because it's impossible to justify not increasing the bit rate of Radio 3 on satellite, in my opinion.

The quality of the BBC's Internet radio streams is currently in the process of being improved, but there are quite a few more changes still to come. It's pretty safe to say that once all of the changes have been completed Radio 3's on-demand (i.e. listen again) programmes will be at

higher quality than on DAB, but it's impossible to say whether Radio 3's live stream will be as well until the bit rates are increased and they switch over to using AAC/AAC+ later this year.

There is one way that you should be able to receive Radio 3 at higher quality within the next few months – so long as you live in a cable area. Virgin Media has said that its network will support multicast when its 50 Mbps broadband package is launched later this year, and the BBC uses 128 kbps AAC for its multicast radio streams. 128 kbps AAC performs significantly better than 192 kbps MP2, so the multicast streams should be at higher quality than on DAB (assuming they employ good audio engineering practice). Whether Virgin will allow all of its customers to access the multicast streams or just those that subscribe to the 50 Mbps package remains to be seen, though. **SG**

LOUDNESS WARS

Why do so many vinyl LPs sound better? Well you've touched on this before, and it seems that the reason is far less to do with the medium than with the recording and mastering. To wit, many recordings of the CD age have had the very lifeblood compressed out of them, all to make sure that the great general public can hear the quieter bits on their mobiles and iPods against a sea of background noise.

Now I understand the reason why the average loudness level might want to be raised in these circumstances but shouldn't this be a switchable option at the user end - and not to have hugely compressed audio forced on everyone, especially those that have invested considerable sums on high quality kit at home?

So how about an article on this phenomenon - an explanation of loudness and dynamic range, what



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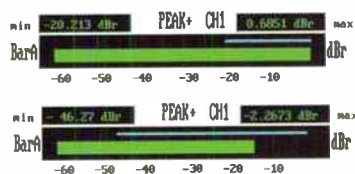
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tolerances and limits may or may not be acceptable, sources of music that haven't been squeezed to the extent that it becomes virtually unlistenable and campaigns such as "Turn It Up" (which seek to tackle the problem), and how to spot really bad recordings (audiophile editors and the like)?
Hmmm!

Stephen Judge

Great subject Stephen, one where the music business finally admits that quality does matter, if only after hearing what music sounds like after being mangled during mastering. One or two poor souls are obviously struggling to cope with all this - see the defence put up for Metallica's heavily criticised 'Death Magnetic' - but most mastering engineers seem reasonably understanding and genuinely concerned that audio quality is being forsaken for apparent volume. Adam Smith talks about Death Magnetic in his column this month too.

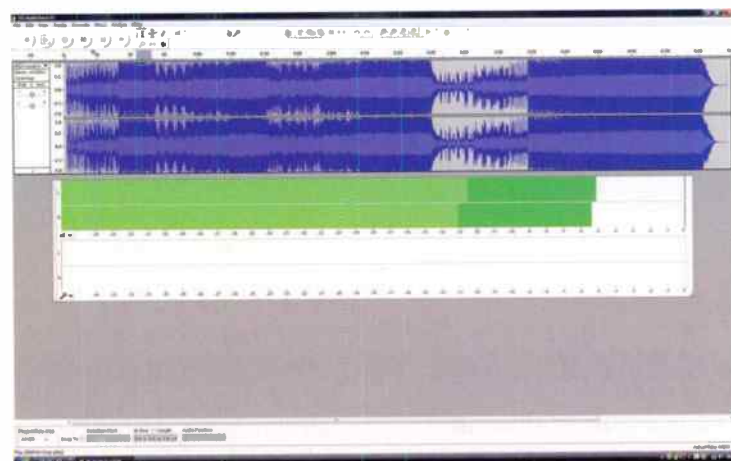
In a nutshell, this is all about compressing the amplitude of music upward on CD to make it sound louder, destroying dynamic contrasts in the process. It's hard to see initially why anyone would want to do this, but the commercial logic is explained in some fascinating articles posted on the Turn Me Up site (www.turnmeup.org). As they say, this has been going on for a long time, but has become worse as digital peak limiters and compressors become commonplace. In addition to low levels being compressed upward, musical peaks are often clipped by the peak limiters, to get even more volume. This produces distortion and accounts for some of the messiness we hear from CD. Put the two effects together and you end up with music that is both



Above, the limited 21dB dynamic range (blue line) of Celine Dion's 'Right in Front of You' and below the larger 44dB dynamic range of Hugh Masekela's 'Stimela' from a Dali demo CD. Measured by a Rohde & Schwarz UPV analyser.

why CD commonly sounds so bad.

Look at our analysis of a typical hi-fi demo track, Hugh Masekela's 'Stimela' from one of Dali's impressive demo CDs, against a popular commercial track, Celine Dion's 'Right in Front of You' from her CD 'A New Day Has Come'.



Audacity, a free music editor able to show the dynamic range of music

The peak level of the very dynamic sounding Stimela has been kept judiciously -2dB below 0dB so peaks never hit the limiters, and it has a 44dB dynamic range. Compare this to the Celine Dion track that actually goes above 0dB and was obviously clipped, and has a 21dB dynamic range. Even this isn't too bad quite frankly; the CD sounds quite dynamic; many CDs have far less range. All the same, there is a clear difference between this track and one of exceptional quality from a demo CD. Quality is being forsaken for apparent loudness, usually to suit in-car use. One U.S. engineer even states this never happened during the reign of the LP because LPs couldn't be used in cars!

This is a music business issue and, extraordinarily, many in it seem to think the ignorance of users is to blame - they should reject such rubbish! Buyers hardly have any choice in the matter. Some time in the future it may well be possible to buy audiophile versions online.

Let's hope so. Online music purchase opens up possibilities like this. At this point I should note that current 'uncompressed' files available from iTunes lack data reduction (e.g. MP3, AAC, WMA); they don't lack the amplitude compression being talked about here, which is quite different.

If you want to check CDs for yourself, a popular way to do it is with the free Audacity music editor, available for PC and Mac from <http://audacity.sourceforge.net>. Version 1.3.5 Beta is best for metering and stable on Vista I find. Note you have to rip a CD track to a WAV file first, using CD-EX, or iTunes, or the Windows Media player in Vista. Select a short time sequence and inspect it for clipping, or play it to assess level using the meters. Note the meters act after the output volume slider, and the slider must be set to

maximum for 0dB to represent 0dB FS (digital maximum). Also, pull the meters down and stretch them out to full screen width to improve visual resolution. Maxima are shown by a peak hold function; you must find minima by visually searching for quiet sections, selecting them, then playing them. Have fun! **NK**

It's a sad thing, isn't it, that as affordable CD players finally get really good, the discs to play them on get worse. Patrick Cleasby, who has owned and run a DVD-Audio mastering facility in the past, told me several years ago that remasters generally don't sound anywhere near as good as the eighties 'flat transfers' from original master tapes. I was somewhat incredulous, as I assumed modern A-Ds were so much better than the 16bit, 48kHz items used back then, but little did I realise he was talking about the fact that those original tapes are now 'mucked around with' so much in the digital domain. Having just A-B'd my old



Death Magnetic - the death of high fidelity?

constantly loud, turning it into "a noise", and messy too. There's a lot of truth in the suggestion that this is

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have been mainly interested in this receiver for its multichannel DSD/SACD performance via HDMI 1.3 and I was very disappointed to discover from your review that the DSD is converted internally to PCM. Furthermore, there is no comment as far as I can discover on its multichannel SACD performance. Also it would have been more appropriate in my opinion to have paired the LX51

from SACD whereas the Pioneer produced 0.33% - a big difference. It is also why I said a dedicated SACD player like the Yamaha would give a smoother sound (stereo only) playing SACD than a digitally connected transport like the Oppo.

The Oppo outputs a DSD stream - and you can't get better than that. Price is no arbiter. It is conversion

a Gilbert Briggs open baffle speaker from 1956, which has been a subject of recent articles. His take is that he prefers speakers that are not ported as they provide a cleaner and more natural bass response. Listening to the three speakers I could see what he meant as there was a more pronounced bass from the ported design but with some 'chuffing' of the sound, making it deeper but more indistinct.

The question was asked by our eminent editor, David Price, why do so few manufacturers make closed box speakers? The answer was cost and a move to room friendly smaller speaker sizes necessitating ways to improve perceivable bass. I felt more comfortable and familiar with the ported design as all the speakers I've ever owned have been ported and my current speakers are Monitor Audio Studio 20s that replaced my Mission 752s ten years ago. But when I returned home and listened to my system I could hear the port working, which I've never really noticed before. So Peter, to change 'speaker choice the answer is re-education. I think if I listened to your design for an extended period I'd move to your way of hearing. It's certainly given me new



Pioneer VSX-LX51, a complicated receiver and a complicated review! Can Noel explain more clearly?

with the Pioneer DV-LX50 player rather than the cheaper Oppo which does not have dealer distribution.

I do not understand why the Yamaha CD-S2000 will provide full SACD performance from the LX51? Please explain. I note that you do not like the build quality which I agree is not as good as Marantz but Marantz is rather backward with its features. Finally do you know of a good sounding receiver that does not internally convert DSD to PCM?

Gerald Bearman

Hi Gerald. Sorry you did not understand some of my observations. There are so many processes, methods of use and what have you to cover with modern AV receivers like the Pioneer it is very difficult to contrive short and succinct observations that are without ambiguity.

As far as I am aware all receivers convert DSD to PCM internally so they can pass the digital signal through the onboard PCM digital-to-analogue converters. This is a cost saving issue. I doubt if expensive DSD convertors will ever be used in any AV receiver, except a seriously expensive audiophile jobby perhaps, so I cannot suggest one at present.

Dedicated SACD players are fitted with dedicated DSD convertors and differences show up under measurement. The PCM convertors used in receivers throw up nasty quantisation products, whereas the DSD convertors found in SACD players like the Yamaha CD-S2000 do not. It is why the Yamaha CD-S2000 produced 0.04% distortion at -60dB

to PCM in the receiver that is the problem, although I don't want to overstate this, as the sonic outcome is still very, very good. The Oppo



Peter Comeau demonstrating Wharfedale's 1956 SFB/3 open baffle loudspeaker at this year's Heathrow Hi-Fi Show.

isn't "cheap" so much as a bargain and you can get the DV-980H direct from Oppo in Sweden. I have one and can thoroughly recommend it. I am looking forward to receiving their forthcoming Blu-ray player. Hopefully, that will also be aimed at audiophiles.
NK

PORTY POOPER!

I enjoyed this Autumn's Heathrow Hi-Fi show more than recent ones, and the highlight for me was Peter Comeau's demonstration. He played music on three different speaker technologies: the World Design WD25 closed box, a Q Acoustic ported floorstander and

ideas to explore when funds permit and should be the function of a good show.
Steven Slawther

Thank you for your comments and I'm so pleased that you gained something out of the demonstration.

The point of the demo, and lecture, was not to deliver a 'this is best, that is wrong' type of verdict but to point out the benefits and ills of particular speaker design approaches. Of these, as Noel has so ably pointed out, the Open Baffle has the least number of sins in theory, but this does not always translate in practice. In particular the relationship

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Denon AVR 2106 Receiver	Silver	£450.00	D. Good	£259.00
Denon S-301 AV system	Silver	£1,250.00	new boxed	£789.00
Denon S-101 AV system	Silver	£850.00	D. Good	£495.00
Denon DVD 2910 dvd with hdmi/scaling	Blk	£600.00	D. Good	£249.00
Pioneer LX01 AV system inc spks, hd recorder	Blk	£1,699.00	D. vgc	
			almost unused	£995.00
Pioneer LX 70 Blu-Ray		£995.00	D. Good	£549.00
Acoustic Energy Aelite 3 speakers	cherry	£749.00	dem good	£299.00
			some marks	£299.00
Acoustic Energy AE120 floor standing speakers	Blk	£450.00	dem good	£150.00
Acoustic AE73DS		£350.00	new boxed	£229.00
Monitor Audio S5 light oak	light oak	£450.00	dem good	£200.00
Mission 773 floor standing spks	light oak		dem good	
			some marks	£150.00
Mission 78 DS rear effects dipole spks	blk/lwood		dem good	£100.00
D = EX Demo				

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of the baffle with the room is far more complex than that of a box loudspeaker and, of course, the baffle size rules out their use in any but the true music enthusiast's listening room!

As to whether manufacturers should forgo the current fashion for narrow baffle, ported loudspeakers, the show did include a number of large loudspeakers which flouted this dictum in one form or another. Unfortunately, as I pointed out in the lecture, the mass market has been led to believe that you can get good performance from tiny loudspeakers, without considering the consequences.

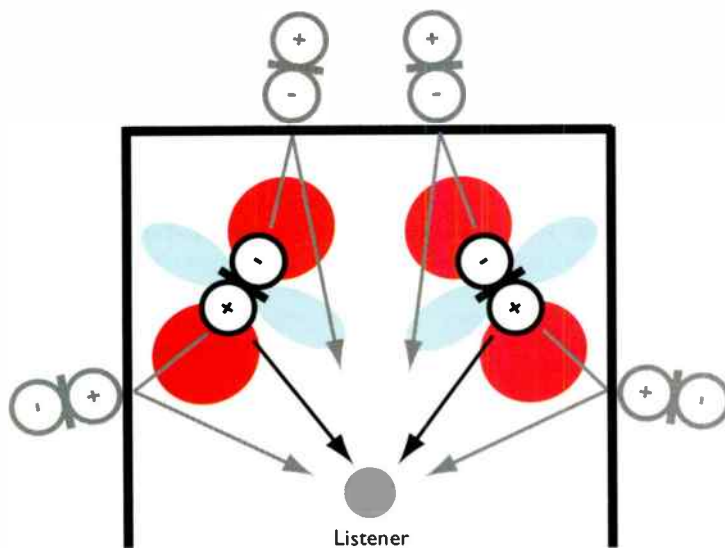
In my youth a typical bass unit measured 25 cm (10 inches) or more. Now the average size for a bass unit in a hi-fi speaker is 13cm (5.25 inches) and anything over 17cm (6.5 inches) is considered too large for comfort. But we had a saying in the '50s and '60s "you can't get a quart out of a pint pot" followed by an equally valid rejoinder of "a good big 'un always beats a good little 'un". Physics hasn't changed in the interim!
PC

Pardon me for jumping in here with my Naughty Noel hat on! An open baffle loudspeaker by definition doesn't suffer box honk, port chuffing

unpredictable results in small to medium sized rooms where the rear wave interacts with the forward wave in a complex manner. Graham Bank of Celestion pointed out long ago they need to be 'steered' for best results and this is indeed the case. See our diagram. In large rooms the rear wave is all but lost, so you hear the forward radiated sound 'au naturel' and it is good, but few of us live in rooms as large as the Bleriot Suite where Peter held his dems.

Funnily, we did not arrange this, the organiser simply felt Peter was the best person to act as custodian of the room reserved for lectures, demos etc. and it suited the Wharfedales especially. Had the room been smaller, they still would have lacked box noises I should add, but room interaction would have added peaks and troughs that can make bass sound lumpy, boomy or even weak. The outcome is unpredictable because the variables are too complex; only a computer can handle this and I know of no programme designed to sort it all out (it needs a ray tracing programme like Cara).

If open baffles really worked so well in average rooms, believe me, we would all be using them! Boxes are not easy things to make; manufacturers would stampede into using open baffles if only they could.



For best results, dipole subwoofers need to be 'steered' in a room. We achieved best bass quality from Celestion SL6000s when orientated to face outwards, as above. The rear negative wave has furthest to travel and suffers attenuation as well as phase reversal, the blue 'dead' side lobes de-energise corners and their aggregated modal energy, whilst the front wave reaches the listener both directly and from walls.

and all manner of other ills, so they are intrinsically 'better' and it's great that Peter took the trouble to demo this using an old timer. But...

Open baffles are acoustically complex beasts that give

It is possible that if a bright bunny developed a simple but effective room analysis programme that showed how we could apply them and other problems such as excessive cone excursion and the need for

equalisation were tackled successfully, then the open baffle might make a welcome comeback, but it would still be a large, high end assembly I suspect.

I think you were lucky though to hear what a simple open baffle can do. Peter in effect demoed the sins of the box and few people are prepared to wheel out a rescued relic to make this point. Open baffle loudspeakers exist today though in various forms, especially as electrostatics, and if you have a large room (at least 20ft long) they are worth considering. Open baffle bass of the sort Peter demonstrated is something special when it works well. **NK**

It was a great dem by Peter Comeau, and all power to his elbow. I think a number of people in the room were gobsmacked to hear how much more 'right' the closed box design was. It's a discovery I made a long time ago, and really by accident. The result was that my first serious pair of loudspeakers was the original Linn Kan (closed box) and the next serious speakers I spent money on were Yamaha NS1000Ms – again closed box. Having my ears so attuned to this way of 'loading' the units can sometimes be more of a handicap than a help, though. As I've listened to closed box speakers for almost every day since 1987, I can spot a box with a hole in it at five hundred paces. Your ears simply lock on to all that huffing, puffing and chuffing – not to mention phase anomalies – and it just doesn't sound right (well, it isn't right, so it won't)! Now, I know that closed boxes have their issues too, but I really feel they are worth persevering with. Funnily enough, when I listen to open boxes (which is 95% of speakers I review), I go for those that are least conspicuously 'ported'. I truly wish more manufacturers would be brave enough not to follow fashion; I suspect the market is more receptive to close boxes now than it ever has been, what with so much 'cheap' (Class D) power. That's why I felt duty bound to support those ATCs we reviewed recently; despite some obvious problems they timed like almost no other modern speaker. The reason? They didn't have a bloody great hole in the box! **DP**

CABLE QUERY

I am puzzled at one aspect of your magazines review procedures. For most electronic equipment you use your in house laboratory test equipment to provide test data but for cables or wires you do not pass any tests, why?

I am of the school that there are



"Cables have no sound" says Jimmy Kostelidis. "Don't part me from my Van den Hul Royal Jades", says Noel in reply!

very little discernible differences between most cabling, provided they are of the right type for the use they are being asked to perform. I am also convinced that double blind tests can prove that any \$10 interconnect and any \$20-\$30 speaker cable will sound as good as any more expensive ones.

You should still provide test results on cables for the readers. Basic measurements like Ohms per foot, inductance, and capacitance would suffice.

Colourful descriptions (of your opinion) mean very little for cabling because unlike electronic equipment which do carry a sonic signature, cabling has very little that can affect it's sound, even though you may disagree. I found that only current carrying capacity has an effect on the sound of the cable, not enough and the bass suffers on low ohm speakers.

Lastly when you consider that all internal wiring in components is of the very basic type as well as the in wall electrical wiring, adding costly technologically advanced ancillary wiring makes no sense.

Jimmy Kostelidis
Vice-President of Operations
Conglom Inc.

Well, thanks Jimmy, but I think we have heard this opinion before - and yes we do disagree. The usual lumped parameter electrical model is always quoted as proof that cables have no sound but I suspect, from experience alone, that what we hear is material colouration, a time domain problem, possibly accompanied by other effects such as RF pickup. Just considering this last parameter is enough to warn that looking at a cable alone, as you do when considering only its basic electrical properties, isn't realistic. Dr Malcolm Hawksford of the University of Essex has pointed out the limitations of simple lumped models that engineers cling to so fervently and you will find some interesting White Papers at www.mitcables.com on cables, if you are inclined to read them.

I am quite shocked at times as to the difference a cable will make and it was interesting recently that I was

unable to listen to a system where fancy new cables had replaced the short Van Den Hul Royal Jades, with carbon sheathing, I prefer and have become accustomed to. Electrical parameters provide no explanation about this.

All the same, we do encourage people to listen for themselves, although largely because preferences are subjective. **NK**

+CLOSET PROBLEMS?

I am a closet hi-fi nut that is in a spot of bother and I would appreciate your guidance guys. My current Linn Classic / AVI New Neutron / Target sand filled stand combination has served me well for a few years but there is a problem. My wife hates the look of the things. These compact bookshelves on the substantial black stands are very unpopular in our lounge. I think they are great

To make matters worse, we are moving house in a couple of weeks to a small end of terrace converted barn and my current system is banned! I have 'permission' for a new system, but the aesthetics are a big issue here. No Tannoy Duals for me!

My listening will be at low volume levels, and mainly at night so I have decided on the Shanling MC-30. It looks to be a great solution to my needs so that's that sorted.



When there isn't much leeway try WD25 loudspeakers.

I need some small floorstanders and here is the problem. They have to be efficient and very low visual impact, preferably light oak to match the new furniture (oh dear...). No plastic / aluminium mouldings, just a plain light wood cabinet, simple as possible and with preferably no more than two drivers. To make matters worse I have about £500 to spend.

I currently have QED 64 cables and they can be replaced too, providing the new cable colours are not bright (I know, sorry!). I have about £80 or so there. I am not worried about low bass as you can't have every thing can you, but a clear mid band and top to match the single ended valve amp is a must. Any suggestions?

regards

David Cottom, FBEng.
Milton Keynes

There isn't much leeway here David. High sensitivity demands large cabinet volume, although low level listening rather ameliorates the problem. I would suggest you consider the Q Acoustics 1050is reviewed in the last issue, as they fit your budget and your technical requirements, if not your aesthetic ones perhaps. The new World Design WD25T is another cracker that I can recommend. We were very impressed by its extraordinarily even nature. It is a great piece of engineering and it suits your aesthetic needs too.

NK

MASQUERADE

The reason I'm writing, now that nostalgia's been kicked into touch, is the apparent obsession of some hi-fi nuts to try and get 'live' music into their living rooms using various means such as lumps of vinyl, plastic, lasers, magnetic tape, and now silicon and Blu-rays. I was reminded of this by one of your reader's letters, and the phrase "closest approach to the original sound" has been bouncing around my head ever since...

We can never achieve this Holy Grail (and would we want to?) as most music is recorded in a studio and doctored to say the least. Also, I've been to some live concerts that have been truly dreadful. Dire Straits comes to mind as the sound engineer must have been stone deaf, or perhaps just stoned! With music recorded in a studio you usually get the best possible sound that was intended by the musicians and engineers. Most real world hi-fi can't possibly conjure up the scale of live performances so why should it try? The best we nutters can hope for is our flawed equipment to replay the recording as best it possibly can. Synergy rules okay.

Dave Arnold



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for the closest approach
to the original sound

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Closest Approach to the Original Sound. Quad's slogan lives on today.

Very true Dave. Yet at the same time, from an engineering point of view we still strive for notional accuracy. It is very notional of course, because most music has been mangled in the studio beforehand by those lovely people called studio engineers, but then I shouldn't be facetious because one look at modern studio equipment shows that a lot of work continues to go into improving quality. It's a pity that on one hand we can talk about moving into a 24/96 digital world and on the other have to suffer recordings that are compressed heavily to make them sound loud!

Because most concert halls have sound reinforcement systems it is almost impossible to hear musical instruments 'au naturel', but it is a notion still worth pursuing. I have some interesting 24/96 classical demo recordings where orchestral

MICHELL GYRO

I recall sending you an email a year ago after I read your review of the SME 10 turntable. At the time, and actually still, I am looking at purchasing a new table. I sold my LP12 after realising there is better out there. I have looked at the Gyro SE as well as the Orbe SE and was wondering how much difference there is between the two? Also, the SME 10 has been on the short list but it is quite expensive; I read your review and know you loved it. Does that mean you would ever consider dumping the Gyro for an SME? Any one I purchase will be mounted with an SME IV I have.

Nick Lakoumentas

Interesting points, Nick! First, the Gyro is still a brilliant turntable at £1,000 approx. It has the widest and most expansive soundstage in the business (like pressing the 'stereo wide' button compared

is its loose bass. Whilst there is no perceived 'wow and flutter' through a Gyro (hence its lovely reproduction of piano music), it's not as tight as a Technics SL1200, for example. The Orbe improves on this, giving a tauter grip on proceedings, as well as slightly better bass extension. As you would expect, it retains the Gyro's brilliant left-to-right soundstaging, but hangs images back further when needed, and locks them in space slightly more assuredly too. The only serious improvement the SME10A gives is a deeper, more 'cavern-like' soundstage, but in my view it's nowhere near as wide, and lacks a little of the Orbe's focus – so I don't think it's an upgrade on the Michell. What I loved about the SME10 was how it feels as a package – lovely and small and unimposing in the room (and so easy to set up), yet its so crisp and detailed. My advice would be to get an Orbe SE (and see if Michell can supply it in silver to match your SME IV), with the likes of an Ortofon Kontrapunkt b! **DP**

REGA IN A SPIN

I have a very nice Rega Planar 3 turntable. But for some reason the sound has just not been quite right over the last few years; distortion creeps in to some tracks and for a while my records were playing either too slow or fast, or a bit of both! I've tried various phono stages (Cambridge Audio and Project) and even got my old Sony amp back out to try it through that, as that's when I was last happy with it. I also upgraded the cartridge to a Rega Bias 2, but I can't be certain that I've done that good a job on this.

My CD player (Arcam 7SE) sounds fine so the amp and speakers are okay. I've searched the web and Yellow pages for somewhere where I could get the turntable serviced but I can't find anything at all in my area. I live in Manningtree on the Suffolk/Essex border. Could you recommend some engineers in this area or point me to a reference web site? What in your experience would be the cost of a MOT for a turntable like mine? I figure realistically it's only worth £250, so there's little point in me paying £200 to have it serviced, as might as well get a new Project.

Kieran Caulfield

This all sounds a little worrying Kieran. Regas are simple, elegant - and work. You seem a little uncertain about cartridge set up and it sounds like the Bias 2 is mistracking, likely because tracking force is too low. I hope you have a tracking force gauge and are using it. Another possibility is the diamond has fallen off the



Get an Orbe SE and see if Michell can supply it in silver to match your SME IV, says Editor David Price.

instruments really are a lot cleaner and better delineated than is common - and it does make for an engaging experience. So here's to all those who strive for "a closer approach to the original sound" to paraphrase Quad, no matter how arguable this might be! **NK**

to a Linn) and a warm, open and smooth midband and treble. It's also particularly good at painting tonal contrasts, whereas the Linn makes every LP sound like it was recorded in the same studio on the same equipment. However, it's not perfect and one of its weak points

seems. This is best replaced with a Goldring 1006 to keep your LPs in good condition. Call Ion UK at 01252 341400 to find out more, including where you can buy one. **NK**

What do you mean the cassette disappeared long ago? Nonsense! My T.Rex tapes still play very nicely thank you very much in the Clarion hi-fi fitted to my 1986 Jaguar XJ6! Dinosaurs rock on! **DP**

OFF SONG

I wondered if someone could help with my current system? I have always had an interest in hi-fi, but really had never had the opportunity to buy or house the kind of system I would have wanted. However, recently due to sad circumstances, I inherited part of a system from a friend who really loved his music and we created a listening room from a spare bedroom. The system comprises an old Ariston RD80 turntable, Arcam Delta 70.3 CD player, B&W DM602 speakers on Atacama stands and various interconnects. I think he ran the system with an Audiolab 8000a but am not sure. Thinking I would finish the system off a treat and with £450 to buy an amplifier, I purchased a heavily discounted Arcam Diva A90 and Cambridge P60 phono stage. The thing is, I am finding the result quite disappointing - I know I should have tested the amp, but given the relatively small amount I was spending (compared to what I see people spending in magazines anyway) and the difficulty getting the rest of my kit to a dealer, decided to go for it.

I have heard systems where they instantly set my feet tapping, and everything opens up so you feel like you can hear every instrument. I find that this is not the case with this system, and I've checked connections, messed around with all sorts of things to no avail - even leaving the thing running for several days to make sure it is warmed up. It

just doesn't involve me at all, the result being that I am not bothering with it too often and just listen to my old Teac Ref 300 in the living room. Being quite inexperienced with hi-fi, I don't know if I am expecting too much of this set up, or if I have bought the wrong amplifier, or if the other components are just being exposed by the new amp or indeed if I am just used to the Teac.

I will not be in a position to spend thousands, so I would like to know if I am close to a good system? I would be willing to spend a bit more if I can put a bit of spark into the system, but given I wouldn't really know where to start, I would really appreciate some advice on whether to either give it more time to see if it grows on me or loosens up in time, or pick the right place to start changing things. My tastes are very eclectic and I love classical, jazz and pop. I would love to get back to records and have a great source of second hand records in my town, but the turntable would be my last upgrade, as my collection is mostly CD now. I find the turntable and CD equally disappointing. As I said, any advice to give me a place to start would really be appreciated.

Stuart Neil

As you fail to mention the pickup cartridge fitted to the RD80 there is not a lot I can say here. I suspect however it is a budget item and needs replacement or a new stylus at least. Get a Goldring 1022X if you can, as this has plenty of get up and go. At the end of your letter you say both sources are equally bad, suggesting the amplifier or loudspeakers are at fault and whilst neither will set the world alight they should be enjoyable. The Arcam Delta 70.3 CD player could well be upgraded with a Cambridge Audio DAC Magic. If you need more oomph after that then I suggest you replace the B&W DM602s with Usher S520s, or if you have the space Q

Acoustics 1050i or B&W DM604 S3s floorstanders. It is best to use a good dealer and listen to the loudspeakers in the showroom first. You may even be able to try them at home. **NK**

I'd go along with Noel, especially in his recommendation of the Usher S520s. Run them with Black Rhodium Tango speaker cables, and make sure they're rigidly mounted to the Atacama stands, which should be full of sand or 'Atabites' and spiked firmly into the carpet. Power them off a decent mains block; I am currently using a Silvermann 6-way affair with Clarity I mains cables and getting excellent results. Use decent interconnects; again Black Rhodium's mid-price stuff would work well. Clean all the mains contacts and phono socketry with Kontak. This done, you should begin to hear things really swing. **DP**



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**WIN A FANTASTIC
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Here's your chance to win one of *Hi-Fi World's* most favourite one box music systems - Shanling's superb MC-3000. Here's what David Allcock wrote in the June 2008 edition...

"Regular readers will know that back in September 2007, we reviewed the Shanling MC-30 and loved it. I found it an exceptionally likeable mini system, combining a 3W single ended triode valve amplifier, FM tuner, half-decent CD player and music portable connectivity – in a uniquely styled case. Think of the new MC-3000 you see here as the MC-30 on steroids. All that body building has seen it grow to a chunky 452x156x334mm, and it's far meatier at 11.4kg. Indeed, the machine looks almost identical to Shanling's own SCD-T2000 CD player, except with the aforementioned slot in the front left of its top plate. There's the same top loading CD transport, plus an FM tuner, three line level inputs, preamplifier out, S/PDIF digital output, a video output for the iPod, a valve preamp stage and the aforementioned

60W per channel power amplifier. This time though, power comes from transistors not tubes. The MC-3000 is very well built, with 5mm thick aluminium panels used throughout, whilst at the rear are three transformer covers, with two pairs of valves in front of these, a pair of 6N3s on the left for the tube preamp stage, and a pair of 6N3Js on the right for the headphone output stage. The blue illuminated CD transport is a Philips VAM-12 unit with CD-711 servo system whilst DAC duties are carried out by the PCM 1794, one of their higher end chips which is well respected.

As the first notes of Jean Michel Jarre's 'Chronologie 2' from his 'Hong Kong' live album issued out of the loudspeakers, I was surprised by how powerful the Shanling MC-3000 sounded. I tried a range of loudspeakers with it, and even with the Leema Xaviers or PMCs, the bass was surprisingly firm and fulsome. Extended, powerful and with fine transient attack, it delivered impactful kick drums from Tangerine Dream's

'Hyde Park'. Lower midrange was also superbly balanced, giving Sting's closely miked vocals on his rendition of 'Windmills of the Mind' from 'The Thomas Crown Affair' Original Soundtrack substantial presence in the room, without bloom. Strings can easily turn strident, especially with PMC GB-1s, yet the MC-3000 avoided this allowing their natural body to shine through. High frequencies displayed excellent clarity and resolving ability, with the acoustic guitar on Dido's 'Sand in my Shoes' showing real delicacy. The harmonic structure of each note was remarkably well resolved, whilst the cymbals shimmered without undue emphasis or forwardness in the overall mix. This is a true 'jack of all trades' music centre, offering an excellent CD player, three extra line inputs, full iPod integration, a superb headphone amplifier and a fine solid-state power amp which can easily drive most 'real world' speakers. The MC-3000 has a characterful blend of attributes, not least of which is the valve headphone stage and fully integrated iPod connectivity. A superb system that's an essential audition for anyone wanting serious sound in a relatively compact package."

For a chance to win this superb system, just answer the following four easy questions. Send your entries on a postcard only by 30th November 2008 to: December 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] How many watts per channel is the MC-3000?

- [a] 3
- [b] 0.3
- [c] 60
- [d] 600

[2] What tubes are used in the preamp stage?

- [a] K5881
- [b] 300B
- [c] 6N3
- [d] ECC 81

[3] Which company makes the CD mechanism?

- [a] Sanyo
- [b] Sony
- [c] Philips
- [d] Esoteric

[4] David concluded that the Shanling had a what?

- [a] "licence to kill"
- [b] "purpose in life"
- [c] "characterful blend of attributes"
- [d] "reservation at life's top table"

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entries will be accepted on a postcard only

**PRIMA LUNA PROLOGUE 8 CD PLAYER SEPTEMBER 2008 WINNER:
Ms Lorna Spence of Blackpool**

New Old Stock

The BBC's LS3/5a loudspeaker is still in production after nearly one third of a century, but can it still cut it in the twenty first century? Haden Boardman auditions the latest Rogers incarnation of this classic mini monitor...



Ah, the LS3/5a! Not so much a miniature loudspeaker, more a living legend. Over the past thirty plus years, people have greeted it with almost religious fervor. It has a giant-killing reputation, and a huge following to boot...

One hundred percent a BBC design, the original loudspeaker was penned by H.D Harwood, M.E. Whatton and R.W. Mills, all working from the BBC Design Department. The design brief was simple, a miniature two unit loudspeaker capable of adequate sound quality and loudness to serve as a monitor in conditions where existing designs would be unsuitable. Of course the BBC had already designed many wonderful (if not very commercial) loudspeakers, but in the commercial sector let us not forget the connection with Spendor, and the BC1/SP1 (not to mention the massively underrated Rogers LS3/6 version).

The final design specification

called for a five litre sized box measuring 320x190x160mm, with an approximate weight of 5.3kg, capable of handling 50 Watts music programme and producing 98dB of sound at roughly one and a half metres distance. What was specifically important to BBC engineers was accurate response in the 400Hz to 20kHz range. In the end, it is only really the lower bass which suffered. Early versions of the speaker so impressed work colleagues at the Beeb that a "kit" version was actually marketed!

What cannot fail to impress when either reading the original BBC monogram about the loudspeaker (BBC RD 1976/29) or listening to it, is the level and depth of research applied to this little speaker. No part was taken for granted; every element of the loudspeaker box, the crossover/equaliser, and of course the original KEF B110 Bextrene bass unit and T27 high frequency drive units were taken in to full account.

The original cabinets were constructed from 12mm Birch

plywood, together with fillets of beech. Hardwood Parana pine was substituted for the fillets, and according to the report clearly audible colouration was introduced! The cabinet was lined with a mix of 16 and 25mm of polyurethane foam, the thicker stuff on the top and bottom of the cabinet, and the side panels were damped with bitumen pads. In addition the B110 was mildly decoupled from the cabinet by a strip of PVC edging (so do not over tighten the bass units screws), the previous work of Mr Harwood clearly showing an influence...

I have read in the past a lot of babble about 'special production lines' at KEF for B110 and T27 drive units. No word of a lie, I must have had three baker's dozen of each unit, and there is nothing special or select about the ones fitted to the LS3/5a. Having measured all of mine, I found virtually the same result as the BBC: B110 have a free air resonance of 35Hz, give or take about seven percent.

Of course, the T27 tweeter



"The stereo image is simply panoramic, really drawing you in to the music..."

was slightly modified; it does wear a little perforated dome cover. The main reason the Beeb fitted this was to stop the poor tweeter suffering from finger damage; but there are sonic advantages as well; it raises the output of the tweeter at high frequencies, and also has a clear effect on the dispersive characteristics of the speaker system.

The main crossover frequency is 3kHz, with a built in equaliser for the bass unit (hence the high 12 Ohm nominal rating – despite a 'virtual' 4 Ohm bass unit). On the early versions the HF unit is fed via an adjustable choke, which acts as a mini autotransformer to match the sensitivity to the B110. The later design uses a simpler, and less costly resistor ladder instead of the choke. The crossover is mounted just behind the T27. Sensitivity is a low 83dB/Watt, although it is easy to drive, making an ideal match for a decently powerful valve amp (I would recommend fifty Watts as being ideal). As we shall see though, the new speaker responded to more power; switching to a mono block thirty Watt version of my EL84 amp showed real benefits with the new model.

Obviously, Auntie Beeb was never a loudspeaker manufacturer, so the LS3/5a design was licensed to third

parties! The first three licensees became Audiomaster, Chartwell and Rogers, to be joined later by Goodmans, Harbeth, KEF and Sendor. The first I personally owned were a Sendor manufactured set, followed by Audiomasters, followed by Raymond Cooke special edition piano lacquer finish versions, then a very early set of Rogers. All four sounded subtly different, each having their own set of strengths and weaknesses – I'd say it was a toss up between the Rogers and Sendor to the best sound.

There has never been a MkI or MkII LS3/5a, as the licensed design is updated when needed, but in 1988 KEF re-engineered the B110 and T27 (after complaints about a slip in quality) necessitating a minor rework (and much hysteria as regards the superiority of the earlier/later, eleven/fifteen ohm versions) plus the fitting of bi-wire terminals.

KEF are now owned by Chinese battery makers Gold Peak, who decided to stop making drive units for other equipment manufacturers over a decade ago. (The tooling for the B110 has since gone to a well known British manufacturer, once an LS3/5a license holder, but they haven't reintroduced the original B110 and T27, so the original units are no longer available). Luckily the

influence of the Raymond Cooke B110 and T27 was so strong that several manufacturers paid Mr Cooke the ultimate homage in making their own versions of said drive units...

Demand for new LS3/5as is never going to set any marketing guru's pulse racing, as there are thousands of the things already out there, but there is a solid and continual demand for this little loudspeaker. Similar to KEF, the brand Rogers is now in the hands of an Oriental company. Formed by Jim Rogers back in 1947, the company has just celebrated its seventieth anniversary. Jim carefully steered "Rogers Developments Ltd." throughout the nineteen fifties and sixties with super products such as the Cadet, the Junior and technically very advanced Senior valve amplifiers, along with the Rogers Corner Horn and lovely little Wafer loudspeakers.

The Cadet III was one of the first products to use a silicon rectifier in its power supply, and with the early Ravensbourne and Ravensbrook transistor amplifiers, Jim Rogers was at the forefront of audio technology. Sadly this was not to save the company, which ran in to the buffers by 1975, to be rescued and put firmly on the map as one of the best British loudspeaker makers (not that this stopped Jim Rogers reappearing as JR one year later). A little over a decade



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CUSTOM ELECTRONIC DESIGN & INSTALLATION ASSOCIATION

ago the brand name was purchased by a Hong Kong based company, and a lot thought that this was the end of Rogers Loudspeakers as we know it, but now we see this, another brand new UK-built incarnation...

BORN AGAIN

Anyone who has read the original BBC monograph will be very much aware that - other than the lower bass - this speaker was engineered to be full range and have low midrange colouration, with broad, even dispersion. Are these characteristics still valid today? Of course; possibly more so with today's demanding audiophiles and smaller houses! The LS3/5a has never taken prisoners. Feed it with rubbish and it will sound rubbish. For the first time in eight years I listened with fresh ears and a fresh mind and frankly, the speaker still impresses...

Straight out of the box, plonked on stands and paying very little attention to positioning, I was rewarded with a massive soundstage, truly panoramic stereo image, and superb weight and authority. I had to sit down and listen; the speaker simply demanded my attention. More attention to the details (better stands, levelled off, and with the speakers tried both directly and crossed in front of me) and this little box really came alive with my Marantz CD12 CD player, transformer preamplifier and EL84 pentode push-pull valve power amplifier.

This latest LS3/5a incarnation clearly features a new tweeter, different to the old KEF, and frankly I prefer its superior height and detail. But still there does seem to be a tiny amount of "sch" to sibilant notes. It is innocuous and inoffensive, but most defiantly a hallmark of the new speaker. Overall though, the treble register is pretty clear and uncluttered, not perfect, but I feel a mild improvement on the T27.

Midrange is what this speaker is famous for, and female vocals are certainly handled with aplomb. Abba's 'The Day Before You Came' and Rickie Lee Jones's 'Easy Money' were both rendered superbly. The LS3/5a does exhibit a mildly recessed midrange; bass and treble are mildly boosted to compensate for a lack of any real bottom end, and there is a certain lack of life and openness compared to a simple single full range unit like Diatone's P610.

Bass power of the new loudspeaker seems higher than that of the old (the B110s are pushing forty five years old as a 'modern' plastic design), and there seems

more weight and definition. Playing a couple of Jimmy Smith Hammond bass lines, the original speaker wasn't capable of the sound pressure level of the new one. Still, bass remains the LS3/5a's weak area. You cannot expect a box this size to do bass at all, so what it does do is amazing. There is a marked rise in output in the upper bass region, clearly compensating for something it is missing down below, and with some bass-heavy material this can make the little speaker come unstuck. To be honest, I think the new bass alignment could prove too much in the wrong system; the original 1978 Rogers pair I used for comparison could play bass more explicitly if not as loud or as punchily.

The stereo image is simply panoramic, really drawing you in to the music. The presentation is very much between and behind the loudspeakers; it does not leap forward into the room. From simple Blumlein-style cross ribbon microphone recordings to full on multi track studio recordings, these little speakers can display every layer of a carefully crafted stereo image like few others. In addition there is a lack of a hard sweet spot. These little guys can be casually playing in the background and simply draw you in with the width of their stereo image.

Dynamically the new LS3/5a can punch and kick, at least in smaller rooms. My biggest gripe is that whilst it delivers amazing vocals and stereo imaging, at the same time it can compress dynamics in the sound stage and sound rigidly controlled, as if holding something back. It is inevitable given the size of the enclosure and the presence of the equalising network used to smooth out the response, that some of the micro details are bound to get lost in translation. What a shame, as everything else is so right.

CONCLUSION

The designers of the BBC LS3/5a never claimed it to be anything other than a



miniature, but for the past thirty odd years some people really have put it on a pedestal and treated it as a true giant-killer - a 'David' capable of slaying 'Goliath'. I think this is a little misleading, as this speaker was always designed for use where space was at a premium and high sound pressure levels were not required. Still, go back to the original remit and the LS3/5a still cuts the mustard. Even though there are many excellent small loudspeakers around now, the LS3/5a still deserves attention.

VERDICT ●●●●
Surely still the reference point in miniature loudspeakers, with expansive stereo and glorious midband, but not a universal panacea.

ROGERS ANNIVERSARY EDITION LS3/5A £1,499
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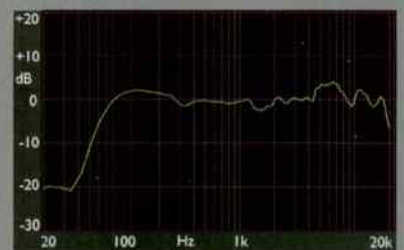
The LS3/5a is a sealed box design, or 'infinite baffle'. There is no port and, the enclosure being small, bass resonance lies at a high 87Hz our impedance analysis shows. Bass peaks up around this region, our response analysis shows, so there is plenty of 'fast' upper bass but not too much low bass. The bass peaking will make lower midband and upper bass sound quite rich and full, not a bad thing.

Above 300Hz output runs smoothly up to 3kHz, so most of the audio band is handled well, output looking smoother than from many modern loudspeakers. Only at high frequencies, above 4kHz, does the tweeter of this loudspeaker become wayward, peaking strongly by +4dB at 6kHz, quite enough to be clearly audible as sharpness in the sound, at least. This will subjectively dominate the high frequencies.

Sensitivity was low at 82dB, so the LS3/5a will need a lot of power, at least 40 Watts, to go loud. Whilst old LS3/5as may have had high impedance this one measures out at 7 Ohms overall. It uses a 4 Ohm bass unit our impedance analysis (and DCR measurement) shows, the usual inductive midband lift raising the overall value. There's quite a lot of reactance around the high slopes

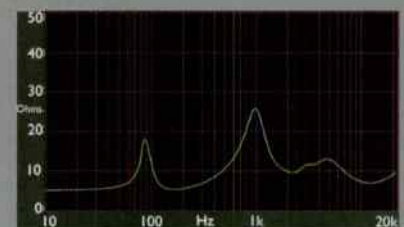
in this curve, so it isn't the easiest load. The Rogers LS3/5a is characterful and quite distinguished over much of the audio band, but not in its treble which looks dated. NK

FREQUENCY RESPONSE



Green - driver output
Red - port output

IMPEDANCE



Show Time!

This month, we report on September's Heathrow show. Noel Keywood and Adam Smith report...

Martin Logan were demonstrating their new CLX electrostatic loudspeaker (right), but tickets were needed and the queues were long, which just goes to show how much interest exists. In the Icon Audio room the Hong Kong-based KingSound range of 'statics was being demonstrated, with the tall Prince II on display (far right) with the slimmer and more room friendly Queen, plus the extraordinary Princess II comprising electrostatic panel mid/treble unit in a side vented box with a conventional bass unit. And there was the fit-in-your-hand Hummingbird electrostatic super tweeter. I was intrigued by these loudspeakers; I have never seen electrostatic panels used so imaginatively. Only the Emperor full range electrostatic was absent - see it at www.kingsaudio.com.hk The extraordinary MBL Radialstrahler omnidirectional pulsating sphere loudspeakers from Berlin were out in force, the grand 101e costing £28,000 and smaller 111E Radialstrahler Hybrid available for £14,000 were on display too. NK



A new Proteus amplifier (left) I discovered in a room run by Proteus Audio Developments is constructed from laser cut stainless steel. It produces 30W per side from EL34s in push-pull mode. The chassis was a complicated design that would be eye catching in any home and the retail price was £5,990. It uses valves from Blackburn MicroTech solutions. They have a history reaching back to origins in a 1938 Mullard factory. You can find them, and an old black-and-white movie of the factory and valve assembly (valve geek porno), at www.techtubevalves.com/about-us/film-reels.php. They are restarting valve manufacture, using cathode ray tube technology to attain a better product with more stable performance, they told me. Their first product is an ECC83 used in the Proteus. NK

There were loudspeakers of various shapes, sizes and operating principles on show. New to me and domestically outrageous except to the most dedicated were a pair of looming black Klipsch Jubilee horns. I rushed into the room. Ralph Bagge of Artisan Audio told me they were cinema loudspeakers, needing just a few Watts to work well. Those on display had modified passive crossovers and were driven by German valve hybrid valve/solid-state amplifiers. Horns have strong dynamics and a lot of impact and the Jubilees were no exception, sounding clean, relaxed yet lively and entertaining. At the front of the system was an Italian Morsiani Unipivot tone arm (right) with carbon fibre tube and graphite headshell; I suspect the latter will well resist the dense resonant patterns that affect so many headshells. Bolted into it was an American SoundSmith cartridge that, amazingly, uses a strain gauge generator internally. The stylus is user replaceable and costs less than an MC apparently, and moving mass is lower than that of conventional MM and MC cartridges. The drawback is that it must be used with a special preamp, but this provides displays to show how well it is working. It was a fascinating system and we hope to be able to tell you more soon. NK



On display for the first time was Icon Audio's new 845 valve amplifier, using what is basically a high power transmitter triode, fitted with a graphite anode able to withstand very high temperatures, allowing it to cope with high power. Its thoriated tungsten filament glows very bright orange and the tubular glass envelope is large and solid. Together these features make a visually impressive valve. However, it is difficult to drive and needs high voltages, so is rarely seen. As the use of valves spreads worldwide however, both the 845 and its cousin the 211 are slowly being pressed into service. Running 845s in push-pull gives a whopping 90W per monoblock. Priced at £2,500 per pair this is an affordable 845 amplifier that we will be reviewing in the next issue; we're expecting extraordinary punch and vivid dynamics. NK

Other delights for vinylistas included Henley Designs demonstrating Pro-Ject's new flagship turntable, complete with 12 inch arm for the first time in the UK, and Max Townshend's new budget turntable design that takes the Rock V's basic recipe, strips off some bodywork and aims to give the family sound for less outlay - it's a pretty deck and we look forward to having a listen. All well and good, but what about the stuff you play on them? Well, the relaunch of the classic Keith Monks record cleaning machine makes it easier to keep your prized LPs clean. With the company in the safe hands of Keith's son Jonathan, a lightly modified version of the classic is back at £2,000. An easy to use, robust and powerful cleaning tool, many demonstrations throughout the day proved its mettle. Keep your eyes peeled for an exclusive review soon...



Turntables were in plentiful supply at the show, and the mightiest of them all had to be Thorens' 125th anniversary Jubilee, complete with a pair of twelve inch arms, which will set you back the wrong side of £30,000! It weighs in at around 60kg and is being made to order in strictly limited amounts. Like Thorens' previous Prestige models, this is destined to be a true collectors item that few will be lucky enough to own. I am told it sounded wonderful, but I'm afraid I was too busy drooling to notice. Also on display, but sadly not

on demo, was a US heavyweight contender in the form of the £80,000 Continuum Criterion deck, with Cobra arm, lurking menacingly in a central foyer. This is a smaller brother to the Caliburn, one of the most expensive turntables ever made, and if looks, build quality and sheer impact are anything to go by, it should be a seriously impressive performer.



At the more realistic end of the price scale, Sound Hi-Fi had Jelco's new premium SA-750D arm for sale in the UK. This S-shaped device is essentially the classic and sought after Sumiko MMT reborn, and offers high quality bearings and construction together with a detachable headshell and an optional oil damping facility, all wrapped up in a seriously lovely black chrome finish. As a further treat, they were showing a modified Technics SL1200 fitted with an SME M2-9 arm and a brand new mat developed specifically for the SL1200/10; there was even the promise of a forthcoming PSU for the deck. Watch this space...



AudioSmile's new Kensai is a diminutive standmounter designed by Simon Ashton, utilising high quality drive units including a ribbon tweeter with a specially developed front plate to increase dispersion; something that such devices can traditionally lack. Demonstrations proved this to be very effective and I was seriously impressed at the way these little speakers sang out in an enthusiastic and big-hearted way, when powered by a Cyrus amplifier playing fed through an AudioSmile modified Behringer DEQ2496 DAC. Finally, Revolver introduced their first new loudspeakers since the flagship Cygnis, with the AudioVue 'Screen' models. These are slimline units, designed to wall mount either side of a TV and utilise a very neat space-saving solution; namely a back-to-front bass driver where the voice coil and motor unit sit in front of the cone rather than behind it. The Screen 2 models on demonstration used an eight inch driver of this type and sounded superb. Designer Mike Jewitt says that smaller models will follow, plus a larger item with a ten inch driver, and a similarly slimline subwoofer.

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BENCHMARK DAC-1 PRE £1,299

It was barely a year ago when I was bemoaning the lack of good DACs on the market, and now suddenly after a seemingly endless wait, several come along at once! That makes life harder for the Benchmark DAC-1, because until recently it's been in a gang of one at its price point as *the* digital-to-analogue convertor to have. Still, this American beauty hasn't stood still, being progressively modified to make it appeal to an ever-wider audience. First we had USB functionality [see *Hi-Fi World*, February 2008] and now comes the analogue input-equipped preamplifier version – understandably entitled the DAC1 Pre.

It adds a lot, actually. Five digital inputs should cover all the bases for most digitally inclined audiophiles – including one USB input – plus the aforementioned line level stereo analogue via RCA phonos. There's a small rotary knob that toggles between inputs, but the original's 'error' and 'non PCM' LED warning lights have gone, to be replaced by a blue LED corresponding to the input selected. If it is not locked on, it flashes, and then extinguishes itself if no signal can be found. The original's volume control (which can be defeated by a little rocker switch at the back, so the DAC1 Pre outputs a fixed line level) and twin headphone sockets remain. Around the back, we see the standard IEC mains in (with power switch), the five digital inputs (inc. a Toslink and a USB) and the RCA line level ins, plus RCA line outputs and XLR outs.

As per its predecessors, the DAC1 Pre works at sampling frequencies of 32kHz, 44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz,

and 192kHz, with up to 24bit resolution. There's no manual control of this, and disappointingly no LEDs to indicate what exactly is going into the machine. Inside it's neatly assembled with mostly surface mount componentry and a largish toroidal transformer accompanied by big reservoir capacitors. An Analog Devices AD1896 sample-rate converter is fitted, feeding an Analog Devices AD1853 multibit sigma-delta stereo D-A converter chip which is driven directly from the reference crystal oscillator. So called 'UltraLock' technology is used to suppress jitter, and the latest Benchmark features new op-amps in the analogue output stage, said to give better sound (and sadly not retrofitable to older models). It's very robust considering its small size, and comes in a choice of black or silver, with optional rack mounting handles.

SOUND QUALITY

Given that it is first and foremost a digital to analogue convertor, comparisons began with Stello's superb new DA100 Signature, which has recently become one of the very best sub-£1,000 designs. How would the DAC1 Pre fare in line out mode (i.e. working just as a DAC)? Well, very well is the answer, although to be fair the two give quite different presentations – the Benchmark is the more energetic of the two, with a powerful, rousing, edge-of-the-seat performance that contrasts with the rival Stello's smoother, sweeter and more laid-back nature.

Kicking off with the DA100S on Grace Jones's 'Slave to the Rhythm', and the Stello gave a smooth and expansive soundstage – pushing the image wide of the

speaker boundaries. Moving to the Benchmark and the DAC1 Pre was slightly less wide, and a little more brightly lit across the upper midband – but when the drums and bassline kicked in, it was obvious which was the more musical of the two. The Benchmark had a sense of urgency in its music making; there was real emotional input and the feeling that I was witnessing an event. The Stello, clean and detailed though it was, simply sounded slower and more laboured. Bass performance was leaden by comparison, the Benchmark showing how fast this song is.

Still, it didn't have it all its way; jazz musical sound as Kenny Burrell's 'Midnight Blue' really profited from the DAC1's zest, bounding along as it did, but could sound a little bright for some systems. Still, use it with a fairly warm amplifier and speakers and it will be just the job to get things going. I certainly enjoyed its bass dexterity and speed, but there could have been just a little more of it. As a preamplifier, the Benchmark works well; it gave a nice clean rendition of my vinyl pressing of Rush's 'Subdivisions' via a PhoNote tube phonostage, showing oodles of detail and speed.

It's an interesting product, the Benchmark DAC1 Pre. I suspect some will find it just the right thing for them, particularly those with multiple digital feeds and just a single (vinyl?) analogue source. It's expensive at £1,299, but remember that you don't have to buy a preamplifier, so it actually begins to look rather keen value if your system is configured appropriately. **DP**
[Contact: +44 (0)208 418147, www.scvlondon.co.uk]

soundbites

Lazy Tones



Our WDPRE3 kit Active Valve Preamplifier Goes Remote Control! By Peter Comeau...

Earlier this year we astounded a lot of listeners by launching the WDPRE3, an active preamplifier with switching for five line inputs.

Why 'astounded'? Because most hi-fi fanatics think that a passive preamp is the only object they should have between the source and the power amplifier. So the active preamp is an anathema – or is it?

The problem with most sources is that their designers pay scant attention to the output stage. It is usually assumed that the source will see a high resistance but, as in so many cases, the assumption is wrong!

At best a passive preamp should present a high impedance load to the source. At worst it nearly always does present a combination of a variable resistance, a high capacitance (due to the interconnect cables) and an indiscriminate level of inductance depending on switches, internal signal linkages and so on.

As a result the performance when using a passive preamp is variable. In fact it varies with the capability of the source to drive these odd loads. For example look at the output specification of many CD players. The output impedance hovers around the 1kOhms mark, hardly ideal to 'drive' the load presented by a passive preamp.

In addition the 'direct' signal path means that there is no signal conditioning. Most sources, especially digital ones, produce high levels of noise and distortion outside the audio spectrum. Trust me, you don't want this stuff entering your power amplifier.

So, when we gleefully demonstrate our WDPRE3 active preamplifier against any passive preamp, listeners are astounded. Usually they are astonished because an active gain stage sounds so much better than a passive one. Often they can't believe that their cherished silver wired, transformer coupled, hand assembled passive unit is trounced by the WDPRE3!

But there was one thing missing from WDPRE3 which often stopped them buying. That thing is Remote Control.

WE'RE LAZY

Let's face it, we're lazy. Ever since the invention of the Remote Control we have become armchair enthusiasts for everything from switching TV channels to adjusting the volume.

Actually the 'lazy' connotation is a tad unfair, but you get my point. I put on a CD or record, go and sit down and, damn, the volume level I've set is too quiet or, even worse, too loud. So I have to get up, adjust the volume to where I think it should

be, and sit down again. Only to find that the volume I'd set when close to the speakers is now too quiet at my favourite listening position. So I get up again... well, I won't go on!

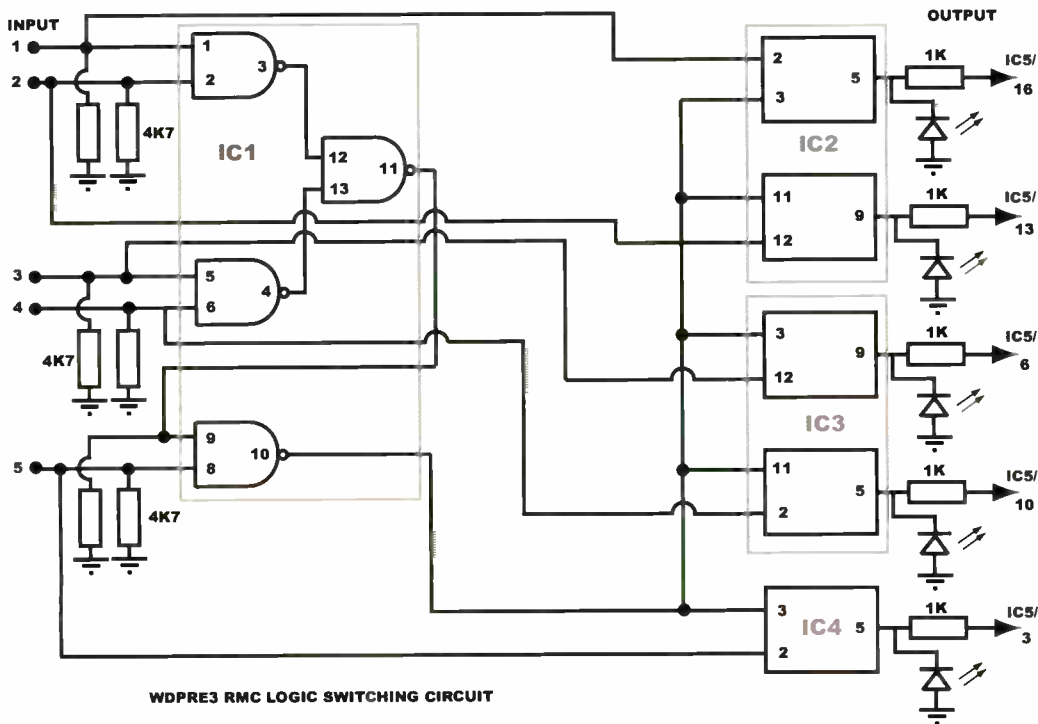
REMOTE CONTROL

How nice it would be then, how convenient, to have control over volume from one's armchair. As long as the sound quality of the WDPRE3 wasn't compromised, of course. And, while we're at it, could we fit input switching too?

First and foremost we need to make the volume control a motorised operation. Digital volume ICs won't do. Goodness knows what goes on inside them but every one I've heard has some affect or other on sound quality. Luckily the ALPS Blue Velvet potentiometer we use in WDPRE3 has a motorised version. What's more the motor can be driven by a feed from the power supply heater voltage.

But we need logic. Not human logic but electronic logic to decode the infra-red output from a remote control handset and turn it into a command to operate the volume control.

What is emitted from the infra-red emitting diode when you press the button on a remote control is a burst of data. That data is modulated on a high frequency carrier signal. An



WDPRE3 RMC LOGIC SWITCHING CIRCUIT

Inputs from the PIC controller/demodulator circuit are passed to a logic switch circuit to hold the wanted input ON and the unwanted inputs OFF. If all this talk of Flip Flops and NOR gates leaves you feeling cold and clammy, don't worry, I'm only explaining it so you know roughly what is going on in with the data logic as the commands are passed through to the relays. The only thing you need to know is that the output of the whole RMC module switches relays on and off. Each input is selected from your remote just as it would be if you turned the front panel input switch.

infra-red receiver 'eye' on our front panel will sense that carrier, extract the data and then send it to a logic 'chip' which will turn the data into commands.

In our case we want those commands to be voltage steps to operate relays. It is the relays that will do all the input signal switching and send the right voltages to energise the motor of the volume control.

Ideally we wanted this logic 'chip' to understand the data from any remote control. Why? Because you can always have too many remote controls and preferably you only

want one. So we didn't want to burden the user with yet another remote handset to lose down the back of the sofa.

The 'ideal' turned into reality when we found a programmable 'learning' remote receiver module. Now this is unusual, in fact we've been told it's unique! It is not unusual to have a learning remote handset, but how many pieces of audio equipment do you know that have a learning receiver? (Answers on a postcard, please!)

The concept is this – most of us have a remote handset for a CD player, AV receiver, DVD player or other piece of audio equipment, and it is quite probable that your handset has volume up and down and input selection buttons. For example I have a remote handset for my Naim CD player which also has amplifier controls on it because Naim, sensibly, also know that you don't need a bevy of handsets to operate your system.

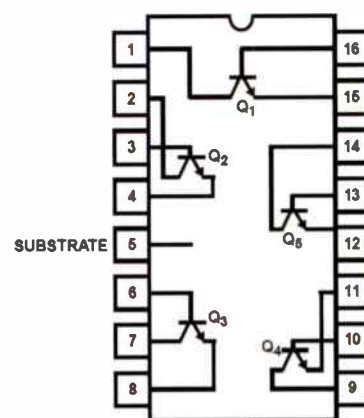
So what you can now do with the WDPRE3 RMC is 'teach' the preamplifier your handset commands. This is simply done by pressing a switch on the rear panel to place the WDPRE3 RMC into 'learn' mode and pressing the handset buttons in sequence. Hey presto, the preamp

has been programmed with your handset commands.

But I'm leaping ahead of myself. Let's look at this circuit in detail.

RMC DECODER MODULE

The Infra Red Receiver module is based around an IR diode which is positioned behind a window in the front panel. Modulated signals detected by this receiver are sent



Output from the logic circuit is fed to a CA3083E transistor array (IC5) to drive the input switching relays on the rear mounted PCB.



PCB mounted Infra-Red receiver and decoder module sits behind the front panel

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to a demodulator/buffer IC which extracts the command data. The data from this receiver combo is then sent to a PIC microcontroller which has been pre-programmed to output the data as TTL (0v or +5v logic voltages).

The PIC microcontroller is the 'brain' which learns the command structure of your remote control handset and provides the right TTL output depending on which button you press. There are a total of seven TTL outputs, so if we use two for volume (up and down) we have five remaining to switch our inputs.

From the TTL outputs we use the +5v level to switch relays to operate the functions. Now, sensibly, the WDPRE3 as standard uses relay switching on the rear panel to keep the signal path simple. This relay switching unit selects the desired input, grounds the non-selected inputs, and sends the audio signal straight to the preamp circuit.

So it is simplicity itself to energise these relays from the TTL output of the PIC controller. Or so you would think.

Actually it isn't that simple. Because the command from your remote handset is a momentary pulse, not a continuous level (unless you hold the button down all the time you are listening – hah)! So the PIC controller also outputs a pulse at TTL level.

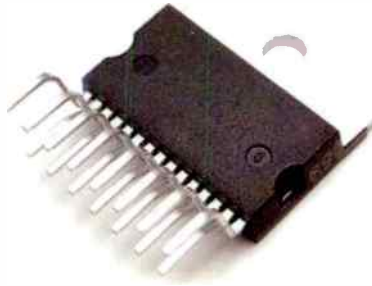
What we now need is a method of holding that output at +5v so that the input relay remains energised. And, of course, we also need to deselect any inputs that are being held UP when the input is changed. This bit of logic is handled by an HC74 Positive Edge triggered flip flop IC which is fed from a Dual Input NOR gate array that makes sure the wanted input is switched ON and the unwanted inputs are switched OFF.

Oh, yes, there's another neat aspect. Because we have a front panel input switch I wanted to keep this active. Again, there's nothing worse than putting a record on your turntable and then scurrying around the room trying to find the elusive handset just to switch from CD to Phono. So we've left the front panel input switch operational – it still switches the voltages through to activate the input relays.

So you've got the best of both worlds. Either use the front panel switch to select your input or turn it to the Remote position and use the handset. Just so you aren't confused whether you are on 'manual' or 'remote' the LEDs on the front panel that show which

input is selected change from Green (manual operation) to Red (remote operation) – cunning, eh?

Of course you can operate the Volume control manually too. The volume knob is attached to the motor drive via a slipping clutch so you can adjust it by hand, or through the remote handset, at any time.



L298N bi-directional motor controller

Control signals are sent to the volume motor control from the output of the PIC controller to an L298N Bi-directional motor control chip. This is specifically designed to turn TTL level inputs into the current drive to a motor. With a peak output of 2.5A it should be plenty for our ALPS motor which takes only a few mA in operation.

Now the motor is so quiet on this volume control that you might think it isn't working, so we added two LEDs to show UP and DOWN volume direction when you press the requisite button on your handset.

THE COMPLETE CABOODLE

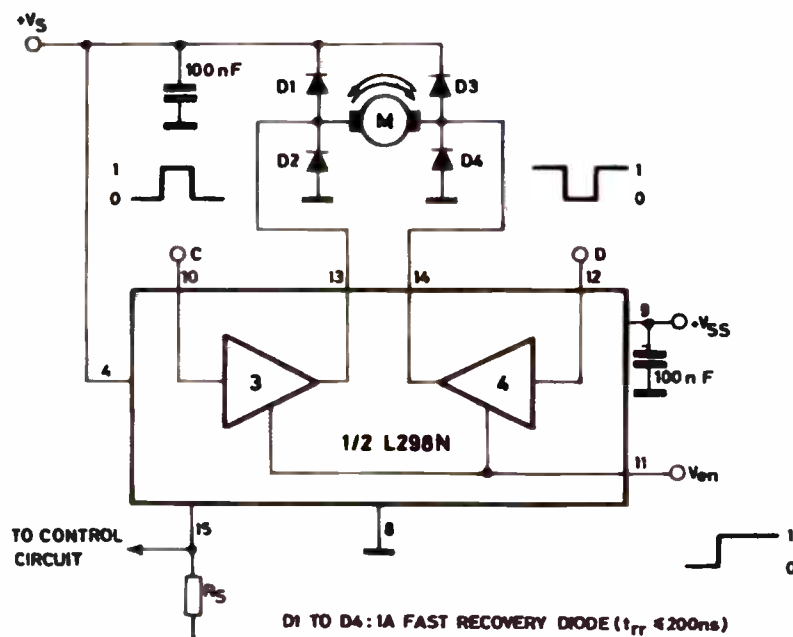
Now all this circuitry will not fit in the existing WDPRE3 case. In any case (sorry!) we wanted to keep the logic circuitry away from the audio circuitry. So we designed a special case for WDPRE3 RMC together with, of course, its own front panel.

Inside the new case all the Remote control logic and receiver circuitry is located behind the front panel. This leaves the rear of the chassis free for the input relay switching unit, the preamplifier gain circuit and the output transformers.

Of course we have slugged the voltage feed to all the ICs with localised decoupling capacitors to stop any high frequency interference being broadcast to the audio circuitry, plus the heater voltage from the power supply is buffered and decoupled on the logic board.

Just in case (sorry again!) this isn't enough the logic circuit is enclosed in its own section of the chassis to screen it from the audio circuit and volume control. We haven't been able to measure any interference between the logic and audio circuits but it is better to be safe than sorry!

So there we have it. WDPRE3 with all its standard functions intact PLUS a remote control facility that learns from your existing handset. The audio quality of the WDPRE3 remains as clean and transparent as ever while the remote control enables armchair control of volume and input selection exactly as prescribed. What more could you ask for?



Connection to the motorised volume control is made via the L298N bi-directional motor controller from the outputs of the PIC on pins C and D



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 oversized 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

WDKEL84 Valve Amplifier Kit

"The quality that can be gleaned from this amp is a fine introduction to the joys of the valve sound"

The WDKEL84 features a pair of EL84 valves in Push Pull configuration per channel, providing two channels each 18 Watts into an 8 Ohm load. Available as a 5 input integrated amplifier with ALPS volume control.

WDKEL84 kit £449

WDKEL84 built and tested £599



WD88VA Valve Amplifier Kit

"The result is an amplifier that combines majesty, transparency and rhythmic boogie factor with the ability to swing and sing on all types of music"

Often described as a 'sweet sounding' valve, our particular implementation of the KT88 makes sure that it is driven to its ultimate performance. Available as a 35W stereo power amplifier with single input volume control, or as a relay switched integrated with five inputs.

WD88VA kit £899

WD88VA built and tested £1199



WDHD3S Headphone Valve Amplifier Kit

"WDHD3S is a single-ended design with the power pentode wired up in triode configuration for added purity and is as quiet as a mouse"

A beautifully simple stereo headphone amplifier design using Mullard ECL83 valves. It works directly from any source. The circuit uses twin high specification E/I output transformers that can be switched to drive any headphones between 16 to 300 Ohms.

WDHD3S kit £349

WDHD3S built and tested £479



WD25A Standmount Speaker Kit

"The one aspect that stands out is the easy ability to resolve instruments and voices ... bass quality and definition is a revelation"

Cabinet kit (pair) £299

The aperiodic enclosure offers the bass clarity and definition of a larger closed box, together with the efficiency and easy amplifier load necessary for users of valve amplifiers. Available with SEAS STD soft dome treble unit, or high performance SEAS Excel treble unit.

WD25A STD kit (pair) £215

WD25A XL kit (pair) £398



WD25T Floorstanding Speaker Kit

"The WD25T always sounds crisp and taut, but can 'rumble' menacingly giving impressive physicality reminiscent of far larger boxes. Imaging is superb, the midband is also special; it's very open with masses of detail about the condition of the recording"

Cabinet kit (pair) £469

Cunningly arranged as an aperiodic enclosure leading to a lower sealed compartment, the WD25T combines the optimum damping of aperiodic loading with the bass extension of a large closed box. Available with STD soft dome or high performance Excel treble units.

Both the WD25 kits are based around a SEAS 26cm (10") paper cone bass unit with an efficiency of 89dB for 1W. The crossover has been developed for an easy drive 6 - 8 Ohm load making the system ideal for all types of amplifiers.

WD25Tv2 STD kit (pair) £299

WD25Tv2 XL kit (pair) £479



All our kits are complete with pictorial easy-to-follow instructions.
All parts are included - all you need is a screwdriver and soldering iron.

www.world-designs.co.uk
Tel: 01832 293320

WORLD CLASSICS

In this heavily revised section, you'll find the great and the good from audio's glorious past. Most are seminal designs which have earned their place in hi-fi history, but you'll also see some oddities which aren't classic as such, but are great used buys. The year of introduction is given, alongside the original UK launch price. Think we've overlooked something? Then write in and let us know!

DIGITAL

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

CAMBRIDGE AUDIO CD4SE 1998 £200
A touch soft in the treble and tonally light, but outstanding in every other respect.

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

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



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



MERIDIAN 207 1988 £995
Beautifully-built two-box with pre-amp stage. Very musical although not as refined as modern Bitstream gear. No digital output.

MUSICAL FIDELITY TRIVISTA 2002 £4000
When playing SACDs, the sweetest, most lucid and lyrical digital disc spinner we've heard. Old school stereo, pure DSD design. CD sound is up in the £1000 class, too! Future classic.

MERIDIAN MCD 1984 £600
The first British 'audiophile' machine was a sweeter, more detailed Philips CD100. 14x4 never sounded so good, until the MCD Pro arrived a year later.



NAIM CDS 1990 £ N/A
Classic Philips 16x4 chipset with serious attention to power supplies equals grin-inducing sonics.



SONY CDP-101 1982 £800
The first Japanese CD spinner was powerful and involving. Brilliant transport more than compensated for 16x2 DAC, and you even got remote control!

SONY CDP-R1/DAS-R1 1987 £3,000
Sony's first two boxer was right first time. Tonally lean, but probably the most detailed and architectural sounding machine of the eighties.



SONY CDP-701ES 1984 £890
Sony's first ever bespoke high end audiophile machine used a 16x2 DAC to provide a clinically incisive sound; supreme build quality allied to the pure unadulterated luxury of a paperback-sized remote control.

TECHNICS SL-PI200 1987 £800
CD version of the Technics SL-1200 turntable. Massively built to withstand the rigours of 'pro' use and laden with facilities - a great eighties icon. Sonically, it's pure fun, with hefty bass that can still show weedy modern players a thing or two!

YAMAHA CD-X1 1983 £340
Nicely built 16x2 machine with a very sharp and detailed sound; sometimes too much so. Excellent ergonomics, unlike almost every other rival of the time.

COMPACT DISC TRANSPORTS

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



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

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

DACs

CAMBRIDGE AUDIO DACMAGIC 1995 £99
Good value upgrade for budget CD players with extensive facilities and detailed sonics.



DCS ELGAR 1997 £8500
Extremely open and natural performer, albeit extremely pricey - superb.



DPA LITTLE BIT 3 1996 £299
Rich, clean, rhythmic and punchy sound transforms budget CD players.



PINK TRIANGLE DACAPO 1993 £ N/A
Exquisite; the warmest and most lyrical 16bit digital audio we have ever heard. Clever plug-in digital filter modules really worked!



QED DIGIT 1991 £90
Budget bitstream performer with tweaks aplenty. Positron PSU upgrade makes it smooth, but now past it.

TURNTABLES

ARISTON RD11S 1972 £94
Modern evolution of Thorens' original belt drive paradigm, Scotland's original superdeck was warm and musical, albeit soft. Still capable of fine results today.

ADC ACCUTRAC 4000 1976 £300
Bonkers 1970s direct drive that uses an infra beam to allow track selection and programming. More of a visual and operational delight than a sonic stunner.

PIONEER PL12D 1973 £36
The beginning of the end for the British turntable industry. When vinyl was the leading source, this brought new standards of noise performance and stability to the class, plus a low friction S-shaped tonearm. Later PL112D was off the pace compared to rivals



PIONEER PLC-590 1976 £600
Sturdy and competent motor unit that performs well with a wide range of tonearms. Check very thoroughly before buying due to electronic complexity and use of some now-obsolete ICs.

DUAL CS505 1982 £75
Simple high quality engineering and a respectable low mass tonearm made for a brilliant budget buy. Polished, smooth and slightly bland sound.

GOLDRING LENC0 GL75 1970 £15.65
Simple, well engineered motor unit with soft, sweet sound and reasonable tonearm. Good spares and servicing support even today from specialists. Eminently tweakable. Similar 88 and 99 motor units are budget 301/TD124 rivals.

LINN AXIS 1987 £253
Simplified cut-price version of the Sondek complete with LVX arm. Elegant and decently performing mid-price package. Later version with Akito tonearm better.

LINN SONDEK LP12 1973 £86
For many, the Brit superdeck; constant mods meant that early ones sound warmer and more lyrical than modern versions. Recent 'SE' mods have brought it into the 21st century, albeit at a price..



MARANTZ TT1000 1978 £ N/A
Beautiful seventies high end belt drive with sweet and clean sound. Rare in Europe, but big in Japan.



MICHELL GYRODEC 1981 £599
Thanks to its stunning visuals, this bold design wasn't accorded the respect it deserved until recently. Early examples sound cold and mechanical, but now right on the pace. Clean, solid and architectural sound.

TECHNICS SP10 1973 £400
Seminal Japanese engineering. Sonics depend on plinths, but a well mounted SP10/II will give any modern a hard time, especially in respect of bass power and midband accuracy.

REGA PLANAR 3 1978 £79
Brilliantly simple but clean and musical performer, complete with ACOS-derived S-shaped tonearm. 1983 saw the arrival of the RB300, which added detail at the expense of warmth. Superb budget buy.

GARRARD 301/401 1953 £19
Heavy metal - tremendously strong and articulate with only a veiled treble to let it down. In many respects, better than the seventies 'superdecks' that succeeded it.



ROKSAN XERXES 1984 £550
Supposedly the first to 'better' the LP12. Super tight and clean sound, with excellent transients. Less musical than the Sondek, but more neutral. Sagging plinth top-plates make them a dubious used buy.

SONY PS-B80 1978 £800
First outing for Sony's impressive 'Biotracer' electronic tonearm. Built like a tank with a clean and tidy sound, albeit lacking involvement. Scarily complicated and with no spares support - buy with caution!

THORENS TD124 1959 £ N/A
The template for virtually every 1970s 'superdeck', this iconic design was the only real competition for Garrard's 301. It was sweeter and more lyrical, yet lighter and less impactful in the bass.



TOWNSHEND ROCK 1979 £ N/A
The product of academic research by the Cranfield Institute, this novel machine has an extremely clean and fluid sound. Substantially modified through the years, and capable of superb results even today.

TRIO LO-7D 1978 £600
The best 'all-in-one' turntable package ever made, Trio/Kenwood threw their 'engineering best practice' book at this one with startling results. Clean, powerful and three-dimensional sound, ultimately limited by the tonearm.

TONEARMS
ACOS LUSTRE GST-1 1975 £46
The archetypal S-shaped seventies arm; good, propulsive and involving sound in its day, but ragged and undynamic now.

AUDIO TECHNICA AT 1120 1978 £75
Fine finish can't compensate for this ultra low mass arm's limited sonics - a good starter arm if you've only got a few quid to spend.

ALPHASON HR100S 1981 £150
First class arm, practically up to present-day standards. Buy carefully, though, as there is no service available now. Totally under priced when new, exceptional.



SME 3009 1959 £18
Once state of the art, but long since bettered. Musical enough, but weak at frequency extremes and veiled in the midband. Legendary serviceability and stunning build has made it a cult, used prices unjustifiably high.

GRACE G707 1974 £58
This early Japanese example of the tonearm art has a smooth, lyrical sound. Imported by Linn, fitted to early LP12s. Sonically way off the pace now, though.

REGA RB300 1983 £88
Inspired budget esoterica. Detailed, tight, neutral sound but tonally grey sounding in absolute terms. Responds well to tweaking, and its cheaper RB250 brother better still.



SME SERIES III 1979 £113
Clever variable mass design complete with Titanium Nitride tube tried to be all things to all men, and failed. Charming nonetheless, with a warm and inoffensive sound.

HADCOCK GH228 1976 £46
Evergreen unipivot with lovely sweet, fluid sound. Excellent service backup.



LINN ITTOK LVII 1978 £253
Arguably the first 'superarm'; Japanese design to Linn specs made for a muscular, rhythmic sound with real dynamics. Now off the pace, but the final LVIII version worth seeking out.

NAIMARO 1986 £875
Truly endearing and charismatic performer - wonderfully engaging mid-band makes up for softened frequency extremes.



TECHNICS EPA-501 1979 £ N/A
Popular partner for late seventies Technics motor units. Nice build and Titanium Nitride tube can't compensate for middling sound.

INTEGRATED AMPLIFIERS/COMBOS

DELTEC 1987 £1900
Fast, dry and with excellent transients, this first DPA integrated is the real deal for eighties obsessives. Ridiculously punchy 80W per channel from a tiny, half-size box. Radical, cool and more than a little strange.

ROGERS A75 1978 £220
The prototypical Audiolab 8000a – lots of sensible facilities, a goodly power output and nice sound in one box. The later A75II and A100 versions offered improved sonics and were seriously sweet and open to listen to.

EXPOSURE VII/VIII 1985 £625
Seminal mid-eighties Exposure pre-power, offering most of what rival Naim amps did with just that little bit extra smoothness and sweetness. Still, it's by no means 'sweet' by today's standards, being lean, punchy, musical. It's also possessed of that quintessentially eighties look – frumpy black steel boxes with rough silk screened logos!



SUGDEN CS1/P51 1976 £130
Soft sounding early Sugden combo with a plethora of facilities and filters, complete with seventies-tastic DIN socketry. A sweet and endearing performer as you'd expect, but lacking in power and poor load driving ability, so partner carefully.

VTL MINIMAL/50W MONOBLOCK 1985 £1,300
Vacuum Tube Logic was one of the Europe's biggest tube names in the eighties, and it shows. Rugged, professional build and finish allied to a lively and punchy sound (albeit with limited power) make them an excellent used buy.

A&R A60 1977 £115
Sweet and musical feature-packed integrated; the Audiolab 8000A used its blueprint to great effect.



CREEK CAS4040 1983 £150
More musical than any budget amp before it; CAS4140 loses tone controls, gains grip.

AUDIOLAB 8000A 1985 £495
Smooth integrated with clean MM/MC phono stage and huge feature count. Extremely reliable, too. Post '93 versions a top used buy.



MCINTOSH MA6800 1995 £3735
Effortlessly sweet, strong and powerful with seminal styling to match.

SUGDEN A21 1969 £ N/A
Class A transistor integrated with an eminently likeable smoothness and musicality. Limited inputs via DIN sockets.

MISSION CYRUS 2 1984 £299
Classic eighties minimalism combines arresting styling with clean, open, lively sound. Further upgradeable with PSX power supply.



MUSICAL FIDELITY A1 1985 £350
Beguiling Class A integrated with exquisite styling. Questionable reliability.



NAIM NAIT 1984 £350
Superb rhythms and dynamics make it truly musical, but tonally monochromatic. Fine phono stage, very low power.

NAD 3020 1979 £69
Brilliantly smooth, sweet and punchy at the price and even has a better phono stage than you'd expect. The archetypal budget super-amp.



MYST TMA3 1983 £300
Madcap eighties minimalism, but a strong and tight performer all the same.

ROGERS CADET III 1965 £34
Sweet sounding valve integrated, uses ECL86 output valves, even has a half useable phono stage, sweet, warm a good introduction to valves



ROTEL RA-820BX 1983 £139
Lively and clean budget integrated that arguably started the move to minimalism.

CHAPMAN 305 1960 £40
Smooth pre/power combo with a sweet and open sound. Not quite up to Leak/Quad standards but considerably cheaper second-hand.

PREAMPLIFIERS

AUDIOLAB 8000C 1991 £499
Tonally grey but fine phono input and great facilities make it an excellent general purpose tool.

AUDIO RESEARCH SP-8 1982 £1,400
Beautifully designed and built high end tube preamplifier with deliciously sweet and smooth sound. Not the last word in incision or grip, but that didn't matter to those who aspired to it.

CONRAD JOHNSON MOTIV MC-8 1986 £2,500
Minimalist FET-based preamplifier from the Yank valve specialists is brilliantly neutral and smooth with a spry, light balance in the mould of Sugden high end stuff. Something of a curio, but worthwhile nonetheless.

CROFT MICRO 1986 £150
Budget valve pre-amp with exceptionally transparent performance.

LEAK POINT ONE STEREO 1958 £ N/A
Good for their time, but way off the pace these days. Use of EF86 pentode valve for high gain rules out ultra performance. Not the highest-fi!

LINN LK-1 1986 £499
A brave attempt by the Glasgow boys to bring remote controlled user-friendliness to hair-shirt audiophile hi-fi. Didn't quite work, but not half bad for under £100.

NAIM NAC32.5 1978 £ N/A
The Salisbury company came of age with this, their classic high end pre. Brilliantly fast and incisive sound that's a joy with vinyl but a tad forward for digital.

LECSON AC-1 1973 £ N/A
Amazing styling courtesy of Allan Boothroyd can't disguise its rather cloudy sound, but a design classic nonetheless.



QUAD 22 1958 £25
The partner to the much vaunted Quad II monoblocks - cloudy and vague sound means it's for anacrophiles only.

QUAD 33 1968 £43
Better than the 22, but Quad's first tranny pre isn't outstanding. Responds well to tweaking/ rebuilding though...

POWER AMPLIFIERS

HH ELECTRONICS TPA-50D AMPLIFIERS 1973 £110
Simple design with easily available components, solid build quality and fine sound make for a surprisingly overlooked bargain. Not exactly stylish, however.

LEAK STEREO 60 1958 £N/A
Leak's biggest valve power amp offers 35 Watts per channel and more low end welly than the smaller Stereo 20. Despite concerns over reliability their rarity means high prices are the order of the day.

LEAK STEREO 20 1958 £31

Excellent workaday classic valve amplifier with decent power and drive. Surprisingly modern sounding if rebuilt sympathetically. Irrepressibly musical and fluid.



LECSON API 1973 £ N/A

Madcap cylindrical styling alluded to its 'tower of power' pretensions, but it wasn't. Poor build, but decently clean sounding when working.

MARANTZ MODEL 9 1997 £8000

Authentic reproduction monoblocks still more than cut the sonic mustard. Highly expensive and highly sought after.

MICHELL ALECTO 1997 £1989

Crisp, clean and beautifully controlled with gorgeous styling. Partnered with the £1650 Orca this sounds delicious!

LEAK POINT ONE, TL10, TL12.1 1949 £28

Early classics that are getting expensive. Overhauling is de rigueur before use, using original parts if possible. Surprisingly crisp and musical sound, that's far more modern than Quad IIs. Deeply impressive when in fine fettle.



MUSICAL FIDELITY XA200 1996 £1000PR

200W of sweet smooth transistor stomp in a grooved tube! Under-rated oddity.



QUAD II 1952 £22

The all-time classic valve amplifier, with a deliciously fluid and lyrical voice. In other respects though, it sounds hopelessly dated. Low power and hard to partner properly



QUAD 405 1978 £115

The first of the current dumpers is a capable design with smooth, effortless power and a decently musical sound. 606 and 707 continue the theme with greater detail and incision.

QUAD 303 1968 £55

Bullet proof build, but woolly sound. Off the pace, but endearing nonetheless. Some pipe smoking slipper wearers swear by them!

RADFORD STA25 RENAISSANCE 1986 £977

At the time, very possibly the least cool amplifier on the planet – and we're not talking heat dissipation here. This reworking of Radford's original late sixties design was possessed of a wonderfully rich, old school valve sound with enough power (25W) and lots of subtlety.



KRELL KMA100 II 1987 £5,750

Ludicrous monoblock version of the giant KSA-100 is one of the seminal eighties transistor power amplifiers. Massive wallop allied to a very clean and open Class A sound makes this one of the best amplifiers of its type, ever.

PIONEER M-73 1988 £1,200

Monster stomp from this seminal Japanese power amplifier, complete with switchable Class A and Class B operation. Clean, open and assured sounding, albeit a tad behind the pace on high speed dance music. Rosewood side cheeks and black brushed aluminium completes the eighties-tastic experience.



PHONO STAGES

CREEK OBH-8 SE 1996 £180

Punchy, rhythmic character with oodles of detail makes this a great budget audiophile classic. Partner with a Goldring GI042 for an unbeatable budget combination.



LINN LINNK 1984 £149

Naim-designed MC phono stage built to partner the original Naim NAIT - yes, really! Fine sound, although off the pace these days.

MICHELL ISO 1988 £ N/A

This Tom Evans-designed black box started the trend for high performance offboard phono stages. Charismatic, musical and punchy - if lacking in finesse.

TUNERS

MARANTZ ST-8 1978 £353

Marantz's finest radio moment. Warm, organic sound plus an oscilloscope for checking the signal strength and multipath.



CREEK CAS3140 1985 £199

Excellent detail, separation and dynamics - brilliantly musical at the price. T40 continued the theme...

NAD 4040 1979 £79

Tremendously smooth and natural sound allied to low prices and good availability make this budget analogue esoterica. Needs a good antenna to work properly, however.

NAIM NAT03 1993 £595

The warm, atmospheric sound is further proof of Naim's proficiency with tuners.

PIONEER TX-9500 1976 £295

Another of the serious classic solid-staters. Boasts the usual high end Jap package of fine sound, brilliant sensitivity and superb build.

LEAK TROUGHLINE 1956 £25

Series I an interesting ornament but limited to 88-100MHz only. II and III are arguably the best-sounding tuners ever. Adaptation for stereo easy via phono multiplex socket. Fed by a modern outboard decoder they're deliciously lucid with true dimensionality.



YAMAHA CT7000 1977 £444

Reputedly the best of the classic Jap analogues, this combines sleek ergonomics, high sensitivity and an explicit, detailed sound.

QUAD FM4 1983 £240

Supreme ergonomics and styling allied to a pleasingly lyrical sound with plenty of sweetness and detail made this one of the best tuners around upon its launch.



REVOX B760 1975 £520

More of a semi-pro machine than a domestic bit of kit, the Revox offers superlative measured performance although the sound isn't quite as staggering as the numbers. Fine nonetheless, and surely the most durable tuner here?

NAD 4140 1995 £199

Brilliant affordable digital tuner has a smooth, detailed musical sound plus sensible real-world facilities.

ROGERS T75 1977 £125

Superb mid-price British audiophile design, complete with understated black fascia. Fine sound in the true Rogers mould - smooth and sweet with fine dimensionality.

SANSUI TU-9900 1976 £300

A flagship Japanese tuner designed to steal sales from the likes of Accuphase and Revox, it boasts superlative RF performance and an extremely smooth and lucid sound, along with very fine build and finish.

SONY ST-5950 1977 £222
One of the first Dolby FM-equipped tuners, a format that came to nought. Still, it was Sony's most expensive tuner to date, and boasted a very good sound quality allied to brilliant ergonomics.

SEQUERRA MODEL 1 1973 £1300
Possibly the ultimate FM tuner. Massive in terms of technology, size and features dedicated to extracting every ounce of performance from radio, including impressive multi-purpose oscilloscope display.



TECHNICS ST-8080 1976 £180
National Panasonic's specialist hi-fi brand was a big hitter back then, and this is no exception. Superb FM stage makes for a very clean and smooth listen with lots of detail and depth.



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



AIWA XD-009 1989 £600
Aiwa's Nak beater didn't, but it wasn't half bad nonetheless. Massive spec even included a 16x4 DAC!

NAKAMICHI CR-7E 1987 £800
The very best sounding Nakamichi ever - but lacks the visual drama of a Dragon.



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



REVOX A77 1968 £145
The first domestic open reel that the pros used at home. Superbly made, but sonically off the pace these days. B77 better, but couldn't match the Japanese.



SONY WM-D6C 1985 £290
Single capstan transport on a par with a Swiss watch, single rec/replay head better than most Naks. Result: sublime.



SONY TC-377 1972 £N/A
A competitor to the Akai 4000D open reel machine, the Sony offered better sound quality and is still no slouch by modern standards.

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



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

MARANTZ DR-17 1999 £1100
Probably the best sounding CD recorder made; built like a brick outhouse with a true audiophile sound and HDCD compatibility.



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

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

LOUDSPEAKERS
ACOUSTIC RESEARCH ARI8S 1978 £125
Yank designed, British built loudspeaker became a budget staple for many rock fans, thanks to the great speed from the paper drivers, although finesse was most definitely not their forte...

BBC LS3/5A 1972 £88
Extremely low colouration design is amazing in some respects - articulation, stage depth, clarity - and useless in others (both frequency extremes). Came in wide variety of guises from various manufacturers building it under licence. Partner with Rogers ABI subwoofers for an extra two octaves of bass!

HH ELECTRONICS TPA-50D AMPLIFIERS 1973 £110
Simple design with easily available components, solid build quality and fine sound make for a surprisingly overlooked bargain. Not exactly stylish, however.



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

TANNOY WESTMINSTER 1985 £4500
Folded horn monsters which certainly sound good if you have the space. Not the last word in tautness but can drive large rooms and image like few others.

JR 149 1977 £120
Infamous cylindrical speaker that was ignored for decades but now back in fashion! Based on classic KEF T27 / B110 combo as seen in the BBC LS3/5a. Doesn't play loud, needs a powerful transistor amplifier, but rewards with fine clarity and imaging.



SPENDOR BC1 1976 £240
Celestion HF1300 tweeter meets bespoke Spendor Bextrene mid-bass unit - and the result is a beautifully warm yet well focussed sound. A little bass bloom necessitates careful low-stand mounting, but these prove that the seventies did have some fine designs after all!

QUAD ESL57 1956 £45 EACH
Wonderfully open and neutral sound puts box loudspeakers to shame. Properly serviced they give superb midband performance, although frequency extremes less impressive. Ideally, use in stacked pairs or with subwoofers and supertweeters.



CLASSICS

KEF R105 1977 £785
Three way Bextrene-based floorstander (complete with castors!) gave a truly wide-band listen and massive (500W) power handling. A very neutral, spacious and polite sounding design, but rhythmically well off the pace. The quintessential nineteen seventies loudspeaker.

IMF TLS80 1976 £550
Warm and powerful nineteen seventies behemoth with transmission loading and a mixture of KEF and Celestion drive units. Impressively physical wideband sound but rhythms aren't its forte.

MAGNEPLANAR SMGA 198X £800
Technological loudspeaker with genuinely musical abilities; fast, smooth, open, dry.



MISSION 770 1980 £375
Back in its day, it was an innovative product and one of the first of the polypropylene designs. Warm, smooth, clean and powerful sound.



MISSION 752 1995 £495
Cracking Henry Azima-designed floorstanders combined HDA drive units and metal dome tweeters with surprisingly warm results. Benign load characteristics makes them great for valves.

HEYBROOK HBI 1982 £130
Peter Comeau-designed standmounters with an amazingly lyrical yet decently refined sound. Good enough to partner with very high end ancillaries, yet great with budget kit too. A classic.

CELESTION SL6 1984 £350
Smallish two way design complete with aluminium dome tweeter and plastic mid-bass unit set the blueprint for nineteen eighties loudspeakers. Very open and clean sounding, albeit course at high frequencies and limp in the bass. Speakers would never be the same again...

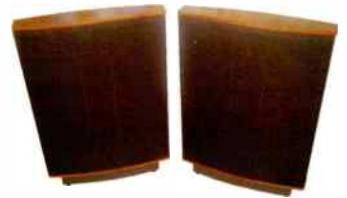


LEAK SANDWICH 1961 £39 EACH

Warm sounding infinite baffle that, with a reasonably powerful amplifier can sound quite satisfying.



QUAD ESL63 1980 £1200
An update of the ESL57, with stiffer cabinets. Until the 989, the best of the Quad electrostatics.



YAMAHA NS1000 1977 £532
High tech Beryllium midband and tweeter domes and brutish 12" woofers in massive sealed mirror image cabs equals stunning transients, speed and wallop allied to superb transparency and ultra low distortion. Partner carefully!



MISSION X-SPACE 1999 £499
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CHORD ELECTRONICS CHORDETTE GEM £399

It may look like a DAC 64 that has shrunk in the wash, but the baby Chordette Gem offers connectivity like no other digital-to-analogue converter - except its QBD76 big brother. It's certainly a homage to it, all brushed aluminium hewn-from-solid construction with even a little porthole on top so you can peer in at the circuitry inside! If anything it's slightly more brick-like in proportion, as it stands a little taller to its 72mm width and 160mm length than the full-size DACs.

Then there's the rubber duck antenna protruding from the back, adding to its stocky demeanour. There aren't many DACs requiring radio aerials but anyone who's followed the story of the QBD 76 will know that Chord Electronics is proud to have found an untapped niche in the world of technology convergence, by being first to market with a hi-fi Bluetooth adaptor. It offers the opportunity to beam digital audio from a mobile phone or computer using the A2DP (advanced audio distribution profile) option within the Bluetooth standard. This way, Chord reason, not only will the product have an extra feather in its cap for tech-minded audiophiles but it will open new markets by showing unreconstructed youth that their music can sound better.

There are only two inputs on the Chordette Gem: the wireless Bluetooth option, selected by pressing a toggle switch downward, or USB digital audio, found with the toggle up. There's no fallback to the comfort of S/PDIF through either RCA coaxial or optical Toslink - which is a shame really, since an optical input at the least would have

opened the Gem's capabilities to work with a host of extra modern digital sources, such as satellite and TV set-top boxes.

Heading straight for the Gem's party piece trick, I set it up to receive audio via Bluetooth. First with a computer, I tried using Windows XP on an MSI Wind notebook, and Mac OS X from an Apple MacBook Pro. Connection was quite straightforward, requiring just the pairing of PC to DAC as you would when connecting two phones together via Bluetooth, using a four-digit PIN code (1234) to authorise the link.

An annoying issue was found when using either Windows or Mac computers. You have to set volume level on a computer manually, or else you get digital clip when PC volume is set too high. Using VLC for example, a great open-source cross-platform audio and video app, I had to drop volume to '37%' in order to avoid digital clip. This was also the case with familiar media players such as iTunes. Another bug was found with the Chordette's stereo channel wiring, where left/right channels were found to be reversed regardless of input source.

Even though the latest 2.1 profile with enhanced data rate (EDR) has increased Bluetooth's potential data throughput since it first appeared, from 1MB/s up to a theoretical maximum of 3Mb/s, most devices will compress audio on the fly using the standard's low-complexity sub-band coding (SBC) system. In Windows, this was verified as being at 212kb/s data rate; and the results heard were not unlike mid-rate MP3 sound. Even from uncompressed WAV files, delicate piano would lose its finesse and become a little more bar-room honky tonk, for example,

while cymbals were that much more splashy. The system worked well in so far as there were no dropouts or glitches in the bitstream, and a laptop could be sited up to 8m distant before dropouts did appear.

The sound from USB was another matter entirely. Connected to a Mac, the Chordette registers as a 16bit/48kHz capable USB audio adaptor. Now the sound was rich, mellifluous and with exquisite detailing. Here was a solid, confident sound possessing an appealing smoothness in the upper treble. Like the QBD 76's USB input, it is not a hyper-real sound but more analogue and rounded, and ultimately very easy to listen to. Played this way, with volumes carefully set to optimise level before clip, the Chordette Gem gave one of the most attractive renditions of USB digital audio I've heard to date. Compared directly with the USB input of the new Cambridge DACMagic [see p38], the Gem had less sparkle at the top but more weight and tangibility.

Listening to internet radio - in this case eclectic rock from Radio Paradise's 128kb/s AAC stream - was a delight, demonstrating with devastating effect the quality now available from available web services. It really was hard to believe that the Gem was not only working with only 16/48 digital audio, but that audio had been first lossily compressed to one-tenth the size of its original PCM format. A lively Klezmer gypsy fiddle piece - 'Holy Devil' - from British violinist Sophie Solomon held attention, the pulse of Arabic drums and unbridled eastern European folk violin combining into a sinuous and spine-tingling rendition, all carried almost magically on its long journey from the west coast USA to loudspeakers via the internet, a computer and cutesy USB audio adaptor.

As a vehicle for Bluetooth, there's still scope for improvement, not so much in this hardware but the protocols used by PC and mobile handset developers. Given the available bandwidth, there's little excuse for not using more of it to send uncompressed or lossless audio through Bluetooth A2DP, which will really get music enthusiasts' ears standing up for this new medium. Other issues in the Gem need to be addressed though, such as over-level clipping and stereo wiring mistakes. Thankfully, the Chordette's core sound has the potential to make revisions worth looking out for.

AH

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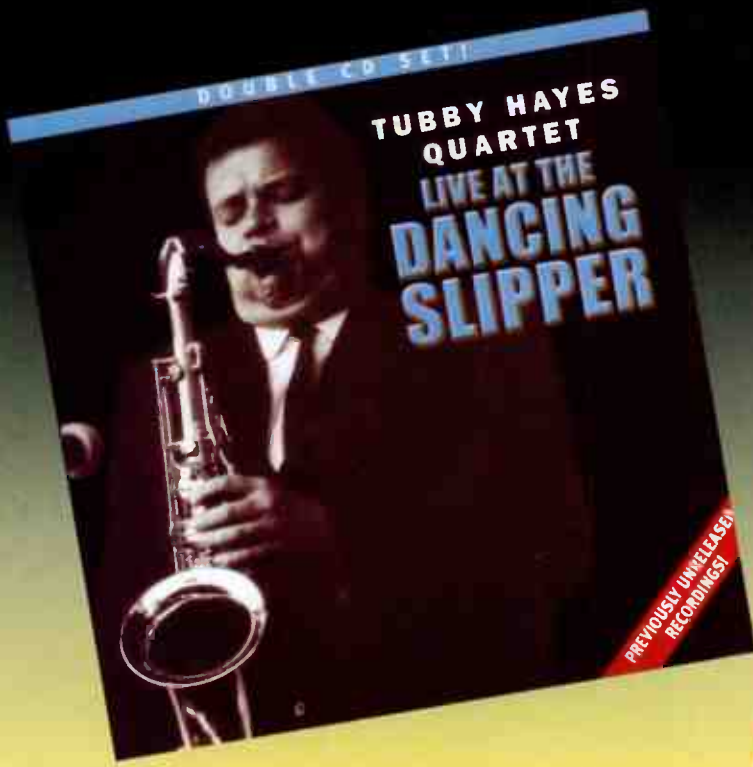
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TUBBY HAYES QUARTET
Live At The Dancing Slipper
Harkit Records

A two CD set, this performance was recorded on March 28th 1966 in The Dancing Slipper, Nottingham. Featuring Mike Pyne on piano, Danny Thomson on bass and Tony Levin on drums, the gig was recorded on a Revox open reel tape at 7.5ips by long time jazz fan, Allan Gilmour. Harkit Records utilise the skills of three different mastering engineers to produce its releases: one in the UK, one in the USA and one in Holland.

"They have different talents and different abilities. Some understand the limitations of open reel tapes, others like to work from vinyl or CDs," says Harkit Record's CEO, Michael Fishberg. A case of horses for courses. Mastering in this case meant tackling, "forty minutes of the original recording. We edited it down to two CDs - one of forty-two minutes and the other of sixty minutes. The rest featured lots of talking in the background plus other sequences of the band warming up, on the full tape".

Harkit has a range of other unreleased live tapes currently in its possession, which it hopes to release. "We are working with two broadcasting authorities to put out

some material. Certain broadcasters didn't keep much of their stuff from the sixties and seventies. Versions of those masters do exist. We may be able to lease back those masters to the broadcasters via an agreement so that we can then release this material commercially." Which is an event I certainly look forward to – especially if they're of a comparable quality to this release.

Listening to Hayes playing live is always a joy – mainly because you can tell that it was for Hayes, himself. His sense of freedom, away from a controlling studio environment, contributes to this highly recommended release.

BOB WILLS AND HIS PLAYBOYS
So Let's Rock! (The Hits And More 1936 -1957)
Great Voices of the Century

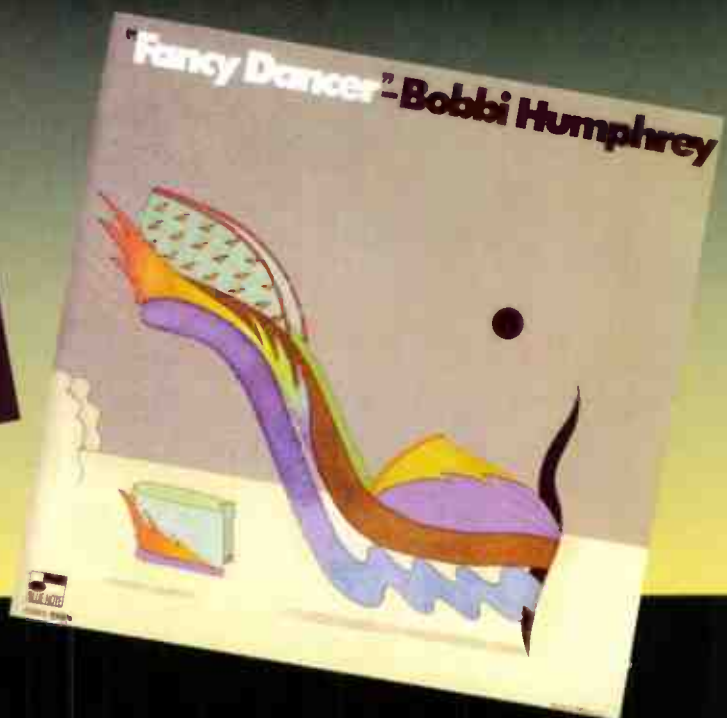
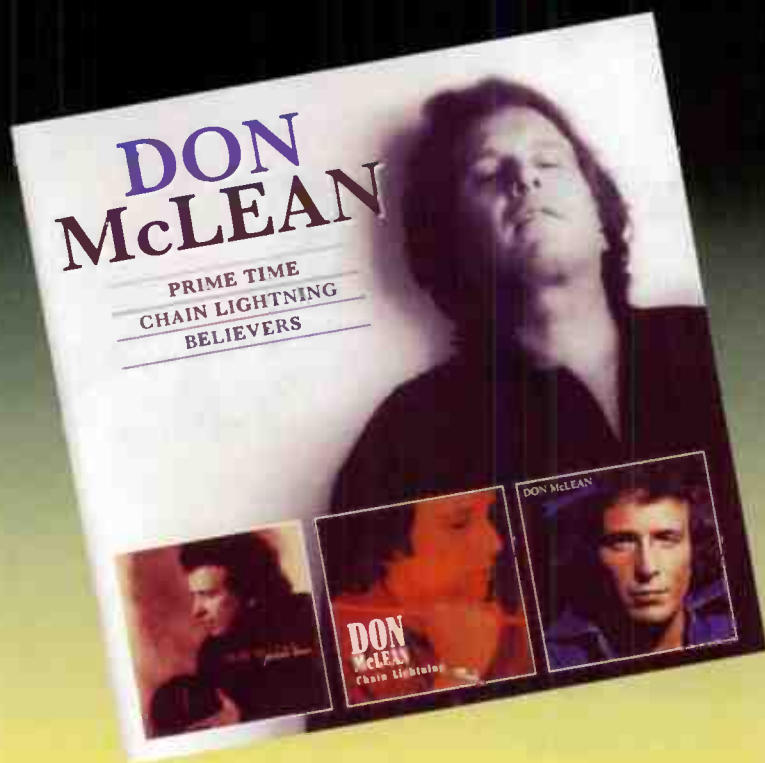
Despite the misprint on the rear of the CD claiming the label as 'Great Vices' Of The Century', it's possible that Willis does in fact deserve the epithet – after all, he certainly liked his drink and did collect five wives. A kind and generous man, his principle image was as a band leader who strutted on the stage like a regal peacock, with a broad smile – conducting his band with a fiddle bow.

Willis promoted an intriguing

genre of music known as Western Swing. He'd present a song as a jazz number but, because Wills also featured a country section within the band, the final arrangement offered the last number a pleasing 'fusion'. The American public appreciated it. During the nineteen-forties, Wills was one of the most loved music stars of his time, whilst his band featured some of the more talented musicians of the era with accompanying vocalist, Tommy Duncan, introducing a reassuring Bing Crosby-like tone to his delivery.

A tremendously influential figure whose work played a part in the development of many future country and rock bands, we see the most significant part of Wills career on this CD set. Covering both eras of shellac ('Steel Guitar Rag' on Vocalion in the late nineteen thirties) and vinyl ('Oh Monah!' on Decca in the late nineteen fifties), this fifty-six track package features a dynamic presentation that reigns in on the volume, spanning multiple stylings from the heavy electric blues guitar of Junior Barnard to the rockabilly vocalisations of Billy Jack.

As such, this CD could have presented a tricky mastering job that may have offered both problems in consistency and quality but the label should be praised for an admirably implemented compilation.



DON McLEAN
*Prime Time/Chain Lightning/
Believers*
Edsel

Here's a great case of just how a carefully considered reissue can present excellent value for money. Well mastered by Peter Rynston at Tall Order, this Edsel release packs three albums onto a two CD package. Representing an interesting period in McLean's career, this trio signified a steady revitalisation for the singer-songwriter, six years after the seminal release of 1971's 'American Pie' and his first-rate self-titled release in 1972. Although, after the release of 'Prime Time' in 1977 you wouldn't have thought so. McLean feels reenergised and brimming with ideas. Trouble is, he just empties his head into this album and those ideas fall like a pile of jumble into a sack: a string quartet-dominated arrangement on 'Statue', honky tonk on 'Jump' and country banjo on Redwing! It feels like a compilation.

'Chain Lightning', featuring the UK number one 'Crying', sees McLean reaching for covers to settle his urges but they do the job of grounding him and imposing a structure. They also reveal how good he is as an interpreter, his take on 'Your Cheating Heart' is admirable, for example. This facet of the man is

definitely worth investigating.

The culmination of his climb back up the creative hill is commendably presented by the third album in this package, 'Believers' and above all 'Castles In The Air' which is a re-recording, but this version, which became a worldwide hit, showed McLean relaxing into a groove, literally. His performance oozes confidence, he's happy and assured with his own abilities and he knows that he no longer has to stretch to make his music work. A welcome trio of albums and a CD reissue that showcases the flow of McLean's creativity. Also look out for the companion reissue featuring 'For The Memories'.

BOBBI HUMPHREY
Fancy Dancer
Blue Note

Now released under the Rare Groove series and produced by Michael Cuscuna, the CEO of audiophile record label Mosaic, this excellent reissue is one of the best albums released by the talented jazz flautist. It is a symbol for a series of landmarks for the lady who, as a result of the release of this album in 1975, was named as the Best Female Instrumentalist by Billboard in 1976. It was also the final album on which Humphrey collaborated with

Lee Mizell, a top producer who had supplied a strong platform on which Humphrey was able to creatively spread her wings.

The album also represented the final release – her sixth – for the legendary Blue Note label, before her change to the Epic label in 1977, a creatively poor period in relative terms when compared to the consistently high standards she showed while at Blue Note.

The Blue Note release shows how broad Humphrey's musical range could roam and still stay focused. Examining jazz-funk, electric jazz, jazz-pop, soul and Latin grooves, the album is always played effortlessly by Humphrey. Her performances are smooth and polished and she benefits too from quality back-up such as Oscar Brashear on trumpet, Julian Priester on trombone, Tyree and Roger Glenn on saxophone and piano, Skip Scarborough on keys, Harvey Mason on drums, Chuck Rainey on bass and Dorothy Ashby on harp. The highlight has to be 'The Trip' which flows like cream over an exotic fruit cocktail.

Sensitively mastered, this newly re-released album is ideal for those looking for more mellow jazz grooves and for Blue Note completists looking to finalise their collection.

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BJORK

DEBUT

1993 (2008)



Her first professional solo album, this release saw Bjork spread her wings after the break-up of The Sugarcubes - that seminal, Icelandic group that peddled leftfield electro-indie music during the late nineteen eighties. With 'Debut', Bjork continued her electro leanings but moved towards a more pop-oriented direction. The album is dominated partly by her mischievous and teasing song writing but also her unique voice which influences the subtle production and acts as a supplementary instrument, often performing its own stream of vocal acrobatics that bedazzle the listener.

It was a remarkable introduction to her solo career and now you can enjoy it all over again as part of One Little Indian's major reissue program which also includes other Bjork releases such as 'Vespertine', 'Gling-Glo', 'Post', the Sugarcubes album, 'The Great Crossover Potential' and the Sugarcubes' singles box set release - seen in this month's vinyl news column.

The reissue for 'Debut', like the other releases in the series, was a no-expense-spared operation. Mastered by Abbey Road and packaged in a thick card cover which is then sealed in a quality plastic sleeve, the record itself has been pressed onto thick 200gm vinyl. The record, previously a single disc affair, has now been mastered over two discs to run at 45rpm, the higher sampling rate ensuring the highest quality playback. It also allows the mastering engineer to spread the music widely over each side of the disc whilst avoiding the final twenty percent of the vinyl side which, traditionally, is where the greatest

"the best pressing of this album by a country mile..."

amount of distortion lies (test it for yourself on any jam-packed greatest hits package, for example: play the first minute of the first track and the last minute of the final track on that side and hear the difference).

The most interesting direction taken by the reissue of 'Debut' and for all the other One Little Indian reissues is the decision to master the vinyl via Direct Metal Mastering (DMM). The process, developed jointly by Telefunken-Decca and Georg Neumann GmbH, demands that, instead of utilising a lacquer-coated aluminium disc, the DMM process cuts straight to 'metal', normally copper.

Abbey Road Mastering Engineer, Christian Wright who remastered the One Little Indian DMMs, including 'Debut', is an advocate of the technique which is reflected in Abbey Road's commitment to the production technology: "I believe that there's only three DMM lathes in the UK with only two in working order and we have both of those. We also have someone in Abbey Road who can service the lathes, keeping them running. Also, Sean Davies, in the company, is one of the very few people who can take the thing apart and put it back together."

DMM's plus points include a reduction in groove distortion, which on standard vinyl bends the groove wall into the next groove causing that all-too-familiar 'pre-echo'. Also, because of the reduction in distortion, it's safe to extend the playing time on a standard 33.3rpm vinyl side. DMM is also supposed to

reduce surface noise. Wright likes the process in particular because, "I think DMM handles the top end better and is good in controlling sibilance." So what of the long-standing criticisms of the process? Some people carp about the weak bottom end whilst others say it's too cold and CD-like. "I don't agree with that," says Wright, "DMM is in the analogue domain so it retains the natural warmth of the format. I think the problem is that DMM expands frequency range a little bit and people are not used to that. DMM exposes frequencies that were always there. People are hearing that and saying, 'hang on, that's different', and people fear 'different'. So the perception might be a negative one. In fact, you're being exposed to a better representation of what the original source sounded like."

Objective listening to the reissue does reveal a clean reproduction with excellent bass characteristics and a sparkling, dynamic treble and vocal performance. How much of this is down to the DMM mastering or the high playback speed, I'm not sure. What I can be sure of is that this release (in conjunction with all the other Bjork reissues) is the best available on the market by a country mile. Beautifully produced, carefully mastered and well packaged, One Little Indian and Abbey Road has done a great job. I, for one, will be spinning all my Bjork CDs, Frisbee-like, out of the nearest window and retaining these vinyl reissues as my reference library - and so should you! **PR**

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"I hope Britain's show men never forget the importance of what they are doing..."



david price

Ah, for the romance of the road! Endless miles of travel, snatched Cornish pasties at motorway service stations in cramped cars full of boxes, stressful hotel check ins and board-stiff beds in rooms with strange smells – such is the life of a hi-fi show goer.

Well, at least that's how it's sometimes described if you canvass the trade's point of view. But there are, of course, great benefits too. Many manufacturers firmly believe in shows; seeing them as a way to meet and greet their customers, and inculcate newcomers to their own ways of doing things. It's a chance to get direct, unmediated contact with the 'buying public', and a fantastic opportunity to showcase new products. The all-important dem can be done too – and they're not relying on their dealers to set the system up; they themselves can install it to the best of their ability.

Other companies won't touch shows with a barge pole, regarding them simply as a circus the quality of which Billy Smart would never put his name too. After all, the dem rooms are often small, cramped, hot, smelly and invariably have appalling acoustics. Then there's the noise of both mechanical and electrical varieties (from fluorescent lights, wireless networks, fridges and the mains supply). The chance of getting a good sound at a show? Well, start at zero and work downwards...

Speaking personally, I love shows. As editor of this magazine, I've made my way to everywhere from Gothenburg to Las Vegas - taking in Copenhagen, Frankfurt, Berlin, Munich and Milan on the way, plus our own Bristol, Heathrow and Manchester shows. Even as a 'civilian' in my pre-*Hi-Fi World* days, I attended everywhere from Harrogate to Hong Kong shows, and being a student in Bristol back

in the eighties meant I was a regular pilgrim to my local hi-fi fest at the Marriot.

Trouble is, the show experience varies wildly, and for a number of reasons. Of course, what ultimately defines things is who organises it. In the UK, Chester Group does the Heathrow show in September, Audio T and Excellence hold the Bristol Show in February. Exhibitors often obsess on the politics of this; and given that they're paying thousands of pounds for floor space (plus all that extra expense of actually turning up with several people and vast amounts of stuff), I suppose they have a right to.

For the public however, how efficient the organiser was at publicising the event and sorting out the lift access is less of a concern; for him (or her), what's most important is the 'feel'. This is determined by a number of things, from the choice of venue to the coldness of the beer in the bar. Then there's the space, size and diversity of exhibitors, plus everything else from the car parking/public transport access situation to the quality of the freebies!

Having just returned from the Practical Hi-Fi show, held at the Manchester Renaissance hotel, I was struck by how different it was as an 'experience' to the Heathrow show I'd attended just a month before. The Heathrow show is a fair bit bigger and feels 'edgier' and more impersonal; it's more tightly packed, crowded and harder to move around. The Manchester show, by and large, had bigger rooms and a far more relaxed feel. Food and drink prices were lower, parking easier and there was easy access to the outside world for partners misguided enough not to want to spend eight hours of the day inside a hotel full of hi-fi! I loved the friendly feel of the Manchester show, but also missed some of the

excitement of the Heathrow affair...

In an ideal world, I'd take the best of both worlds, which for me would be something approaching the Munich show; this is organised by the German 'High End Society' and happens in a truly substantial venue (15,500 square metres), and boasts over 200 companies showing 700-plus brands from all around the world. Needless to say, it functions with German efficiency in a great purpose-built exhibition centre (not a hotel), offering a truly immersive hi-fi experience.

Whether or not we'll ever see such a thing remains to be seen, although many have argued for it. Last year, AJ van den Hul said to me, "you know David, why doesn't your magazine get together with all the others and do a single super show – that's what happens in Holland?" To this I replied that there's about as much chance of that happening as us having a single United Kingdom football team. Even if the mags all agreed to come together, the vexed question of who would organise it and where it would be held (Birmingham NEC?) would make Zimbabwe's current travails look like a little local council difficulty over how best to rescue cats up trees...

I think the UK hi-fi industry's best way forward is for the magazines to keep their readers in close touch with the show scene, and for organisers to work as closely as possible with hi-fi manufacturers to deliver the most hi-fi-friendly environment for the public.

I still remember hearing 'my first' Linn Sondek and Quad electrostatics at Harrogate, back in July 1980 at the tender age of fourteen. It got me hooked on hi-fi and I never looked (or listened) back – I hope Britain's show men never forget the importance of what they're doing, and that many more people are put in touch with the magic of music this way. ●

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"Isn't the job of a source, any source, to reveal the truth...?"



paul rigby

There's a problem with being too rigid in one's thinking towards reissued music. The world is not black and white - in fact it's jam-packed full of greys.

Here are a few misconceptions. Most people who aspire to audiophile music have it in their heads that vinyl is always best, no-matter-what. Yet vinyl can under certain circumstances, sound far worse than CD. Next, most people believe that a 180gm vinyl disc will always sound better than a 120gm. Actually, the jury is still out regarding the sound quality of thicker vinyl and, in fact, if you use a clamping system on your turntable, thinner vinyl can actually be beneficial. Finally, most people believe that if a reissue hasn't been derived from master tapes, then it's not worth a handful of beans. There are in fact many variables between a source and a final reissue product. Hence, there is a simple axiom that applies to all of the above: *it depends*.

Which is why the recently released series of Slade CDs, direct from the Union Square record label (www.unionsquaremusic.co.uk) deservedly won plaudits for its sound quality, despite the fact that not a single master tape was used in the entire production of the thirteen CD albums and four CD 'Anthology' box set.

The fact is that, despite the master tapes actually being in existence, the band's original record label didn't provide access to those tapes or even provide a tape or CD copy direct from the masters. The only available sources accessible to Union Square and mastering engineer Tim Turan was not a 24bit,

88.2kHz transfer copy but a series of commercial CDs and vinyl that you now might find, with a bit of luck, hanging around a record fair. Hardly a promising start!

Until Turan had a change of fortune. He found that, "the CD albums I received, my supplied sources, such as 'Beginnings', were created prior to the invention of a lot of the processing technology we have today. They were, in effect, flat transfers and were the first CD issues released after the passing of vinyl as a mass produced format. These CDs were created from the very same tape that was used to make the vinyl. So nothing much was changed within the CD because there were no tools available to do the changing..."

About eighty percent or so of the entire reissue programme was created via these early CD issues. The rest was dubbed from vinyl and Turan reported that much of this, because a very clean vinyl disc was utilised, played beautifully, producing a superb sound source signal. And this is the problem with sources, or rather pigeonholing a source type. Even if you have access to a master tape, it doesn't necessarily mean that this will be the best source of any given signal. The master tape may have been stored incorrectly, may have been biased in a certain way, may have been partly erased because it was sitting on a speaker, may suffer from channel imbalances or may have been recorded using proprietary noise reduction systems which, if the correct decoder is unavailable ("...and you try finding one of those in 2008", interjected Turan), then the final sound will suffer.

"The older Slade CD flat

transferred albums, because they came direct from a tape, already had a nice saturated sound to them," said Turan, "so they went straight into the digital domain. The later album, 'Rogue's Gallery', which came out in 1985 was processed to warm it up a bit, to give it an analogue beauty."

The flat transfers, once in the digital domain had to receive a fair bit of EQ processing. Mainly because of lead singer Noddy Holder's voice. This was a natural effect. That is, if Noddy was standing in your front room, singing his head off, his voice, around the 3kHz area, would sound very harsh. It was no different on the CD. Fortunately, Turan was able to treat that harshness and do it more successfully because he used a top notch digital processing system - such a tweak would have been harder to do in a true analogue domain.

"I was also able to lift the bass. Back in those days the equipment was not fantastic at capturing bass. The sound you got was nice and 'phat' but today's music equipment can now capture sub-bass. The low-end residual sound was present on the Slade recordings but was subdued. I was able to bring out that low-end bass for the first time."

This is a great example of just what a talented mastering engineer can do. Here was a part of the music which Slade fans had never heard before. Lifting that low end meant that the whole character might be different but it was also more true to the band's original vision of the music itself. Isn't that the job of a source, any source, to reveal the truth? And if such a source can do that, isn't that source worthy of the name? Whether it be a master tape, vinyl or CD? ●

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"with Channel 4 gone, DAB is looking really grim..."



steven green

As some of you may already know, Channel 4 has decided to close down its radio division, which puts an end to the broadcaster's plans to launch three new national radio stations on DAB, and Channel 4 is also withdrawing its 55% shareholding in the 4 Digital Group, which owns the licence for the second national commercial DAB multiplex, dubbed 'Digital Two'.

This is another disastrous blow for DAB in what has frankly been a terrible year for the platform. The original plan had been for Channel 4 to launch three new stations alongside seven others on the new Digital Two national multiplex, and Channel 4 had promised to heavily promote its new stations on TV. This, the DAB industry thought, would generate a lot of interest in the platform, and it would be just the panacea DAB needed...

This air of optimism over the new stations launching was best summed up by Peter Davies, Ofcom's Director of Radio, and who was part of the BBC team that worked on DAB in the 1990s, when he said that it would allow DAB to be "relaunched" (for the second time), and that the relaunch would lead to "DAB's Freeview moment" – i.e. it would be the spark needed to finally make DAB successful in the same way that Freeview launching out of the ashes of the collapse of OnDigital / ITV Digital did the trick for digital terrestrial TV.

Now however, it's looking unlikely that the Digital Two national multiplex will even launch at all. Only four stations remain out of the original ten that were part of the winning bid for the Digital Two licence that Ofcom awarded last year. And the problem the owners of these four

stations face is that the transmission bill alone would be around £11m per year between them, and they would have to commit to a ten or more year transmission contract.

Some of the more optimistic members of the DAB industry have said that other commercial broadcasters might step in to save the Digital Two multiplex. But considering that Digital One, the existing national commercial DAB multiplex, has been half-empty since earlier this year, when theJazz, Oneword, Core and Life all closed down, and that no stations have launched on there since then, commercial broadcasters are hardly queuing up to transmit nationally on DAB at the moment.

One alternative that's being touted is for the BBC to come to the rescue by investing in the 4 Digital Group, and using some of the Digital Two capacity itself. The BBC Asian Network was one of the stations included on the losing bid for the national licence, and the BBC apparently also wants to launch new "interactive services", which it couldn't do on its own multiplex without reducing the audio quality to even lower levels than it's already at. Owning part of Digital Two would also be an opportunity for the BBC to finally improve the audio quality of its stations on DAB – which it has previously said it would like to do – and it would make the BBC's transition over to DAB+ easier as well.

One thing that I'm sure the BBC will be aware of when considering what to do is that if it doesn't step in to rescue Digital Two, the 4 Digital Group would inevitably have to hand the multiplex licence back to Ofcom, and the future for the BBC's favoured digital radio platform would be

looking very bleak indeed.

DAB industry members point to the 7.7m DAB receivers sold to try and make out that everything's going swimmingly. But Ofcom estimates that there are around 120m to 150m FM devices currently in use. And with DAB's annual sales only being around the 2m mark, the simple fact is that it's going to take an eternity to switch off FM unless they can get the public interested in the platform. That was where Channel 4 came in...

So Ofcom had the right intentions in wanting to launch a second national multiplex. But you would also have to say that Ofcom deserves most of the blame for the Channel 4 debacle happening in the first place. It was Ofcom's decision to advertise the second national multiplex when it did, yet less than a year later four national stations on Digital One closed down because they couldn't afford to carry on. This begs the question whether Ofcom carried out even the most basic of sums to see whether launching a second national multiplex would be economically viable at the present time. We now know that it clearly wasn't. DAB's sales had been struggling ever since the beginning of 2006, but Ofcom ignored these warning signs as well and pressed ahead in the hope that providing more choice would solve all of DAB's problems. Perhaps they were taking regulatory tips from the FSA?

It would be overly dramatic to say that this is the end for DAB, because I think the BBC would soldier on with their favourite digital radio platform even if all the commercial stations stopped transmitting and there were only three people plus a couple of cats listening. But with Channel 4 gone, it's looking really grim. ●

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"I find the standard engineering arguments against cable sound frustratingly naive and simplistic..."



noel keyword

try not to talk about cables. They're a bit like Auntie Mabel, who might be an 'interesting' character but is also a bit beyond the easily explicable (i.e. she's nuts!). Quite who's nuts when it comes to cables is a potential source of argument, so I tend to avoid the subject. Sometimes the subject comes to me, though...

It came to me recently when I walked into our listening room, saw items I know but heard a sound I didn't. It turned out the loudspeaker cables had been changed from the Van Den Hul Royal Jades I usually use to some complex MIT cables. The Royal Jades have a very distinctive sound, one that is gentle and smooth, cohesive and open, without particular emphasis. On entering the room I heard a riot of high frequency detail and obvious bass; I did not need to sit in front of the loudspeakers and concentrate to know that something was wrong. Well, not *wrong* in truth, but just very obviously *different*.

This raises the issue of personal preference straight away. The Royal Jades have a reputation for sounding the way they do, which is both different and quite distinctive. It makes them something of a personal choice. What I hear as well damped treble lacking shimmer, edginess and incision, with an even, unemphasised nature another might hear as dull and unexciting. There seems to be a distinct trade-off between these properties and a common outlook that equates brightly lit treble with revelation of detail.

Since owning Quad electrostatics I now identify this as simple artifice, little different from 'turning up the bass and treble' to emphasise frequency extremes for heightened excitement. There are endless variants to be had on this theme and no one correct state, hence my scepticism.

The Quads showed me that detail and raised treble are not synonymous; quite the reverse in fact. My ESL-63s had falling treble and delivered vast insight. I am not saying Royal Jade cables do this, but I am saying they don't add their own little piece of flavour to the mix and not adding anything isn't an easy property to come to terms with sonically for many or even most listeners, who equate 'more' with 'better'.

But there's much more to cable arguments. What I have just tried to illustrate is that sonic differences do exist and can be easily discernible when a slightly left-field sounding cable like the Royal Jade comes along. But at present I am not aware of any measurements able to identify such differences and this gives rise to the accusation that perceived differences are at best illusory, at worst part of commercial confidence trick in which people are persuaded to buy something that doesn't meet basic claims made for it – and at an exorbitant price.

I find the standard engineering arguments against cable 'sound' by standard engineers using standard electrical 'lumped models' frustratingly naive and simplistic. But whilst we cannot measure differences that bear any remote relationship to what we hear, then the doubters – and there are many of them – will continue to suggest that cables do not have a sound, that any differences can be (well, must be) related to resistance and reactance, inductive or capacitive, because they are the only properties that can be measured.

One frustration of this is the assumption that if we cannot measure something, then it cannot be there. This outlook hit us a long time ago when 'perfect' digital arrived. It wasn't perfect at all, but people believed strongly it was so at the time and

that CD, therefore, was perfect. It seems absurd now, but it was a very real and fervently held belief at the time!

Comparative listening tests, especially ABX tests, are often quoted as able to solve the issue of cable sound quality, but I think not. The comparative listening tests I have run in the past, and those I have attended, all imposed peculiar pressures on listeners that frustrated obtaining a sensible result.

I tend to be comforted that we are not being deluded by the reasonable levels of agreement reached by people listening in different locations reaching similar conclusions, at least about distinctive sounding cables like the Royal Jades. But some listening tests carefully arranged can be revealing and I had an interesting cable listening experience at the Practical Hi-Fi Manchester Show recently (18th-19th October). Chord were running a demo where one CD player fed three different interlink cables, each coupled to a Creek headphone amplifier and headphones. "I like the middle one", I said to Nigel Finn of Chord after a quick listen. "It has a denser sounding midrange". It wasn't quite what Nigel had wanted or expected, because this was a midprice cable and I preferred it to a more expensive one! Whilst considering his response another show goer eagerly donned each set of headphones in turn, also selected the middle pair and when asked why said, "it has a denser sounding midrange". We were almost shocked that he not only reached the same conclusion in a snap but used the same words to describe the sound.

So there you are. Believe me – cables have a sound. I just hope one day we will know better why – then I will be able to talk about cables more easily. ●

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"we're in a situation where the computer game soundtrack of an album sounds better than the CD!"



adam smith

A recent Compact Disc purchase has brought one of the oldest debates in the audio industry right back to the front of my mind; that of recording quality. The variability in sound quality of new LPs and CDs is not a new phenomenon but is still a source of major concern today, even with the superb technologies that recording and mastering studios have at their disposal. The problem is that it still appears that, for one reason or another, sound quality often plays second fiddle to... well, in the case of my recent acquisition, everything!

There are arguments for both sides. On one hand, there are people like me who would like the best possible sound quality from the source materials that they are working with. Why bother spending thousands of pounds and a whole heap of hours in buying and setting up a quality hi-fi system when your chosen music is so badly produced that it makes your precious setup sound like an Amstrad Tower system anyway? Furthermore, to me it seems elementary that any band would want their precious words and music to be heard in the best way possible, but it appears that this is not always the case...

Equally however, you have the flipside, and I quite agree that the reason most of us buy music is to listen to the content and not the production values. This is of course, leaving aside the enthusiasts we have all heard of, who own hideously expensive hi-fi systems and only own a handful of test discs to play on them! Of course the material is most important, but is it really so wrong to expect a little more quality from a modern purchase? I don't think so. For me, the enjoyment of music is greatly enhanced by it being well recorded. We want to get closer to

the original sound, and mastering engineers who go and widen that gap again are doing no-one any favours.

The CD in question that has raised my ire is the new album from Metallica, 'Death Magnetic'. The music is superb; in my opinion a real return to form for the boys after the rather challenging 'St. Anger' from 2003, but the sound quality of the CD is diabolical. The whole album has been cranked up as loud as possible and then compressed to within an inch of its life to leave a jumbled, distorted and ear-wounding mess, with the occasional loud 'crack' on snare drum hits that had me fearing for the safety of my loudspeakers. Discussions are raging on the internet about the result, with some interesting comments on the 'Mastering Media' Blog (<http://mastering-media.blogspot.com/2008/09/metallica-death-magnetic-sounds-better.html>) and opinions from both sides.

According to investigations carried out by various studio engineers, it appears that the band themselves wanted the CD to sound like it does, this being a perfect example of the 'Loudness Wars' that have come to plague the record industry over recent years. In this case, albums are mastered with everything turned up high and a crude limiter is introduced right at the end of the chain to make sure that no-one's equipment gets damaged. The result is a loud-sounding disc which is used to reinforce the hard rocking credentials of a band like Metallica. The problem is, as I can hear only too well, the life is sucked out of the music and most of the instruments end up a sonic blur. Now I know perfectly well that 'non-metallers' will argue that Metallica aren't far from being like this anyway, but my point is that they have no need of this artificial tomfoolery – taking a listen to their

'Black Album' from 1991 reveals fine sound quality and no reduction in rocking impact. In fact, an album mastered well like this has more impact to my ears, as the difference between the quiet parts (there are a few!) and hard crescendos occupies a wide dynamic range, highlighting the difference between the two much more effectively than on the new release, where everything is just a crude and noisy mess.

As far as 'Death Magnetic' is concerned, a petition has been started online to try and force Metallica or the record company to admit their butchery and issue a remastered version that removes the compression and lets us hear the songs as they were originally recorded in the studio. You can find it at www.gopetition.com/petitions/re-mix-or-remaster-death-magnetic.html, and the signature log at the time of writing is around 13,000. We know that this result will be better, because of one final aspect that this investigation has uncovered, which frankly left me speechless. This is the news of the discovery that the MP3 soundtrack version of 'Death Magnetic' that is used on the PlayStation 3 'Guitar Hero' game hasn't been mangled in this manner and sounds quite respectable when burned to a CD!

Am I the only one depressed that we should now find ourselves in a situation where the computer game soundtrack of an album offers better quality than the CD or LP? I certainly hope not and intend to help start change by taking my 'Death Magnetic' CD back to the shop for a refund, citing its abysmal sound quality, and signing that online petition to have it remastered. Let's just hope the band will listen. ●

(see our Letters this month for more on mastering madness)

vinyl section

contents

DECEMBER 2008

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ROKSAN XERXES.20 PLUS 100

The latest incarnation of Roksan's iconic turntable is taken for a spin by Adam Smith...

DUMPED! 105

This, the second of a two part feature on buying vinyl systems on a budget, sees Adam Smith recommending choice cheap turntables.

A.N.T.AUDIO KORA 3T III

This exclusive review of this brand new phono stage, designed by the man behind much of Creek Audio's recent (and excellent) output, is brought to you by Adam Smith...

news

PARLOPHONE DUO

Just to prove that the major record labels do in fact still support vinyl as a format, Parlophone has released the vinyl version of Coldplay's 'Viva La Vida' as a gatefold complete with a twelve-page booklet featuring photographs and carefree art prints a go-go. Also, The Verve's 'Forth' is presented as a heavyweight limited edition, in a gatefold, spread over two discs to improve sound quality.



JUST LURRRVE THAT JAZZ

Making its debut in Hi-Fi World is Venus, an audiophile record label directly imported from Japan by the UK distributor Discovery (www.discovery-records.com). The label is a rare treat and sports beautifully presented editions – all on either 180gm or 200gm vinyl – within a plastic sleeve, which is then slipped into a paper sleeve and stored in a thick card outer sleeve. A Japanese obi-strip is coquettishly displayed on one side and then the lot is inserted into a plastic bag.

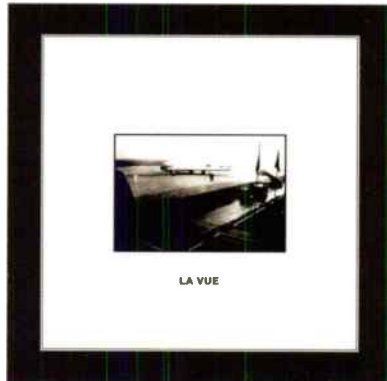
Releases include Dan Nimmer Trio's 'Tea For Two', featuring David Wong and Pete Van Nostrand. Nimmer, a rising star in the genre, a Milwaukee-raised jazzman, offers a fresh and clean style. 'Stranger in Paradise' features guitarist, Peter Bernstein, playing straight-ahead jazz with pianist Brad Mehldau, bassist Larry Grenadier and drummer Bill Stewart. Refined jazz, well supported by the rhythm section. Finally, pianist Bill Charlap is joined by Jay Leonhart and Bill Stewart on 'Begin The Beguine' as the New York Trio. An intimate session of Cole Porter renditions, the trio show obvious joy as the closely miked performance extracts every nuance of the material.



BABY IT'S COLD OUTSIDE

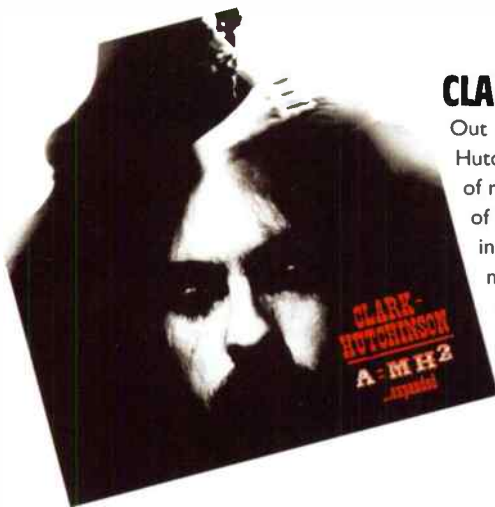
Producing some of the most luxurious vinyl releases in the world, Germany's Vinyl On Demand also offers up some of the most extreme and avant-garde material. Yet, both ADN'ckrystall's '1978-1988' and Opera Multi Steel's (OMS) 'K7 Tapes Archives MCMLXXXIII-MCMLXXXVII' box sets derive more from the popular cold and dark wave material of the post punk era. OMS, a French-based outfit, takes cues from early Cure and Human League and then runs with them. Featuring three LPs of rare works from limited tapes plus unreleased works, this excellent array of synth-based music pushes the familiar tones down experimental pathways.

As does ADN'ckrystall, via their three 10 inch box set, packed with instrumental rarities from a mini-album, EPs and more. Watch out for a haunting take of The Cure's 'A Forest'. Both box sets are limited to 600 copies each, as is 'Tapes 1977-1983', from the French avant-garde outfit Etant Donnes. Featuring umpteen found sounds, hundreds of sampled noises and mysteriously treated voices locked into a sonic jigsaw, this six LP collection, in a leather box, also featuring a live performance on DVD lets nature decide on its own rhythms and fate to trigger a melody of sorts. Listening to this box set is like living a life of twenty years in just a few hours.



LA VUE

Trilogie Vol. IV
Rock Noire
1987-1988



CLARK-HUTCHINSON

Out now via Sunbeam is Clark-Hutchinson's 'A=MH2' - a mystical fusion of rock, blues and Indian vibes on top of a smattering of chanting. Released in 1969, via Mick Hutchinson and multi-instrumentalist Andy Clark, this trance-inducing release was highly influential to the likes of Peter Green and John McLaughlin.

METALLICA GO AUDIOPHILE

The latest album by Metallica on Vertigo, 'Death Magnetic', is fast, aggressive, powerful and the tracks often hit the winding prog road. Indeed, it's a production that resembles their successful early works.

This vinyl box set – yes box set – takes the band's music to extreme audiophile levels. Spanning five LPs, the album places a single track on each of the ten sides and then spins them at 45rpm to squeeze every last shade and tone out of this epic new arrival. Now, as you are bombarded by the sonic shrapnel, you'll have enough time to admire the music's quality, just before it reduces your ears to dust.



HERE COMES THE SUN

Taking his classic mid-nineteen fifties recordings for Sun Records, Retro-Deluxe has released the first six of Johnny Cash's Sun singles as a 7 inch box set, limited to 1,000 samples and called simply, 'The Sun Singles'. Beautifully presented in Sun-logged paper sleeves, as jukebox editions, without any centre spindle holder, the box does include a separate spindle holder ready for you to insert before play. An eight page, glossy colour booklet supplies the informative liner notes covering the likes of 'I Walk The Line', 'Folsom Prison Blues' and 'Hey Porter!' Every Cash fan needs this box set.

Pro Plus

Roksan's latest Xerxes.20 Plus turntable takes vinyl performance to a new level at the price, says Adam Smith...

Although a popular electronics manufacturer now, few can forget how Roksan originally made their name with turntables. Right at the height of the Linn Sondek LPI2's powers in the mid eighties, the company launched the original Xerxes, which well and truly put the cat amongst the hi-fi pigeons. Since then, Touraj Moghaddam hasn't looked back. The Xerxes proved one of the big guns that finally helped to bring a sense of perspective to the 'if it isn't an LPI2, it isn't any good' school of thought that was so prevalent at the time...

A few years back, the company introduced their flagship Touraj Moghaddam Signature deck (TMS), from which have 'trickled down' several improvements to this new Xerxes.20 Plus you see before you. Most notable of these is the bearing, which comes complete with a Tungsten Carbide high precision ball on which the inner platter rotates, encased in a solid phosphor bronze sleeve, apparently featuring a spindle to sleeve gap of two ten-thousandths of an inch along its length! The spindle is tapered and fits to the inner platter securely without any adhesive.


The inner platter, like the outer, consists of two parts that are friction fitted together; needless to say, this requires machining to precise levels. The overall ethos of the design of the pair is to generate high inertia through distribution of mass around the periphery of the outer platter. The inner item is belt driven by Roksan's diminutive yet highly capable motor, which is resiliently mounted and held in position, but allowed to move around the axis of the motor pulley, by the use of a spring. Roksan state that this flexibility allows the motor to absorb transient speed changes, keeping their effects away from the stylus. The motor is driven by a standalone power supply, the

Caspian DX2, which also has space inside the case for fitting a Roksan phono stage for an all-in-one vinyl solution.

The plinth on which the 20Plus is mounted is another design that gives more than a passing nod to the TMS, and is split into three parts. The bottom part serves as a support and main base for the deck, and is fitted with three adjustable feet, mounted in the bottom of the upper/lower plinth decoupling domes. The upper plinth, which is finished in either Gloss Black, Gloss Rosewood or Gloss Maple, features a cut-out in which the sub-plinth sits and the arrangement and shape of which harks back to the original Xerxes. Finally, the sub plinth carries the main bearing and armboard, and has been computer-modelled using finite element analysis in order to optimise its shape and coupling to the lower plinth.

Unpacking the Xerxes 20Plus was a nice trip down memory lane as, much as I am a big fan of multiple-element decks such as last month's Consonance LP3.1, there does tend to be an element of 'What does this bit do?' and 'Where do these fit?' with such units. However, opening up Roksan's sturdy box reveals a good old fashioned square wooden turntable that requires minimal fettling and assembly to have records spinning in a short time. Interestingly, the range of suspension and plinth adjustments available on the 20Plus are comprehensive and clearly detailed in the manual in order to have everything exactly spot on, but it is a testament to both the design and the construction that everything was absolutely perfect as delivered.

The review Xerxes 20Plus came fitted with its natural partner, Roksan's £1,725 Artemiz arm. This is a long-serving item that dates back to the original Xerxes, although it was nearly a little bit different. You see, my brochure for the very first Xerxes has a line drawing of a forthcoming



arm on the back, bearing the name 'Cambyses'. This was intended to be a combined arm and cartridge made from a single machined piece of metal, simply requiring the addition of MC cartridge internals at one end, and a bearing housing at the other. This would undoubtedly have been an impressive beast but Touraj realised that it would have been prohibitively expensive to make and sell (he estimates around £6-8,000 were it on sale today) and that, when your stylus wore out, you'd need a new arm! As a result, the two were separated, to become the Artemiz arm and Shiraz cartridge.

The Artemiz uses a one piece machined aluminium armtube and headshell, plus Roksan's intelligent counterweight, which is supported on a single point and is free to move as the arm traverses warps, thus altering downforce to maintain stability as they are tracked. Bias is applied by a novel setup that uses both a thread and spring to apply a gradually reducing force as the arm tracks the record – the correct way of doing things, but tricky to implement and a little fiddly to set up. Once again though, concise and well illustrated instructions aid things greatly. Both arm and turntable are beautifully built and immaculately finished – if SME are the Rolls Royce of turntable construction quality, then these Roksans are easily the Bentley!

SOUND QUALITY

If the build quality of the Xerxes 20Plus says 'solid' then so does the sound of the deck. Roksan have engineered a drive system that is



secure and stable, as shown by the very low wow and flutter figures [see MEASURED PERFORMANCE], and this translates into a highly rhythmical and detailed soundscape. Fitted with my reference Audio Technica AT-OC9MLII cartridge, I sat back and could not fail to be impressed by the sheer scale and solidity of everything that I passed under the stylus. I won't bore you again with my predilections regarding vinyl bass, belt drives and idler drives but suffice it to say, this is one of the most idler-sounding belt drives I have heard at the low end.

The result was a lovely fulsome low end to all sorts of music. The plucks of the double bass from The Cinematic Orchestra's 'Burnout' were firm and taut with an easy rhythmicality that underpinned the track perfectly. Above this, the horns used as backing sound effects seemed to come from a long way behind the loudspeaker cabinets, and the cymbal tapped throughout the track was not even in the same room, or so it seemed! The Xerxes 20Plus continually proved that it could easily fill the space in between my loudspeakers with an authority, depth and the sort of sophisticated effortlessness that separates the good turntables from the truly great ones. The Roksan let me hear right into the performance, filling the end of my listening room with music that

flowed easily from the loudspeakers.

A large part of this transparency was as a result of the midband and its abilities. The Xerxes 20Plus has the rare ability to cut right to the heart of the performance without masking or subduing any part of it. There are many turntables that please on many levels, but that

to one side to let the music through.

A perfect example was one of my favourite singles from last year, Arcade Fire's 'Intervention'. This is a densely recorded affair, with much

"this turntable gives a highly emotive, detailed and intricate performance, underpinned with commanding authority..."

still can be found wanting in some areas, one of the chief of which is the ability to really, and I mean really, cut through any pressing issues, any studio maladies and any mastering oversights, to really pull out the heart of the music. Yes, such artefacts were still there, and thanks to my highly revealing AT-OC9MLII, they were most certainly not hidden, but the Xerxes 20Plus and Artemiz simply pushed them

instrumental action going on behind Win Butler's vocals, and I have heard more than a few decks become



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10 AUDIO REVIEW

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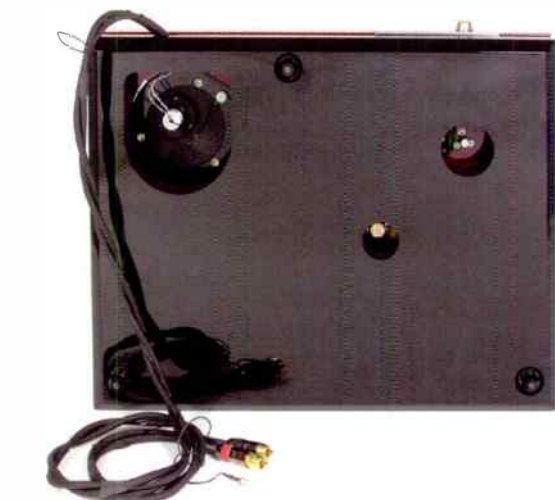
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a little overwhelmed by the track, resulting in muddle. The Xerxes 20Plus however, pulled the whole affair apart with precision, leaving each backing instrument in focus behind the vocals but without muting the essential warmth of the song, and in particular the organ which forms its foundation.

Moving to better recordings was a delight however, and took the whole atmosphere to a new level. The Blue Nile's 'A Walk Across the Rooftops' had my jaw slack in admiration, as the almost percussive bass guitar drilled out into the room, and the backing effects layered behind it floated off at a respectful distance. Being ultra critical for a minute I felt that the kick drum impacts still fell slightly short of the sheer lung-contracting power that my Garrard 301 offers, but the Roksan definitely pipped it to the post in atmospheric precision terms.

At the top end, the Roksan is sweet, detailed and blessed with staggering clarity. The rather lively headshell of the Artemiz undoubtedly adds a little 'zing' in this respect but, whilst this could become rather uncomfortable on a more forward-sounding deck, the innately smooth and

refined nature of the Xerxes 20Plus motor unit complements it perfectly, giving a beautifully judged overall balance. Cymbals had just the right sense of crispness to their strikes but there was never any sense of splash, even when the percussionists in question were really 'giving it some' and the way in which the notes decayed off into the distance was nothing short of blissful. All in all, the turntable and arm pairing work beautifully together and offer a highly emotive, detailed and intricate performance, underpinned with commanding authority.

CONCLUSION

The Roksan Xerxes 20Plus makes spinning LPs a truly magical experience, taking vinyl to a whole new level. Maybe the Xerxes 20Plus doesn't have quite the sheer low end power of a Garrard 301, the staggering image depth of an SME10A or the cavernous soundstage width of a Gyro, but its brilliantly 'in focus' all round sound is truly something to behold.

REFERENCE SYSTEM

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

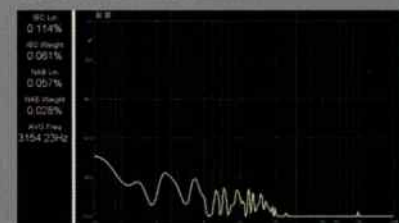
MEASURED PERFORMANCE

Wow components above 1Hz, away from the disc eccentricity component at 0.55Hz, were low at -80dB (0.01%) or less, summing up to 0.061% IEC weighted, a healthily low value that is difficult to better. There are no flutter components above 20Hz and what wow there is looks more like random variations than discrete components due to any particular mechanical effect. Speed accuracy was a negligible 0.1% fast so the Xerxes runs both smoothly and at the right speed.

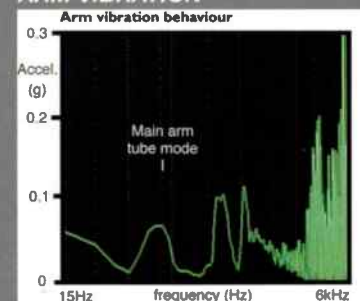
The Artemiz arm was 'ringy' when tapped and not unexpectedly exhibits a main tube mode at 180Hz, plus another two peaks at 600Hz and 1kHz. As there is a fair bit of area under the peaks quite a lot of energy is appearing here; narrow peaks are no problem but wide ones suggest bass quality, dynamics and even imaging may be affected. The headshell is also very lively, possessing a lot of densely clustered peaks of high overall level.

The Xerxes 20 turntable measures very well but the Artemiz arm proved undistinguished. NK

WOW AND FLUTTER



ARM VIBRATION



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In the second part of his credit-crunch busting feature, Adam Smith takes a look at the business end of budget vinyl replay...

Dumped!

Having successfully risen to editor DP's challenge last month and brought in a complete vinyl playing system at under £60 (which, incidentally, is still working perfectly and playing right now behind me as I type), I now want to turn my attention to the actual turntables themselves, to help those numerous readers who have asked me either what could they buy for not very much money to play the few records that they have, or how to go about resurrecting an old friend they have in the loft...

KEEP IT SIMPLE

Considering the new purchases first, it is worth giving a general overview

of what to look for when buying a deck, or whether the one you have just stumbled across is worth shelling out for, and the key point here is simplicity. If you want to spend a small amount of money on a deck to play a handful of records, there is no point in going for something that is frail, complicated, temperamental and delicate, as you'll spend more time fettling it than listening to it.

For example, I bought an ADC Accutrac 4000 for around £50 a few years back and it continues to work to this day, but I bought it from a collector's point of view. Normally, a computerised nineteen seventies direct drive that has a reputation for being unreliable, uses long unobtainable control ICs

and a stylus exclusive to the model would be a long way down my list of recommendations! Rather, it's much safer to buy something basic by a well known manufacturer – even if the manufacturer in question will no longer support the model (and few do) it should not be too long before another crops up that you can grab for spare parts if the need arises.

As with the Yamaha amplifier I used in my system last month, you really can't go far wrong with a Japanese manufacturer. Their products are robust, simple and neatly designed and will keep turning for years – think Pioneer, Technics, Sony, Yamaha or Trio/Kenwood. In keeping with the simplicity theme, I would also always stick with a belt

simply musical



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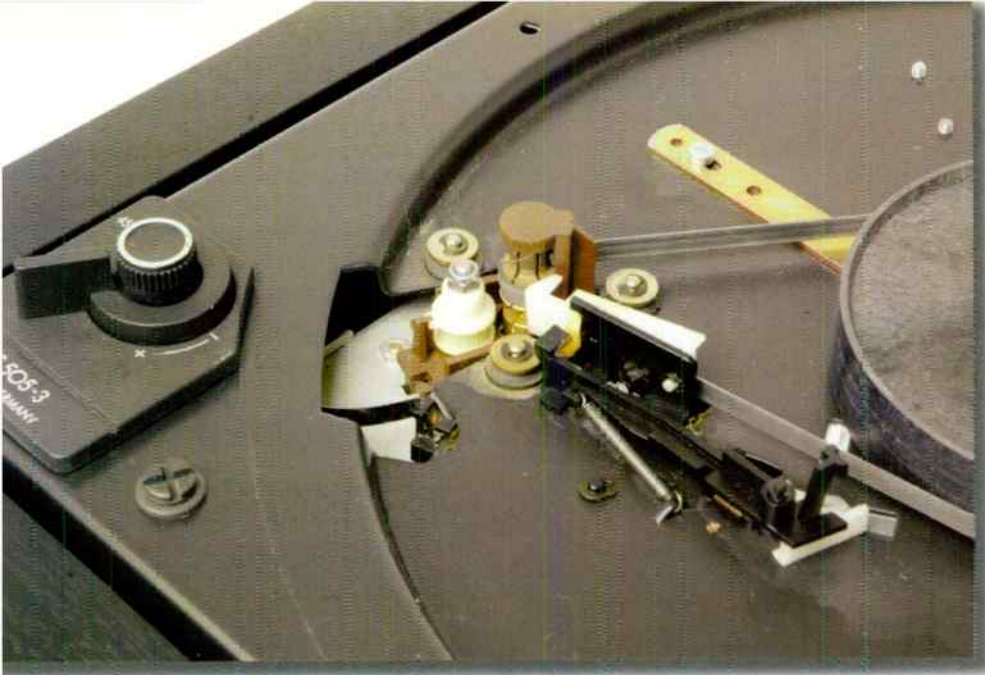
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The inner workings of a classic 1980s Dual belt drive deck. There should be a second belt in this picture; even Adam gets caught out sometimes!

drive deck at this end of the price spectrum. Although my love of idler drive and direct drive units is well known, the fact is that these will require more regular maintenance than a belt drive and there are more things to go wrong. When your old direct drive's speed starts going a bit wobbly, it's usually time to break out the oscilloscope and RS catalogue, and start surfing the 'net for obsolete IC equivalents. On a belt driver however, nine times out of ten a new belt and a clean of the drive surfaces will have your deck singing sweetly again.

automation as possible. If you do have a particular model in mind, then try to do a little research on it – the internet is highly likely to bear fruit in this regard, and sites like The Vinyl Engine (www.vinylengine.com) have a large library of instruction and service manuals that can be downloaded for free after registering. They also have a discussion forum populated by vinyl fans, as does U.S. site AudioKarma, which specialises in vintage gear. The importance of this research was not lost on me when my Dual CS505-3 arrived for last month's feature, as I

of these have proven to be good, solid performers and set me back less than £20 each.

GOING SPARE

So, you have your new deck home, or have blown the cobwebs off your old friend found in the back of the loft and now need a spare part or two – what to do? The most common disposables an old turntable will need are a belt and a stylus and if I had a pound for every time I have heard a statement along the lines of, "you can't get the belts or needles for them any more can you?" then I

"think simple, belt drive and with as little automation as possible..."

Thinking simplicity again, beware of units with complicated automation facilities. A fully manual deck is the safest of all as there is nothing to go out of adjustment, although most semi-autos are usually okay, such as my Dual CS505-3 which has a simple and reliable auto-stop mechanism. I would tend to give anything fully automated a miss unless you can see the item in question working and be happy that it operates smoothly and without any hesitation. If the arm of a fully automatic turntable misses the record when lowering, it can often mean a simple adjustment is required, but equally there is the potential for a whole raft of necessary tweaks to bring that one recalcitrant annoyance back into line – anyone who has ever poked around inside a B&O Beogram 4000 will know exactly what I mean!

To summarise then, think simple, belt drive and with as little

have a little confession to make. You see, the Dual has a variable speed facility that works by opening and closing the motor spindle, which is segmented like an orange, to change its diameter and thus alter the speed. This is achieved by a small toothed belt which often breaks – I knew this was an area of weakness, but forgot to ask the seller about it and sure enough, mine was broken when it arrived! The deck can be set to run at the right speed without the belt, although it's a fiddly process, and new items are available from the U.S., but are \$40 each. So never underestimate the power of doing your homework and asking pertinent questions!

As to a few worthy models, the Dual is an obvious contender, but I can also recommend the likes of the Pioneer PL12D, Technics SL-B2, Rotel RP1000, Akai AP-B21, Trio KD-1033, Yamaha P-10 and Sansui SR-222. All

would be quite a bit wealthier! You see, you can still buy both belts and styli and it's merely a case of knowing where to look. For needles, look no further than the pages of *Hi-Fi World*, as the likes of Musonic and Mantra Audio advertise regularly and are ideal ports of call for all things of a cartridge nature – give one of them a ring and they'll be happy to sort you out.

A word of warning, though – some original or remanufactured styli from the heyday of vinyl are still available but cost astonishing amounts of money. Before committing to buy one, do remember that a brand new Audio Technica AT110E cartridge and stylus can be had for £30, and is often a far more sensible bet. Always consider that, although the old cartridge on your deck was good in its day, just how healthy is it after being sat for ten to

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twenty years in the loft?

Belts require a little more work but are far from a lost cause – many dealers and your local Maplin store carry a basic range, but for more specific lengths there are companies like Elex Atelier on the web – they are a U.S.-based site who know all there is to know about turntable belts, and have even arranged to have rare lengths re-made in the past if enough demand has arisen. Simply drop them an email with your turntable details and they'll do the rest for you. Closer to home, but requiring a little more legwork, are companies like CPC and RS. They actually sell a very wide range of belts between them, but list them by diameter rather than turntable model number. In this case you need to work out which size you need, usually for one of three scenarios:

(a) If the old belt is still on the deck but is stretched and loose – remove the belt and measure its circumference (length). Then deduct 10% to allow for the fact that it has stretched, and divide the result by

3.14. Check your chosen supplier, pick the belt with a diameter closest to this figure and this is the one you need.

(b) If the old belt is there, but has snapped – again, simply measure the length, deduct 10% and divide by 3.14 to obtain the diameter.

(c) If the belt has long since disappeared/disintegrated – if you have easy access to the motor pulley and driven subplatter, simply mock up the route of the belt with a piece of string and measure it, before proceeding as above, but if the belt drives a surface hidden under a one-piece platter, then this is more tricky. If you're not mathematically

before fitting your new belt, give the main bearing a drop or two of Three-in-One oil and you should find your deck is ready to spin for many more years.

The final things to watch out for on an older unit are poor connections, especially where detachable headshells are concerned. Cleaning the contacts of these, as well as cartridge tags, with Kontak cleaning fluid is always a worthwhile maintenance tip and can even resurrect a lost channel. If there is anything more serious wrong with your old deck then a local television and audio repair store is your best bet unless you're happy to have a poke

"In an age where recycling is becoming more relevant to our daily lives, don't chuck out an old turntable..."

inclined, a very basic method is as follows - firstly, using a piece of string, measure the circumference of the part of the platter that the belt normally drives and divide this figure by two (measurement A). Then, measure the distance from the turntable's centre spindle to the centre of the motor pulley and double it (measurement B). Add measurements A and B together, deduct 10% and divide by 3.14 and you have the approximate diameter of the belt you will need. Obviously the accuracy of this can vary depending on a number of factors, but it's a good starting point. Those trigonometricians amongst you will no doubt be able to obtain a more accurate result!

Always clean the drive pulley and the platter drive surface with isopropyl alcohol or similar

round yourself, or have a handy friend who will do so on your behalf. Do remember though, that these places often charge £30 plus just to have a look at something, with no guarantee they'll be able to repair it – always ask, is the item in question really worth it?

CONCLUSION

I hope I have shown that you can indeed spin vinyl on a budget, and that you don't have to spend a fortune in order to enjoy the delights of the good old LP – in particular, that old deck that you have hidden away needn't end up in the bin just because it needs a new belt or stylus. In an age where recycling is becoming more and more relevant in our daily lives, don't chuck out an old turntable without at least researching whether it could be resurrected. And if you do decide it's not worth the bother, do pop it onto eBay, into your local Freecycle group, or take it to your local recycling centre rather than flinging it into a skip, so that someone like me will be able to buy it and recycle it for you. Who knows, it may even end up on the pages of your favourite hi-fi magazine one day!

THE ULTIMATE BUDGET TURNTABLE!

So, what is the king of them all in terms of sound per pound and simplicity? Easy – the Panasonic/Technics SL-N5 [pictured on p105]. What, I hear you cry – that cheap plastic thing with the arm across the back that was found on top of Technics midi systems back in the eighties? Well, yes, that's the one and for a couple of very good reasons. Firstly, whilst it is indeed plastic, fairly light and fully automatic, it actually comes with a decent T4P MM cartridge, plus a built in switchable phono preamplifier that is surprisingly capable. Not only that, but it turns in a downright impressive performance that belies its midi system heritage – it may fall short of the likes of a Pro-Ject Genie, or even a Pioneer PL12D, but it sonically wipes the floor with the Bush MTT1 that certain magazines fell over themselves to endorse a couple of years back and which can still be bought for around £50. Most importantly, however, is the price; after all the focus of this article is vinyl on a budget, and here the SL-N5 has *no* equal. You see, the SL-N5 pictured is mine, bought from a car boot sale, fully working, for the princely sum of £1 and it is the third one I have bought for precisely the same amount! Watching one on eBay recently, I was astonished that no-one put in a bid for it at a start price of £7. 'Ah, but what about the stylus?', I hear you say – well, the EPS-24CS type that the deck takes seem to be a permanent resident in eBay's turntable accessories category, and current price for a brand new one, including postage, is £8.50. If that isn't the vinyl bargain to end all vinyl bargains, I don't know what is!

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Elex Atelier – www.elexatelier.com
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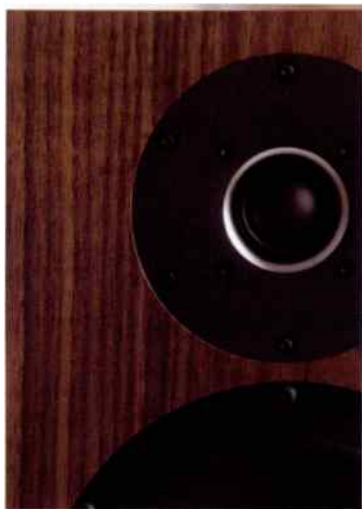


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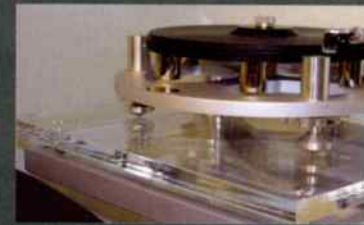
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Ant Eater

The brand new Kora 3T phono stage from ANT Audio looks set to consume its immediate competition, thinks Adam Smith...

New phono stages are seemingly ten a penny right now, but this cannot be said about products from Alex Nikitin. The chief electronics engineer for Creek from 1993 to 2002, he has recently gone solo and come up with a range of electronics from phono stages to headphones amps, all of which we'll be seeing over the next few months.

Since leaving Creek for a career in industrial electronics, Alex kept working on the ways of improving the quality of audio electronics in his spare time. The end result is A.N.T. (Alex Nikitin Technology) Audio, and his first product was the Amber headphone amplifier (available as a DIY kit), which has been very well received by enthusiasts on the www.head-fi.org headphone forum, amongst others. Alex's next step however, has been to venture into the world of vinyl reproduction with the phono stage you see here...

The name actually stems from the fact that the design is a simple one, and uses three transistors per channel with local negative feedback

in a single-ended Class A circuit. The RIAA equalisation is achieved using passive circuitry, there is only a single amplification stage and, as might be expected by the basic nature of the circuit, the unit is suitable only for MM or high output MC cartridges. As a result of the circuit's simplicity, Alex explains that the quality of the components become of paramount importance, and consequently the 3T is available in three variants. The first of these is the standard type, retailing for £175 and complete with fixed DC biasing, standard polypropylene capacitors for load and RIAA duties, standard Panasonic FC types for the power supply and biasing duties, and a green power LED. Main supply juice is provided by a standard regulated 24V 'wall wart' type PSU.

Upping the budget to £325 buys this 'Special Edition' variant, which adds polystyrene load and RIAA capacitors and ELNA types for the output and biasing duties. Circuit bias is also adjustable on this model, via a small trim pot on the rear panel, the power supply is a high performance type and illumination is provided by an orange LED. Finally, £775 brings

you to the 'Limited Edition', made to order only. This goes the whole hog with tightly toleranced capacitors and Holco resistors throughout, Black Gate bias capacitors, and ultra low noise PSU and a red LED. The 3T comes in a very neat and unobtrusive package, measuring 48x91x133mm and weighs less than 1kg.

SOUND QUALITY

Heeding the instruction leaflet's advice regarding warm-up, I duly left the 3T SE idling for a couple of days before listening began, when initial impressions were favourable. The Kora's arch rival is the Trichord Dino at £320, which is a far more feature-packed affair, being adjustable for gain, load and use with MC cartridges. It's a very fine performer at the price, but definitely comes in at one end of the sonic spectrum, being quite forthright, snappy and mechanical sounding in the wrong system. The 3T SE however is right at the other - as its simple Class A innards endow it with a marvelously flowing and sweet nature that brings forth vocalists and instruments in a highly satisfying way.

Spinning 'The Blue' from David

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Gilmour's 'On an Island' LP, the Kora took David's guitar work and had it pouring from the loudspeakers in a sublime manner, each note flowing into the next exactly as intended. Combined with a surprisingly capacious soundstage depth that let backing instruments line up behind the main action in a broad space, such as a gentle hi-hat which appeared to be out in the garden, the overall result was exactly the sort of atmospheric performance that one expects from good vinyl.

The good works continued with Duffy's 'Rockferry' album, where the Kora captured fine nuances of the lady's vocal performance with effortless ease, without making her sound shrill, as some less capable stages can tend to do. However, there was a certain curtailing of the soundstage in lateral terms here – once again the image stretched off into the distance by a quite surprising amount, but seemed to stop dead, width-wise, beyond the limits of the loudspeakers – almost like listening at the mouth of a tunnel, but without the echo. A spot of adjustment of the biasing control seemed to help to focus the central image a little better but didn't increase the overall width.

Increasing the pace a little further to 'Shut Up and Let Me Go' from the Ting Tings' 'We Started Nothing' album, the Kora proved more than happy to carry a rhythm without falling over itself, but it does lack some of the rhythmic snap of the Trichord, or even the Cambridge 640P, that propels this track. Yet the 3T SE dug the heart of the performance out very well, offering up fine levels of low end detail.

By now I was beginning to grasp the measure of the Kora, so I cued up Van Morrison's 'Enlightenment' and the track 'Start All Over Again'. This is a more thoughtful and gentle performance than offered by those ruffians the Ting Tings, and the 3T knew exactly what to do with it. Van's vocals were gruff by just the right amount and the backing vibraphone shimmered out from the loudspeakers. Once again though, a little tweak of that bias control helped to bring cymbals into better focus. As my listening session wore on into the evening, it became clear that the Kora likes to settle back with something smooth and considered, as opposed to material that is



"those craving subtlety, delicacy and ease will be delighted to hear this..."

more upbeat and raucous. It never sounds uncomfortable or messy, but seems more sensitive than many to the material that is played through it. Get this right however, and it rewards handsomely.

CONCLUSION

Whilst Trichord's Dino has been an automatic recommendation at its price for many years, it won't appeal to everyone. Those craving subtlety, delicacy and ease will be delighted to

hear of the arrival of the ANT Audio Kora 3T then, because it offers precisely these attributes. Its simple, single-ended Class A internals endow it with a mellifluous nature that shows just how sophisticated and enjoyable vinyl can be, even at fairly affordable prices. Some attention is required to set up the circuit's bias for optimal results and the Kora doesn't quite rock with the best of them, but it's still a music maker *par excellence* at the price.

REFERENCE SYSTEM

London Acoustical Developments GAJ942 turntable/Funk Firm Achromat Audio Drigami rebuilt Helius Aureus Gold tonearm
Goldring 250J cartridge
Naim SuperNait amplifier
Ferrograph S1 loudspeakers (modified)

MEASURED PERFORMANCE

With just three FET transistors per channel and not an integrated circuit anywhere the Kora 3T will measure a little differently to normal, but it is a minimalist design that just needs to be satisfactory. Output swing was a little less than the usual 9V or so, measuring 6.5V, but this is adequate, translating into a 74mV input overload value - plenty high enough. Gain (MM only) was on the low side at x90, so solid-state power amps cannot be driven direct through a passive volume control. Accompanying integrated amplifiers will need high input sensitivity of 200mV or thereabouts.

Noise (equivalent input noise, IEC A weighted) was 4dB higher than is possible, measuring 1.1uV, but the difference is small and in fact the Kora is quiet enough, as this low level of hiss is swamped by Johnson (thermal) noise from the high Z generator coils of MM cartridges.

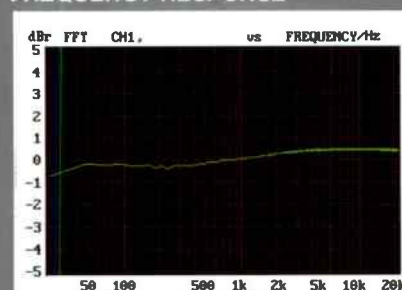
Equalisation was accurate, with a small lift at high frequencies our analysis shows, plus a deliberate roll off below 20Hz to give -7dB attenuation at 5Hz, where warps are at their worst. Although distortion was higher than the usual vanishingly low amount from ICs, this

is only because less open loop gain and feedback exists, and at 0.05% second harmonic distortion for 10mV input it is not an issue.

The Kora 3T is a neat little design, one that frees itself from the usual 'high gain plus feedback' topology intrinsic to the integrated circuits found in most solid-state phono stages. It measures well and is likely to sound good. NK

Disc MM	
Frequency response	20Hz-85kHz
Separation	73dB
Noise (input noise, A wtd)	1.1uV
Distortion	0.05%
Gain	x90
Overload (at 72dB gain)	74mV/6.5V out

FREQUENCY RESPONSE



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AGAINST

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- curtailed image width
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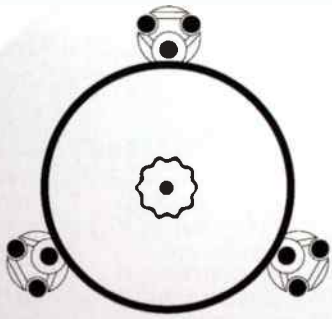
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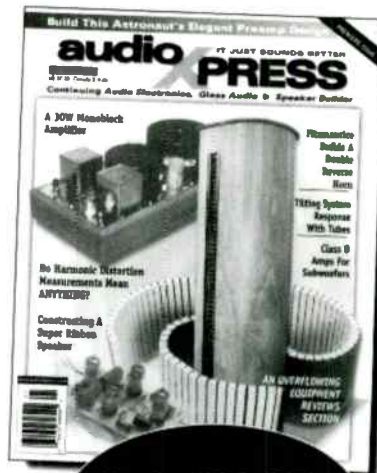
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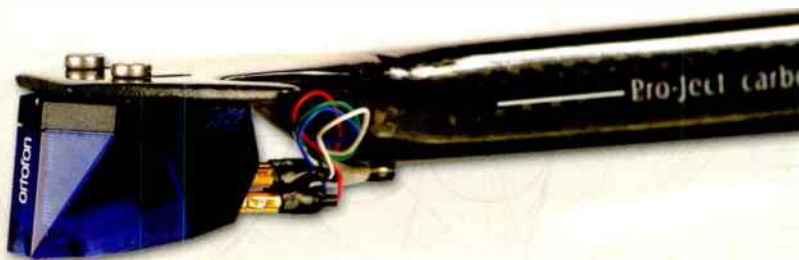
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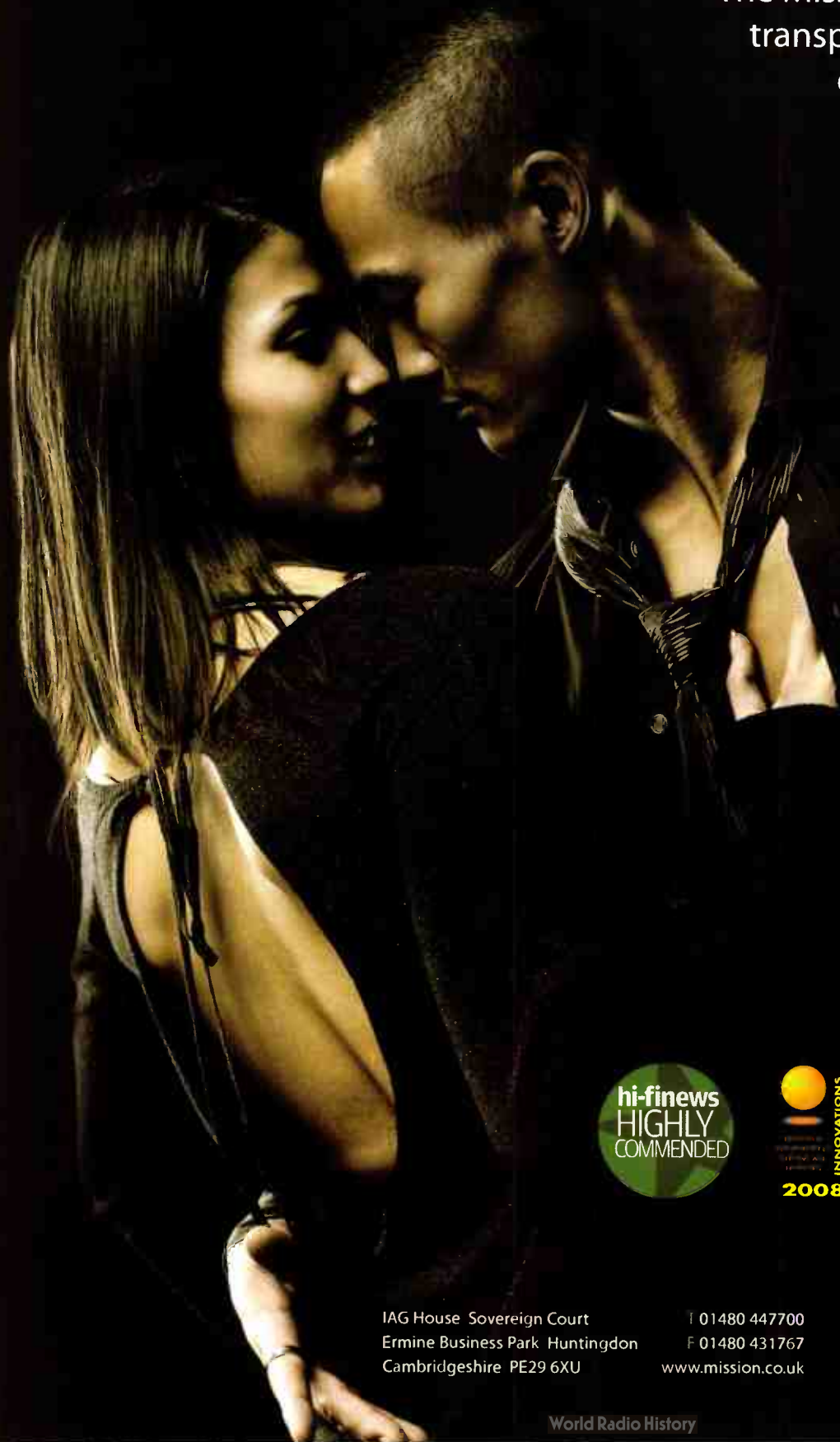
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NAD AMPLIFIER C272 £250. NAD pre-am C162 + remote £250. NAD CD player CS42 with remote £125. All mint condition. Tel: 01323 765 292 (Eastbourne, East Sussex)

QUICKSILVER VALVE mono-blocks 60 watts Class 'A'. Croft upgrade, new Mullard EL34's. A delight to listen to. Conrad Johnson PV12AL valve pre-amp, boxed. No reasonable offer refused. Tel: Stanley 07951 553091 (London)

JPW P1 speakers in good nick. Solid wood. £50. Buyer collects. Tel: 0121 550 9613

ARCAM A38 integrated amplifier. Silver. Boxed. 6 months usage. Selling for £600. Tel: 01401 614325 (Oxford)
WANTED: AUDIO-TECHNICA AT32E and A.K.G. P7E or P8E cartridges. Tel: 01277 219639

AIWA ADF 450 cassette recorder, black £59. Akai AT2250L (FMJ) black tuner £49. Pacific Award DVD1002W new, boxed £39. LG AC959NI VHS new, unused £39. Pioneer DVD350 Slimline, silver £50. Sony DVPNS705V SACD £150 (£470). STSB920 QS tuner £100. JVC AKII amp, excellent, (FMJ) £40. Dual 505 + arm, no lid, £29. Can send. Tel: 01206 510392 or 07765 264381

SOUND ORGANISATION V shape vinyl record stand. Cool looking. Excellent condition £50. Tel 01254580903

MUSIC WORKS 6-way, 1.5m mains, mega-block, three 1.5m IEC equipment leads. Works great with Naim. £250. M and K V-125 12" active sub speaker £225. Ruark Sabre speakers, Atacama stands. £150. All excellent condition. Tel: 01722 334694

KENWOOD DM9090 MiniDisc recorder £500 new, mint, £150. C.A.D. loudspeaker bi-wire, 2m, £25. Target HJ20 20" speaker stands, £130 new, £30. All plus postage. Tel: 01306 887 554

FOR SALE: Isotex Orion mains filter, never used, £200. Tannoy ST50 Super Tweeters, £250. B & W DM605.S2 with integral 130 watt sub-woofers, £350. All ono. Tel: Peter 01642 559 078

LOWTHER FIDELEO cabinets. Rosewood floorstanders, 102x28x47, HxWxD, folded horn, £100. Lowther C45 drivers (£480) £190. Lowther PM4A Phase Plugs £50. Tannoy 603 bookshelf speakers, black, £40. Audion Sterling, £400. Tel: 01709 555 403

AUDION STERLING SE valve amplifier, very good condition, £400. Lowther C45 full-range drivers (£480) £190. Ceramic phase plugs, ex PM4 'A's, £50. Lowther Fideleo horn floorstander cabinets, rosewood only, £100. Tel: 01709 555403

WANTED: TOP quality Hi Fi separates and complete systems from, Naim, Linn, Cyrus, Meridian, etc, fast, friendly response and willing to travel/ pay cash. Please call me on 0781 5892458

YAMAHA NS 590 Beryllium £350, SME 3009S2 £130, SME S3 boxed £200, Shure v15 VMR ex boxed £140, Musical Fidelity phonostage v3 boxed £150 Tel 07999784728 Sussex

MARANTZ CD 6002 cd player / PM 6002 amp. Award-winning system in black. Immaculate, original boxes & all accessories. £300 (£540). Lee West Midlands 01384 412234

SOUNDSTYLE XS310 AV rack. In excellent condition. Ultra rigid fully welded epoxy powder coated frame. 6mm toughened safety glass shelves to BS Cost £365. Sell for £125. Tel: 078 2832681

PROAC TABLETTE Reference Eight. BNIB latest eighth generation (TR8/002023) maple. "One of the best-sounding small speakers. Stunning imagery, excellent midrange, enchanting performance." Currently £720, £495 ono. Mike 07963117341, (Manchester)

NAIM CD3.5 + Flatcap. Fantastic condition, works perfectly. Boxed. All accessories. Classic Naim sound, fast, detailed can't trip this player up! £500 Contact Chris Tel: 07930503644 email christianholm@tiscali.co.uk (Yorkshire)

PMC OBI Speakers, 4 months old, brand new still in boxes Light oak, cost £2,850 sell £1,500 ono quick sale Inc 3 year warranty 0208 529 6764 or 07920124888

NAIM 112 pre-amplifier £279. Atacama R724 speaker stands, matt black £69 pr, both mint/boxed. Chord Co. Chameleon Silver Plus interconnects 1m. £69 pr, 0.5m. £59 pr. c/w postage. Tel. Martin 01984 640588

LEAK 2075 speakers £650 ono. JBE Slate Mk3 direct drive turntable £650 ono. EAR 934P MM/MC valve phono-stage £450ono. B&W 1800 speakers £175. reconcile@bdlrs.freemove.co.uk or 01798 813133.

LINN CLASSIC CD/amp/ tuner. Boxed with instructions etc. Black, mint condition. £400.00 B&W DM601 S2 Speakers, black, mint condition. £125.00 Tel. 07748-320549 or e-mail mcleod.3333@tiscali.co.uk

PROAC TABLETTE Reference Signature loudspeakers. Recent check and service by ProAc, original boxes etc. £450. Mission Stance stands £50. 01308 459443 (Dorset)

LINN SYSTEM: Genki CD player; Kolektor Pre Amplifier; 2 x LK85 Power Amplifiers; Ninka Maple Speakers. Excellent condition, original packaging. £3500 new, purchased 2002, little used. £2000 ono. 01924 512857 (Yorkshire). stupottt@hotmail.co.uk

AUDIO NOTE Meishu 300b Set phono integrated amplifier £1650 with/ without Border patrol MBpsu £575 both excellent condition. Two transformers Three chokes Silver signal wiring pio caps. Full spec 01840212387

LINN LP12, Lingo, Ekos, Klyde, £2500 ono. Linn Linto, £650 ono. 07738518327 West Yorks.

NAIM AUDIO 252 Preamp. Immaculate condition c/w all leads, manual, remote and box. £2695.00 Please note that a separate supercap power supply is required to power the preamp. Tel 01709 309695 (Rotherham).

CABLETALK "REFERENCE" RCA interconnectors: Burgundy, gold plated plugs (Neutrik?). Four 0.5 meter £17 each. One 1 meter £20. £65 the lot. OVNO. Excellent sound. Bargain. E-mail for info/ images. klugheit.123@gmail.com.

GARRARD 301 unmounted never used in original packing offers invited. Celestion vintage speakers model Ditton 66 excellent condition offers invited. Rick. Email: led@safe-mail.net

MUSICAL FIDELITY A5 CD Player, mint condition boxed with manual, owned less than 1 year from new. (£1500.00) new, need cash only £845.00. Tel: 01732 220664 Kent

ROKSAN XERXES X turntable in rosewood with box, newer style Artemiz arm, excellent Shiraz cartridge, XPS3.5, Artaxerxes X phono stage and two DSUs. Fantastic condition, £2500. ppelectron@aol.com 07895825571 Bristol

GUIDELINES FOR BUYING AND SELLING SECOND-HAND EQUIPMENT

FOR THE BUYER

1. Not everyone is honest - Buyer Beware!
2. Don't send cash!
3. Accept no verbal guarantees.
4. Have you heard the item or something similar? If not, why do you want it?
5. Don't pretend to have knowledge - it's your fingers that will get burnt!
6. Is it working? If not, why not? Can it be repaired and if so is it worth it?
7. Has it been modified and, if so, have notes been kept?
8. Was it any good in the first place?
9. Don't send cash!
10. If you are in the slightest doubt, arrange an audition (see point 5) If it's too far, wait for another time.
11. Either buy it or don't: vendors are excusably impatient with 'consultation' exercises.
12. Don't send cash!

FOR THE SELLER

1. Not everyone is honest - Seller Beware!
2. Make no verbal guarantees.
3. Even 'nearly new' is still second-hand. If the manufacturer's guarantee is no longer in force, your price should reflect this.
4. There is very little intrinsic value in second-hand hi-fi; it's only worth what someone will pay for it.
5. The best guide to pricing is last month's Classifieds: that a 'classic' was worth £xxx a year or two ago is no guide. Values fall as well as rise.
6. Amateur second-hand dealing is not a big money game: you win some, you lose some.
7. Be prompt with despatch. If in doubt about buyer's bona-fides, either wash out the deal or send C.O.D.
8. There will always be time-wasters; be tolerant within reason!

GARRARD 301 turntable and SME 3009 Series II pick-up arm, £670. Tel: 01189 413708.

WANTED CHORD Odyssey 2 speaker cable 2x3 m silion outer jacket chord plugs. Also wanted PMC DBI speaker wallbrackets Tel 01234 302769 or 07840428253

NAIM NAP 250-2 power amp £1,250. Hi Cap power supply £450. Owned from new. In excellent condition and boxed. 0161 973 2583

AUDION 300B PSE 18wpc monoblocks (£3600) £1700. PS Audio P500 powerplant (£2000) £750. Horning Agathon, latest spec (6300) £2500. Hitachi + Audionote speaker cables £50-£90. Tel:- Roy 01453 544354.

WORLD AUDIO classic valve amplifiers, KLPP1 Valve phono, CD, tuner preamp £220, K5881 20 watt power amp £475. Both excellent condition and working order. Hertford 01992 589315.

WANTED, FAULTY or non working Quad 33 or 34 pre-amps, Quad 33 boards, 303 driver boards, Denon m.c. step up transformer. decoder board for fm2. Contact Mike on 01758 613790.

ROTEL RA-05 amp / RCD-06 cd £350 (£700), latest models in black, immaculate with original boxes & all accessories. Lee. West Midlands 01384 412234 lee-t@lycos.co.uk

I HAVE a Sennheiser HE60 HEV 70 electrostatic headphones system. The HEV70 does not work. I am unable to check the HE 60. If interested, contact me at seenuhello@gmail.com.

CAMBRIDGE R50 transmission line, Kef B139-BI 10-T27 plus supertweeter, great condition. upgraded crossovers (cost £350) effortless deep bass. can deliver. £350 ono. 07971977237 or 01639766354 gbullimore@harman.com

GALE 401 loudspeakers with chrome caps – a classic. Pair in excellent condition, considering their age! £350 ono. Buyer collects. London. Paul 07973 205158

MARK LEVINSON 383 Integrated Amplifier (£5,000+) £2500, Lin Unidisk 1.1 (£6830) £3500, B&W 804S Speakers (£2700) £1600. All excellent cond./ boxed. Contact Paul 07917853188 (London)

ATC SCM 20 passive in cherry finish, immaculate condition, demo available, £750 ono. Contact Jeremy@datasharp.uk.com 07977254160. Surrey/ Hampshire borders.

MUSICAL FIDELITY A5 CD Player as new upgrading low usage (£1,500) £800 01268 415 017 (Essex)

RUARK EQUINOX Speakers, Piano Black in excellent condition, Superb sound, (£1800) bargain at £550. Tel: 01252 870861 (North Hants)

TECHNICS SL-1200 Mk 2 including cartridge. Never used in DJ work. As new hardly used 1 year old £280 (Essex). kencoff@hotmail.com

AUDIO NOTE complete system inc speakers, all cabling, less than yrs use, mint condition, boxed, stunning sounding system. £1250 (£3000). Cliff, 01992 300713. Hertford

RADFORD MAINS & output transformers. Unused pairs T2093/1 and T2300 to build monobloc versions of STA25 or similar. £450 pounds the four. Email david.c.saunders@hotmail.co.uk. (N.Wilts)

TANNOY PRESTIGE Glenair 10 brand new unopened boxes made in the UK with full warranty. £2450 ovno (£3300 RRP). Part exchange possible. South London Tel 07855343330 naissus@hotmail.co.uk

AVIA XK007 cassette deck. Good condition. features Dolby B/C/DBX, 3 heads, twin capstan. £75. May p/x or swap for a pair of tweeters. 07779199392.

AUDIO NOTE E/Lexus Signature speakers with external crossovers. Lovely apple veneer. Immaculate. Lead-filled AN stands. £5,000 ono. See - www.stereophile.com/standloudspeakers/506an Hampshire. 01730 825493. jeremyb2@waitrose.com

SPENDOR BC2, new 18mm MDF baffles as original ones didn't fit correctly! Original covers & drive units, restrained dark teak. Look very nice and sound lovely £350. Sansui SR-222 Mk V Piano black Turntable, with dust bug, original arm & mat, in excellent condition, proper Jap deck for £100. 01430 431 579 / 07891215531 Mysticvinyl@aol.com

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)

1 PAIR AERIAL Accoustics 10T LoudSpeakers in Rose Wood, Very Good Condition £2200. 1 Model cc3 Center Channel Speaker Aerial Accoustics Very Good Condition £ 650. Phone No 01252 614055

PIONEER A-400 Amplifier and matching F-757 Tuner. Light use only - in storage for last 10 years. Boxed. £150. 01484 865442 (Huddersfield)

LUXMAN L-3 Amplifier, Boxed with manual, excellent condition and sounds great £125. Yamaha AX-500 Amplifier, Excellent condition with manual, proper 1980's model £80. Dalesford 6.5" Bass drivers, like RAM, gwo £30. B&W DM-4 Mk1 8" Bass drivers, white surround, gwo £30 Classical LP's - 300+ some rarities, Decca, Columbia, EMI etc £700 ono 01430 431 579 / 07891215531 Mysticvinyl@aol.com

MARANTZ CD6002 CD player / PM6002 amp £150 each or £270 the lot. The latest award-winning Marantz system, boxed as new + 2 Free Tacima 1.5m shielded mains cables worth £60. Lee - West Midlands. Tel: 01384 412234 lee-t@lycos.co.uk

FOR SALE: Revox B760 FM Tuner. Excellent condition, £400. Buyer to collect. Email PETER.WATKINS2@sky.com Tel. 01384 241667. (West Midlands).

FERGUS FONS CQ30 turntable, SME 3009 SERIES II improved, Shure V15 III cartridge. Very light use in excellent condition. Reasonable offers to email: jazzevan@hotmail.com. Tel 01482 651963 (Hull)

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NAIM NAC 72 pre-amp with MC phono board, Naim Nap 180 power amp, black. £750 the pair. Rega R3 speakers £350. All excellent condition. Bristol. 07773756277. cash only, buyer collects, can demo

PINSH 1.0 speakers wanted ideally in walnut finish. Otherwise may consider other finishes as well as Pinsh 1.1, 1.2, 2.1. Please call 07813 705 077 or email james@you-heard.com.

IMF PAIR TLS 50 transmission line monitor speakers. A1 condition £400. Telequipment oscilloscope double beam 10MV/5volt £90. Marconi RCI bridge (£40) Tel: 01753 586660 (Windsor)

PAIR AUDION Sterling power amplifiers, monoblocks, gold plate valve units Class 'A' triode amplifier. Audion Silver Night Premier box valves pre-amp power supply multistage linear amplification £1200. Tel: 01252 614055

ECS EA-1 200w monoblocks exceptional performance will drive virtually any loudspeaker. Superb condition. Can demonstrate. Will deliver anywhere in North West. RRP £6000, accept £2900 ono. Tel: 01978 350600 anytime.

1930 AEOLIAN Vocalion. New Bond Street solid mahogany inlaid cabinet on legs. Working order, good condition for age. Sensible offers for piece of history. Tel: 0191 214 0473

PIONEER PL12D turntable plus two Ortofon cartridges. Excellent working order, £40. Technics tuner ST 54T, excellent working order, £20. Buyer collects. Tel: 01704 211 201 (Merseyside)

SRADO SR80 award winning headphones. Hardly used, in pristine condition and boxed. Cost £110, accept £40. Tel: 07729 600847 (West Sussex)

ORTOFON SPU MC cartridge. 1 owner, 25 years old but under 50 hours use hence superb condition. Tel: 020 8642 6516

VOYD VALDI turntable in rosewood, immaculate, separate PSU, no arm cartridge. Sensible offers considered. Tel: 07747 755007

UNISON RESEARCH Hybrid valve equipment: Unico Secondo 120w/ch integrated amplifier with phono inputs, £825 ono (currently £1560). Unico CD player £725 ono (currently £1450). Excellent reviews. Mint. 2 pairs Rothwell attenuators £25 ono. Tel: 023 8073 8935

PROAC RESPONSE ISC £500. Quad 12L £250. Tannoy Chester 1978, loves valves, £400. Partington Dreadnought Ultima, flagship stands, cost £330, £150. All no offers. Priced for quick sale. Tel: Darran 07876 705266

NAD PP2 phono pre-amplifier, £15 ono. Brand new. Chord Company Crimson interconnects, £10 ono. Brand new. Both surplus to requirements. Both boxed. Tel: 01794 513003

ADVANCE ACOUSTIC MPP206/MAA 406 pre/power combination. 150wpc. MM/MC phono stage. Balanced XLR or phono connection. Full remote. Best buy Hi-Fi Choice August 2008. 3 weeks old as new. £650. Tel: 01243 863371 (West Sussex)

EAR 834L pre amp £325. Sony tuner ST-SE 520 £30. Tel: 020 8556 9102

REGA P3, RB300, SB, £225. Floor turntable stand, spiked £30. Quad 99 pre + remote £499. Classe 151 amp, excellent (£2000) £995 ono. Meridian 596 upgraded £999. (£2500). Denon 2800 DVD (£750) £225. Rotel RT950BX tuner (£300) £60. Marantz KI amp and CD + Kefs £500. AE Evo 3's £225. Tel: 01206 510 392

QUAD SYSTEM 67CD, FM66, 66 pre, 606 power, boxes, accessories, £900. Thorens TD160S, SME 3009, Shure V15/3. A classic combination, £180. Tel: 0115 9297706 (Nottingham)

WBT NEXTGEN D645 slant bananas for speaker cables up to 10mm. Built-in piggy-back facility allows bi-wiring. Solder free connections. 2 sets of 4 banana available. £35 per set. Statmat Blue £20. Tel: 0151 608 4481 (Wirral)

MICHELL GYRO SE with Orbe upgrade kit + Q.C. power supply unit. Dynavector 10x4 cartridge with SME V arm. Utterly pristine and as new. Buyer collects. £1900. Tel: 07813 829657 (Tamworth, Staffs)

AUDIO RESEARCH VSII0 Power Amp. 1 month old. As new and mint. Stunning Amp (£4,400). Bargain at £2,400. Tel: 02380 224003 (Hants)

SONY TC377 tape deck with cover £80. Glenn Miller history discography AAF band, rare. Atacama five tier stand, £150. AE 109 speakers, Aegis sub £250. Goodmans Mezzo 3 speakers £20. Tel: 01522 820 179 (Lincs)

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!

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

CARTRIDGE MAN
(Len Gregory, London)
Specialist cartridge re-tipping service and repairs. High quality special cartridges.
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www.thecartridgeman.com

AUDIOLAB
(Phil Pimblott, Leeds)
Renovation, repair and restoration. Specialist in valve hi-fi, radio transmitters, cinema amps, kit building.
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www.audiolabs.co.uk

QUAD ELECTROACOUSTICS
(Cambs)
Quad's service department, able to repair almost all Quad products, from the very first.
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www.quad-hifi.co.uk

ARKLESS ELECTRONICS
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Specialist in repairs, restoration and modifications to all amplifiers, valve or solid state, ancient and modern.
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SOWTER TRANSFORMERS
(Brian Sowter, Ipswich)
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(Paul MacCallam, London)
Comprehensive loudspeaker servicing.
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Email: paul@wembleyloudspeaker.co.uk
www.wembleyloudspeaker.com

EXPERT STYLUS COMPANY
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Stylus replacement service for all types of cartridge. Including precise profiling for 78s
Tel: 01372 276604
Email: w.hodgson@btclick.com

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CLASSIC NAKAMICHI
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www.revox.freeuk.com

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www.flashbacksales.co.uk/classique

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(Bristol)
Unit 2, 16 Midland Street, St Phillips, Bristol.
Tel: 0117 925 6015
www.octave-aw.co.uk

NEXT MONTH

The festive season is upon us – and that means just one thing. No, not sudden weight gain, family quarrels and chronic indigestion; it means the wonderful literary feast that is the *Hi-Fi World Awards 2008 Special Issue*! As the chill winter winds blow, you'll be able to tuck up in your armchair and digest our nine page review of the latest, greatest affordable audiophile kit! And there will be plenty of laughs as you wade through the bizarre assortment of accessories that our team want for Christmas. Then there's the small matter of some superb new kit, including the brilliant new Icon Audio 845 power amplifiers [pictured], the bookshelf KingSound Princess II electrostatic speakers and Funk Firm's superb Vector Link LP12 mods. Here's just some of what we hope to bring you...



GURU QM10P LOUDSPEAKERS
SYSTEM FIDELITY SE AMPLIFIER
WHEAT AUDIO PS30R PHONO STAGE
ROKSAN K2 INTEGRATED AMPLIFIER
YAMAHA BDS-2900 BLU RAY PLAYER
ELECTROCOMPANIE ECD1 CD PLAYER
FUNK FIRM VECTOR LINK LP12 TURNTABLE
KEITH MONKS RECORD CLEANING MACHINE
ICON AUDIO 845 VALVE POWER AMPLIFIERS
OLDE WORLDE: KLIPSCHORN LOUDSPEAKERS
BUDGET STANDMOUNTER SPEAKER SUPERTEST
ROBSON ACOUSTICS GREYSTOKE LOUDSPEAKERS
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KINGSOUND PRINCESS II ELECTROSTATIC LOUDSPEAKERS

PICK UP THE JANUARY 2008 ISSUE OF HI-FI WORLD ON SALE NOVEMBER 28TH, OR SUBSCRIBE AND GET IT DELIVERED TO YOUR DOOR: p82

ADVERTISERS INDEX

2nd Hand Hi-Fi	119
3gA	115
Analogue Seduction	115
Anatek Research	114
Angel Sound	118
Atacama	90
Audiaz	102
AudioSuite	52
Avid	116
Big Ears	114
Billy Vee	112
Blackburn MicroTech	102
Cambridge Audio	48
Clearer Audio	104
Cymbiosis	104
Dali	12
Decent Audio	110
Deflex	50
DNM	125
ECS	114
Electrocompaniet	OBC
Emille Labs	32
Exposure	IFC
Heathcote Audio	112
Heatherdale Audio	110
Henley Designs	86,117,126
Hi-Fi Confidential	66
Hi-Fi Sound	119
HiAudio	56
High End Cable	108
House of Linn	58
Ian Harrison	115
Icon Audio	90,114
IMP	104
KEF	42
Kudos	110
Mantra Audio	108
MDC Hi-Fi	90
Melody	6
Midland Audio Exchange	122
Mission	120
MIT Cables	44
Monopulse	118
NSS	104
Origin Live	102
Parts Connexion	88
PMC	50
Radlett Audio	106
Raysonic	30
Retro Reproduction	108
Ringmat Developments	44
Rochester	126
Scheu Analog	66
SCV	28
Sevenoaks	92,94,96
Shadow Audio Cons.	70
Signals Hi-Fi	117
AudioXpress	117
Sound Dead Steel	88
Sound Hi-Fi	110
Splash Audio	115
Stone Audio	62
Sugden	106
Teufel	14
The Funk Firm	118
The Listening Rooms	52
The Right Note	88
Unity Audio	36
Usher	IBC
Walrus Systems	74
Yamaha	22

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1	2
3	4
5	6
7	8
9	10
11	12
13	14
15	16
17	18
19	20
21	22
23	24
25	26
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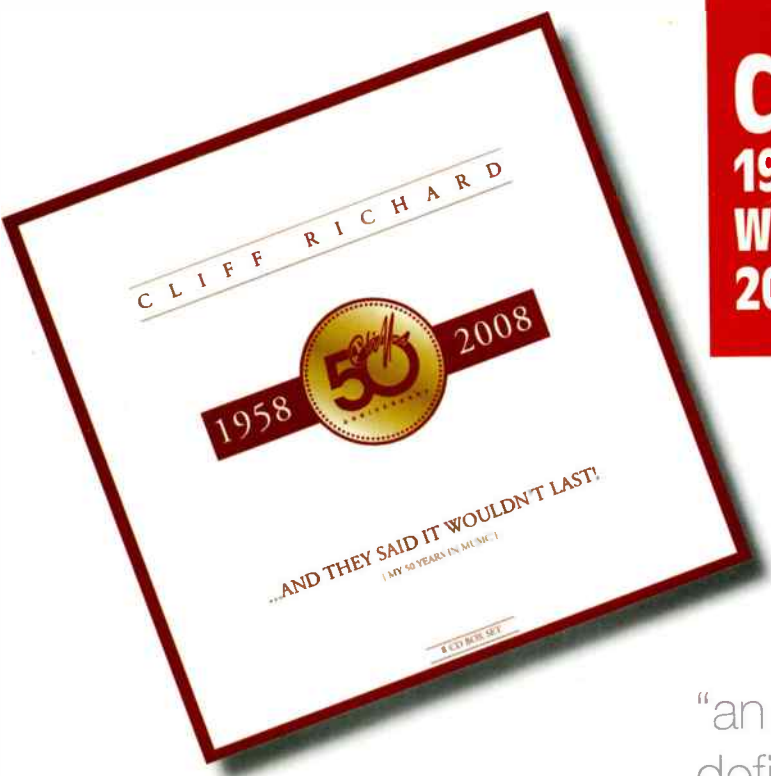
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JANUARY 2009 - 6TH NOVEMBER

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CLIFF RICHARD

1958-2008...AND THEY SAID IT WOULDN'T LAST!

2008

"an incredible set, and most definitely shortlisted for my reissue of the year..."

Fifty years. It's been a long time and, thinking about it, it's a unique situation. Here we have an artist who has not only lasted for fifty years within the music business and still retains the ability to make and sell new and original record releases but is also seen as worthy enough to be retained on a major record label, hardly sentimental organisations – in this case, EMI. Cliff, himself is an intriguing figure: both in terms of the music industry and within society. Sneered at by the media, many members of the public would be adamant that they dislike Cliff's work and wouldn't be seen dead with a record of his in their collection. And yet, like Abba and Barry Manilow, there are probably thousands of closet Cliff fans who openly declare their approval for Dylan, The Clash and The White Stripes and yet whistle 'Devil Woman' whilst admiring their secret Cliff record collection in the cupboard under the stairs. He might not be cool – but he's produced some of the best and most consistent pop music output of the last century.

To celebrate Cliff's fiftieth anniversary, EMI has released a magnificent box set that will be of principle interest to dedicated Cliff fans. This new collection represents a big 'thank you' to Cliff's many dedicated fans out there as it rewards them with umpteen rarities and newly discovered works. What you get are eight CDs, neatly packed within a pizza-style box plus a replica 78, 10 inch disc, featuring the big hit

'Move It!' plus a gold medal with 'Cliff 50 Anniversary' stamped upon it, which sits within a velveteen bag and, finally, a magnificent, 12 inch square, high-gloss, colour book detailing Cliff's career and featuring popular and rare record covers.

The mastering for this set is excellent. In fact, it's some of the best work I've heard on a regular CD for some time. Keith Bessey is the man responsible. "We were researching the box set for six months," he declared. In fact, Bessey is no stranger to Cliff, as Bessey has been mastering, engineering, mixing live work and producing Cliff's DVDs and more for twenty-seven years. Cliff not only trusts Bessey's work but also his judgement. "You get to know his voice," said Bessey, "I have an insight into what he really sounds like. As a mastering engineer, it's often interesting to hear other people's take to what they think he sounds like. Sometimes, they get it bang on, sometimes I think they've missed it a bit."

Cliff has a very complicated back catalogue – obviously spanning fifty years - and, when the team began their research for this set, they were aghast at just how much material EMI holds on the man. Principally because Richard continually records, "we found some gems. In fact, one of the CDs, called 'Lost And Found' features completely unreleased material. We found a whole live album which had never been released, out-takes, music on unmarked boxes and more. They're all present on decent quality

master tapes."

Granted, some of the source signals on the tapes might not be the best – his recorded works via Radio Luxembourg, for example – but, from a career perspective, they are historical gems. Certain decisions did have to be made however, when encountering early stereo recordings where all the instrumentation is stuck on the left and the vocals are placed on the right. Creating a pseudo-mono track from such a production never quite works so Bessey searched, often successfully, for the 'multi-track master' from the original 4-track tape. "These were not Cliff and the Shads, but Cliff on his own singing some Disney songs – the music had never been released. I took the 4-tracks back into my studio and remixed them into stereo with the vocal in the centre. They turned out fantastically well but with an artistically more flattering sound."

Other discs within the set include a CD of worldwide Number Ones, another entitled 'Stage And Screen' including the shows 'Time – The Musical' and 'Finders Keepers'; 'Rare B-Sides'; a CD based on his religious recordings called 'Faith And Inspiration'; 'The Early Years' featuring many alternative takes of his work with The Shadows and The Drifters; a selection of 'Rare EP Tracks' and a rare live concert entitled 'Cliff Richard "Live" In Japan '72' featuring, on backing vocals, one Olivia Newton John. This is an incredible set, and most definitely shortlisted for my reissue of the year. **PR**

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