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It isn't often Tannoy upgrade their Prestige range of loudspeakers, and it isn't often we review models within this range either because they are very big and very expensive. And also because, although traditionally styled, they don't appeal to citizens of the UK we're told. "The further East you go, the better they sell" Tannoy tell us. Which is a shame, because Prestige loudspeakers have rare strengths gifted by their big cabinets and big drive units. You can read more about the new Kensington Gold Reference on page 10. Even if it's appearance doesn't appeal to Brits so much these days, its sound surely

will.

One of the most complicated products we have encountered for a long time is Devialet's new 120 amplifier. With wi-fi and wired internet connection, and even electronic loudspeaker matching, this amplifier is a technological showpiece. It can be user configured from an internet Configurator. If you want a Line input, select it on your computer; if you want to use a moving coil cartridge, change Line to Moving Coil. Their website Configurator does it all. How does it sound though? You can find out on page 15 where Jon Myles looks at this new model in fine detail.

But what about CD? Martin Pipe looks at two contenders for playing CD this month, a Teac CD-P800NT and, for those who want to upgrade a CD player with digital output they already own, a North Star Excelsio DAC from Italy. The North Star is yet another ESS Sabre32 based design: this chip gives great sound quality, explaining its popularity. And, even better, it isn't overly expensive as top DACs go, at £1370. See what Martin thinks about the Excelsio on page 45 and the network connected Teac on page 22. They could be just what you are looking for as a CD upgrade.

Is the future of digital DSD? Sony would like to think so and are promoting their unique one-bit code, once used in SACD. Silver discs seem to have had their day, but DSD lives on in downloads available from companies like Blue Coast records and others (see <http://dsd-guide.com/where-can-you-find-dsd-music-downloads>). You can read more about this in my California Audio Show report on page 73 where I caught up with Cookie Marenco of Blue Coast.

Audio continues to exist in traditional as well advanced form, as Tannoy and Devialet illustrate in this issue. I hope you find both interesting – and all that lies in-between.

Noel Keywood, Editor.



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verdicts

●●●●● OUTSTANDING
●●●● EXCELLENT
●●● GOOD
●●● MEDIUM
●● POOR
£ VALUE

amongst the best
extremely capable
worth auditioning
unremarkable
flawed
keenly priced

testing (see www.hi-fiworld.co.uk for full explanations of all our tests)

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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QAT AUDIO TECHNOLOGY



a worthy partner

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NEW MAGNEPLANAR

The new MG 3.7i loudspeaker replaces the MG 3.7 and MG 3.6. The 3.7i is a 3-way design that features Magnepan's 1.4m true ribbon tweeter. Like the 3.7, it includes faster, lower-distortion quasi-ribbon drivers making it a full-range true-ribbon/quasi-ribbon design plus a new re-engineered and time and phase-aligned crossover.

The Magneplanar quasi-ribbon is a true ribbon bonded to a thin Mylar film. This design is rugged and cost-effective with a very wide bandwidth, allowing for use in both midrange and bass applications.

In the MG 3.7i, Magnepan's patented 1.4m-long true ribbon tweeter sits along one edge, running the full height of the speaker. Next to this is the midrange quasi-ribbon panel and then, alongside the latter, the quasi-ribbon bass panel. The tweeters can be set on the inside or outside edge of the loudspeaker as best suits the listening room.

In addition, the Magneplanar's flat panel design means that, unlike conventional speakers, there is no box or cabinet to provide unwanted resonance.

Prices? Magneplanar MG 3.7i (aluminium or oak trim) is £6,500 while the Magneplanar MG 3.7i (dark cherry trim) costs £7,000.

Call 01252 702 705 or click on www.decentaudio.co.uk for more information.



NEW ONKYO RELEASES

Touch any compatible mobile device on the new Onkyo mini Hi-Fi systems, the CS-265 and CS-265DAB Colibrino, and you will be instantly connected via NFC (Near Field Communication). The technology performs Bluetooth pairing automatically without need for smartphone menu navigation or passwords. Users of non-NFC-compatible mobiles and PCs can pair their CS-265/CS-265DAB and stream wirelessly via Bluetooth.



This new unit offers 20W per channel and arrives complete with a pair of two-way bookshelf speakers, each containing a 10cm cone woofer and 2cm balanced-dome tweeter.

The CS-265/CS-265DAB features a direct-digital USB charging connection for both Lightning and legacy thirty-two pin iOS mobiles (which enables track selection via system remote or the connected device); a new disc-reading mechanism reduces CD load times and there's an FM tuner with thirty presets and battery-free memory backup function. The systems also support

MP3 playback via USB flash memory devices and handle both MP3- and WAV-encoded CD-R/RW.

The CS-265DAB, meanwhile, adds a DAB+ tuner with forty-preset memory. The new C-N7050 presents CD playback with network audio streaming in a single chassis from a PC, media server and mobile handset. The Onkyo Remote App for iOS and Android mobile devices provides an interface for song selection and playback control.

The C-N7050 is priced at £350 and features a 32bit DSP engine and TI Burr-Brown's PCM1795 32bit DAC handling 5.6MHz DSD and 24bit/192kHz FLAC files via DLNA as well as vTuner internet radio.

Also look out for the LS-T30 TV Speaker System, a soundbase that's built to support the weight of extra-large TVs of up to 60kg and 70in. It houses four 6.5cm drivers and a down-firing 16cm subwoofer outputting 25W of power, together with four DTS Studio Sound modes. Price is £350.

Features include Bluetooth 2.1 + EDR audio streaming from smartphone, tablet and PC while. Price is £350.

Visit www.eu.onkyo.com for more information.



MISSION'S AERO

Mission has released the Aero, a wireless music system. It's main enclosure is formed from an anodised aluminium shell with a matte finish augmented by a black cloth covering the drive units and a circular base that lifts the main enclosure off the resting surface.

The compact speaker system can be placed anywhere: table, sideboard, wall shelf and more. Aero incorporates Bluetooth with aptX codec support plus AirPlay for iOS and Mac devices.

Aero incorporates a 6.1 speaker configuration each powered by its own amplifier. Six of the speaker units are of BMR design with four firing to the front and two from on the side plus a 120mm subwoofer firing down.

Click on www.mission.co.uk for more information.

ISOTEK 'EVO3' SYNCRO SPECIAL EDITION

Originally launched in 2010, the Syncro is IsoTek's most advanced mains cable. It incorporates electronics housed in an anti-resonant aluminium cylinder positioned part way down the cable's length, acting as a 'pre-filter' to synchronise the mains supply in order to promote a symmetrical sine wave. The Syncro effectively rebalances the AC sinewave.

The cable in the new EVO3 edition of the Syncro is now IsoTek's EVO3 Optimum. It features three 3sqmm silver-plated ultra-pure OCC (Ohno Continuous Cast) copper conductors arranged in a square-shaped configuration of forty strands, each strand also being of square cross-section. This design provides an enlarged inter-strand contact surface.

A Teflon FEP dielectric (insulation) is extruded over each conductor, providing a very low dielectric constant over a wide frequency range. The three conductors are given a slight rotational twist to aid RFI and EMI rejection and are then surrounded by cotton filler, which adds internal strength and reduces microphony. The whole construction is then double shielded by first enclosing it in a Mylar wrap to provide an additional dielectric buffer, before applying an active OFC copper shield for maximum rejection of high frequency interference. A durable, heat-resistant PVC outer jacket gives a high degree of flexibility and mechanical strength. In addition, the cable is terminated by hand using IsoTek's bespoke 24-carat gold-plated connectors. Finally, inside the Syncro's cylindrical case, the electronic circuitry has also been fine-tuned in the new EVO3 edition. Price is £1,195.

Call 0118 981 4238 or click on www.soundfoundations.co.uk for more information.



ECLIPSE TD-M1 AT APPLE

The TD-M1 Active 24bit/192kHz Desktop Music Monitor/Airplay System, is now on sale in the Apple Online Store. The pack includes two speakers with integrated amplification and electronics in the right-hand speaker base. It is AirPlay and AirPlay Direct compatible for all Apple devices, offers full UPnP Wi-Fi streaming with network compatible standards for everything else, 24bit/192kHz USB-B inputs for desktop computer use, USB-A Direct for iPhone/iPad, an external input (3.5mm stereo mini jack) for TVs and other devices and invisible Touch Controls.

Click on www.eclipse-td.net for more information.



SHUNYATA CABLES

Active since 1998, Shunyata Research has a new range of cables on the market. The new Zitron series of power cables include three similarly priced power cables that are optimized for different types of audio components. One specifically tuned for digital type components that emit ultra high frequency noise. Another designed specifically for analogue type components that have linear power supplies. And the third designed for high-current draw components such as high power amplifiers.

More specifically and more properly labelled: the Zitron Analog is tuned specifically for the rectifier induced noise pulses generated by linear power supplies; the Zitron Digital is tuned specifically for the ultra high Megahertz and Gigahertz noise generated by digital component power supplies and the Zitron HC is tuned specifically for the massive impulse noise generated by very high current power supplies.

Also look out for a new USB cable called Venom, manufactured using Shunyata's most expensive VTX (Virtual Tube Geometry) conductors. Unlike common USB cables that twist power and signal conductors into one bundle, the Venom USBs power and signal conductors are entirely separated.

Prices are: Zitron alpha analogue, from £1250; Zitron alpha digital, from £1250; Zitron alpha HC, from £1500 & Venom USB, TBA.

Call 0131 555 3922 or go to www.renaissanceaudio.co.uk for more information.

MONITOR AUDIO MA100

Monitor Audio's MA100 system combines the A100 network amp with the MASS 10 speakers as a replay system for music files stored on computer, smartphone or NAS or streamed from online sources.

The AirPlay and DLNA-enabled A100 features a Cirrus Logic DAC that supports digital files up to 24bit/192kHz resolution.

Offering 50W of Class A/B amplification, front panel controls and the A100's remote control handset provide switching between all input sources. A front-mounted USB connection gives you access for charging your mobile device and provides Wi-Fi sharing set-up feature. Price is £550.

Click on www.monitoraudio.co.uk or call 01268 740580 for more information.



REGA TO SPONSOR RECORD STORE DAY 2015

Record Store Day has announced that the 2015 edition of the event will be sponsored by Rega. As part of its support for the UK's annual celebration of independent record stores, Rega will produce a special limited edition version of its RP1 turntable featuring RSD branding. Additionally, Rega will promote Record Store Day through its seventy-five partner stores in the UK and work with RSD organisers to create a range of brands for direct purchase in the UK as well as across the EU.

Click on www.rega.co.uk for more information.



CAD CAT

Computer Audio Design has launched the CAT, a new digital source component with CD-ripping, bespoke internal storage and streaming services playback, plus playback of Windows platform music streaming services, such as Spotify, Qobuz and BBC radio.

CAD offers bespoke data storage solutions for the device, which can be fitted with any type of music storage: SSD, HDD or NAS. Due to the fluctuating price of memory, CAD's engineers will install whatever storage is required at cost price. The CAT can be further tailored to suit your home music set-up, either as a standalone two-channel system or for integration into home networks.

The CAT offers automatic CD-ripping, transferring CDs to memory before automatically ejecting the disc. Playback from the internal storage drive is over USB: the CAT's audiophile-grade customised USB output can be directly connected to the CAD 1543 DAC for best results or any high-quality USB DAC.

The CAT can be controlled using a number of remote apps for handheld devices on both iOS and Android. For iOS devices, control is via JRemote and for Android, Gizmo is used. Users can also access the Windows operating system in the CAT via a handheld device, using Windows Remote Desktop application.

It uses a customised version of the dBPoweramp software, which rips in secure mode, automatically downloading metadata if CAT is connected to the internet. Price is £5,300 (plus storage) while build/delivery time is one month.

Call 0203 397 0334 or click on www.computeraudiodesign.com for more information.



TABULA RASA

Tabula Rasa hi-fi furniture is constructed from solid hardwoods, oak and maple, selected for their acoustic properties. The Tabula Rasa range includes four core designs: the Notrebo, Lowboard, Basis 600 and Deepspace. Each comes with a range of customisable options such as a choice of wood colours and finishes, varying dimensions (i.e. width, overall height and/or individual shelf heights) and the addition of bespoke storage units (for the Lowboard only).

Optional extras, such as Tabula Rasa spikes and the company's built-in quartz sand damping system (known as 'the silencer'), are also available.

Click on www.tabula-rasa.de/en for more information.

TIDAL

From Scandinavia, TIDAL is a music streaming service that will be available across iOS, Android, network players and PC/Macs, offering lossless sound quality. Music will be available in FLAC on all platforms apart from iOS, where ALAC (Apple Lossless) is used and available to stream in 16bit/44.1kHz (1411 kbps).

For a single monthly subscription, TIDAL offers a library of twenty-five million-plus tracks. TIDAL subscribers will also be able to watch more than 75,000 high definition (HD) music videos, all ad-free. Features will include: spotlights such as Album of The Week, Classical Album of the Month and Hi-Fi Album of The Month.

As well as live streaming, users can also store music offline by downloading tracks to their preferred devices in the same CD quality format.

Tidal will be available in the UK and US for a monthly fee of £19.99/\$19.99 from the autumn.

Go to <http://tidalhifi.com> for more information and to register for the service.



Class in Kensington

At £9950 you may need to be a native of Kensington to afford a pair, but you get a classy product, Noel Keywood finds.

Not so long ago our office building was demolished, not by us playing too loud, but to make space for much needed new homes in Kilburn, north-west London. We had to find new offices and a key requirement and big issue was that they suit Tannoy's. This isn't favouritism, big Tannoys are physically challenging and if we could review them properly, we could review any loudspeaker properly. The new Kensington Gold Reference I'm reviewing here illustrate our dilemma.

Doorways and goods lift had to be big enough to accept Westminster Royal SEs, the biggest speakers Tannoy make and a size benchmark for us. And I knew from my time with Yorkminsters that we also needed a listening room that was big – and neighbour free.

Put together, these requirements were nearly impossible to meet, but in the end we found a building able to survive the onslaught and reasonably free of humans. Tannoy obligingly announced a new range of Prestige loudspeakers at around the same time, so a large lorry duly arrived and left in the street, sitting on a palette, two huge boxes, vinyl wrapped together. We had to get them in-doors quickly before Notting Hill decided the date of Christmas had been changed.

When we used Westminster's at a show demo in Manchester some years ago it took three men to move each one. The Yorkminsters needed two men and the Kensingtons need around one and half men. Each one weighs 37kgs and stands 1.1m tall. As most floorstanders are 1m tall and big ones 1.2m, the Kensingtons are not in truth so high, even by UK standards. But they are relatively wide (405mm) and quite deep too (350mm), meaning they loom large in a room. But there's "nothing like a good big'un" when it comes to loudspeakers and these dimensions give a generous 105 litres (3.7cu ft) to load the 10in Dual-Concentric bass unit, for "real bass".

What you get with the new Kensington Gold Reference is a large and very heavily crafted traditional looking loudspeaker in a big, but not impossibly large cabinet. The Yorkminster had a 12in Dual and the Westminster a 15in Dual, so they are

larger speakers all round.

The Kensington tops the 10in Dual-Concentric equipped Prestige loudspeakers and will fit a typical UK lounge, even if it is more likely to be bought elsewhere, especially the Far East where they love traditional style and values – and Tannoys.

A price tag of £9950 may seem high, but the new Kensington GR offers a lot for this and of course, with its olde-worlde styling and high quality of finish is almost alone in any case.

And it's a Tannoy, which truly does mean different and very,



very good. I'll always miss the Yorkminsters, no other loudspeaker ever moved a room like they did, but I needed a new home to suit them and couldn't afford one big enough!

The Kensingtons have been carefully and subtly tailored to suit medium sized rooms, around 18ft-20ft long. They'd likely even work in my lounge at 16ft long (I didn't try – it's three floors up and I don't have a goods lift), which the Yorkies nearly demolished, but I'll go into this in more detail later.

What you have in the Kensington GR is a Tannoy 10in Dual-Concentric drive unit, loaded by a front ported

cabinet. The ports are slots concealed in each front, hardwood corner trim, at left and right and effectively facing forward.

The Dual-Concentric drive unit houses a large 2in (50mm) aluminium dome tweeter, loaded by a brass plated central horn with 'pepperpot' waveguide, that you can see in our pictures. Most tweeters are 1in diameter, so this one is twice as large. What that means in principle is that it goes lower than other tweeters – and this is good. When designing World Audio Design loudspeakers for Hi-Fi World it became obvious to me that a lower crossover frequency largely eliminated the phase error problems that conventional tweeters impose on loudspeakers (this is all due to distances and wavelengths). Tannoy's large tweeter all but eliminates crossover phase error and you can hear this as a less phasey and indeterminate quality from the loudspeaker. It sounds solid and consistent, especially as you move your head or move around.

The 10in paper cone bass unit handles everything below 1.5kHz, quite a big task for a large paper cone but there are no hand-over issues between bass and midrange our measurements show. Tannoy have continued to develop their Dual-Concentric drive unit so it meets modern demands and expectations, and in the Kensington GR you get a technically refined performance, that is smooth in nature, carefully avoiding emphasis or aural artifice.

Those big cabinets are made from plywood, which is more durable than MDF. They are finished with an oiled Walnut veneer and protective Walnut hardwood corner trims; Tannoy recommend the cabinets are waxed and not stood in direct sunlight, to avoid fading. They sit on an integral plinth, with four feet; spikes are not available.

The front grille can be removed, unlocked with a key. Beneath, on the veneered front baffle, lies a heavy machined brass adjustment panel that employs thumbscrews to select treble level and roll off. As delivered these are set to Level and that's what our measured frequency response shows. Treble can be lifted or lowered and the upper limit reduced if desired, by small amounts that effect subtle changes. Tannoy consistently voice their loudspeakers to be smooth and accurate and, if anything, a tad mild at high frequencies; they don't come with obvious or fierce

The Pepperpot wave guide, at the base of the treble horn.



upper treble. There are treble lift positions to increase midrange output to give more thrust, if you wish.

Because the horn loaded tweeter is very well integrated with the bass/midrange unit, there is no crossover suckout to soften the sound, and the horn is forceful in any case so the Kensington doesn't come sounding laid-back; quite the reverse it has a lot of midrange push and strong insight and detailing.

The crossover is Cryogenically treated (deep frozen) and this does improve insight I feel, subjectively lowering the noise floor to reveal fine low level detail. It adds air and space into the sound.

Tannoy use sturdy, high quality WBT screw connectors with removable wire links for those that want to bi-wire. As always, there is an earth terminal so the metal frames and parts can be earthed, lessening their sensitivity to RF (Radio Frequencies).

SOUND QUALITY

Our measurements show the Kensington produces powerful deep bass, but not subsonics, so it will work in medium sized rooms and not over-drive them. Having said that, there is a peak at 55Hz, but you'd need a small room 10ft long to excite this; there'd hardly be space for the cat. It suggests length and width dimensions greater than 10ft – let's say 12ft for safety – will work best, which is why I predict this speaker will suit medium sized rooms.

Our listening room (25ftx18ftx13ft) is large enough to accommodate and suit Yorkminsters or Westminsterers, or any other minster or monster, but in this room the Kensingtons sounded just right: bass wasn't heavy, so much as firm and in good balance. A room this size does not emphasise bass from any but the largest loudspeakers,

because its main axial modes are so low (if you want to check your room, go to an on-line calculator such as <http://amroc.andymel.eu>). So for us the Kensington was not a bass heavy loudspeaker. In a smaller room, resonant axial modes will in most seating positions strengthen bass, making it more obvious, but not over powering I suspect.

We didn't run-in our samples because they came run-in, because we prefer used speakers, not new ones. This way, anything that's going to fly off has flown off, and any damage we can blame on previous users. We do use loudspeakers hard and the Kensingtons were wheeled out regularly for The Beatles in Mono box set listening sessions for all the many people interested in hearing these new LPs, which included Guy Hayden, Vice President of Apple Corps.

I tried many different power amps, including Quad QMP monoblocks, but in the end felt that Quad II-eighty valve monoblock power amplifiers worked best with them. Tannoy's midrange horn suits valve amplifiers but makes

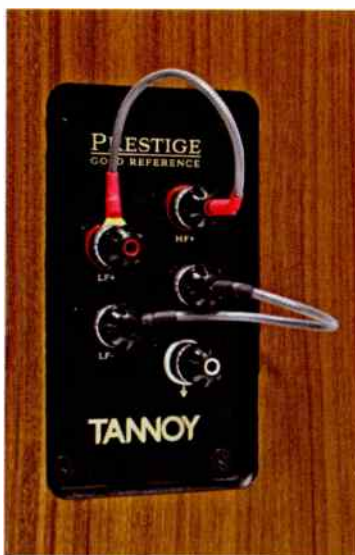
an Icon Audio PS3 valve phono stage. For digital, I fed the Quad II-eightys from an Audiolab M-DAC, using an Astell&Kern AK I20 portable to play (ripped) CD and high resolution audio.

To summarise so far then, the Kensington Gold Reference is tailored to sound balanced in medium sized rooms; it doesn't have the massive bass of the 12in Dual-Concentric equipped Yorkminster but its 10in cone does reproduce bass cleanly and with ease. A large volume cabinet absorbs the back wave well, so there's less box boom than usual, and a big cone produces low levels of bass distortion. You get strong yet well controlled bass with plenty of impact, a big confident sound.

So with Lady Gaga's Monster (CD) the deep synth lines that are meant to provide a seismic backdrop did so. When I moved 16ft back from the Kensingtons to the rear wall I was hit by massive bass pressure waves that had me gripping the settee. These speakers go low and deliver awesome acoustic power with supreme ease - they're typical big Tannoys!

Spinning Jackie Leven's Some Ancient Misty Morning (LP) had underpinning percussion sending out a thunderous message: there was an ease and a power to the drums and bass line that was big, bold and yet easy to enjoy. No small drivers struggling here: the 10in Duals just pumped it out with alacrity, defining bass notes with ease. These are physically big loudspeakers that sound big too - powerful yet relaxed, as if cruising along.

The central midrange/treble horn loaded tweeter endows the Kensington with strong midrange detail and insight, shining a bright light onto an aurally sensitive area, making the 'speaker quite forceful in its presentation. Cryogenic treatment does reveal low level filigree detail and also improves resolution of ambience, obvious when spinning The Beatles 'This Boy', from Mono Masters. The Kensingtons let me hear the studio behind John Lennon's microphone, making for an atmospherically live presentation. It was obvious that John was singing intensely, right into the mic, and this track became something of a demonstrator with visitors eager to hear our new The Beatles in Mono box set. The Kensingtons gave the song a sense of scale and solidity, as well as dynamic excitement.



Large WBT connectors accept spades, 4mm plugs and bare wire. Bi-wire links are shown here, and Earth terminal.

transistor amps sound like – er, well – transistor amps. And of course, being Tannoys you need just a few Watts to go really loud; at 91dB from 1 Watt the Kensingtons are massively sensitive: 20 Watts will lift the roof.

With LP I used a Timestep Evo turntable (upgraded Technics SL-1210 MkII Direct Drive) fitted with SME 309 arm and Ortofon Cadenza Bronze moving coil cartridge, feeding

Because the deep bass cone and horn at its centre project forward strongly, but less so to walls, floor and ceiling, the Kensingtons, like other Dual Concentric Tannoys, stayed both intense and well focussed as I moved backward from them, and at 16ft away there was noticeably less room muddle from reflections affecting the sound stage than I am used to from normal multi-driver loudspeakers. This contributes to their general sense of clarity and their insensitivity to room size.

Another interesting property of the phase-aligned Dual Concentric in the Kensington GR was that its sound balance did not change at all as I moved up or down in front of the cabinet, or even when I walked around the room. Conventional multi-driver loudspeakers, other than KEF Uni-Qs, change their sound, due to inter-driver phase cancellation, as you move around in front of them; in some cases this imposes quite a tightly defined and specific listening position, Yamaha's NS-F901 Soavo loudspeakers I reviewed in our September 2014 issue being a good example. The Kensington GRs are - almost uniquely - completely free of this problem. Their perfect phase



Treble energy and roll-off can be adjusted separately; there are 'lift' and 'lower' settings.

matching helped give singers a sense of solidity and body. Add this to their powerful low frequency output and the reason for the Tannoy sound becomes clear: from the Kensingtons you get scale, body, power and ease of delivery all in one. Result - happiness!

CONCLUSION

As Tannoy continue to refine their Prestige Series loudspeakers they get ever more impressive. The new Kensington Gold Reference is a carefully balanced design suitable for medium-to-large rooms, where it will impress by dint of sheer impact. This is a loudspeaker you

feel - as well as see. It is fabulously well engineered all round, with its big Dual-Concentric drive unit and lovely traditional cabinet. I did at times have the Kensingtons pumping out massive volume from our 80 Watt Quad valve amplifiers and loved every minute of it. They play from soft to Rock-Concert loud without difficulty, always sounding lively and engaging. And our new offices haven't been demolished I'm happy to say! It's a pity the Kensingtons' price will exclude so many of us, because big loudspeakers like these are an experience worth having. I'll always love big Tannoys; they sit in a world of their own.

MEASURED PERFORMANCE

Our frequency response analysis shows the Kensington GR measures flat across most of the audio band, so it is fundamentally accurate. Bass peaks up at 55Hz by +8dB, but a higher definition mis analysis shows this is a narrow band effect that doesn't encompass much energy so it will be less audible than might be expected. All the same, it

FREQUENCY RESPONSE

Green - driver output
Red - port output



IMPEDANCE



does mean the Kensington GR is not lacking bass and, at this frequency, a boost to subjective speed is provided. The forward firing side ports, concealed in the hardwood edge trims, provide a little support (+2dB at 80Hz) to lower frequencies. All the same, although the Kensington is big and produced loud bass cleanly, it does not produce subsonics, cutting off sharply below 40Hz. Our impedance plot adds further to the picture, showing narrow damping of the basic cone/cabinet resonance at 55Hz.

Upper treble rolls down slowly with the front adjustment screws for treble Energy and Roll-off set 'Level'. Roll-off had little affect, reducing upper treble (above 10kHz) by a few dB. The Energy screw had most affect, and when set to +2dB raised output of the concentric horn-loaded treble unit by +2dB or so above 3kHz, enough to audibly brighten the sound, but not in a gross fashion.

The treble horn integrates smoothly with the bass/midrange unit at all angles off-axis, laterally and vertically because of concentricity. The pepperpot waveguide keeps response smooth on-axis and off-axis too. Smooth off-axis results mean the Kensingtons do not have

to be toed in.

A 200mS decay analysis interestingly showed very low coloration from 20kHz down to 200Hz. Below 200Hz the Kensington GR becomes a tad 'hot' and predictably has a resonance and associated overhang at 55Hz, but it is less 'hot' than smaller cabinets all the same. Overall, decay analysis shows a very clean result, and a low coloration 'speaker.

Sensitivity measured 91dB from one nominal Watt of input (2.8V), so the Kensington GRs need just a few Watts to go very loud and 40 Watt amplifiers are more than adequate to drive them very loud, in large rooms. As a load they measured 6 Ohms and have a minimum DCR of 5.7 Ohms so sensitivity is not gained by low-loading a constant current source, meaning the Kensington GRs are efficient and don't load an amplifier heavily.

The Kensington GR offers a very typical Tannoy measured performance, with a smooth and accurate audio response, plus a slow roll-off in high treble to ensure an easy sound lacking 'sting'. Bass will have speed and weight, without being overblown. **NK**

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KENSINGTON GR
£9950.00



OUTSTANDING - amongst the best

VERDICT

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FOR

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- insightful
- need few Watts

AGAINST

- expensive
- large
- no port tuning

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Parisian chic



It's sleek, it's shiny – and it sounds superb. Jon Myles is seduced by Devialet's new 120 amplifier.

Anyone with more than a passing interest in hi-fi cannot have failed to notice the buzz surrounding Devialet.

The French-based company appeared seemingly out of nowhere a few years ago with its innovative D-Premier amplifier.

It immediately caught the imagination of many critics who declared it one of the best amplifiers ever built and a pointer to the future of hi-fi as well as showering it with awards.

With a price tag nearing £12,000, however, it clearly wasn't within everyone's reach.

Now, though, the Parisian company has extended its range – including a new entry-level model named the 120 and retailing for a more modest £4,490. You lose some of the D-Premier's prodigious power output (120 Watts as opposed to 240 Watts) but the heart of both amplifiers is essentially the same.

That means Devialet's proprietary Analogue Digital Hybrid

(ADH) amplification circuit which features a low-power Class A stage working in parallel with a Class D module allied to a high-quality DAC. All internal operations are in the digital domain, so even analogue signals are converted to digital before being processed (see Measured Performance for more details).

Connection options include digital optical, coaxial and USB as well as a pair of RCAs that can be set for line level use or as a phono stage (MC and MM).

The Devialet will also connect to your network (wired



or wirelessly) for 24-bit/192kHz streaming via the company's own Asynchronous Intelligent Route (AIR) technology.

An on-line Configurator allows a host of adjustments to the unit (including tailoring the phono input to match your cartridge, changing power output and software updates). These are then saved onto an SD

card which slots into the rear of the unit and automatically uploads the configuration.

All this technology is packed into a sculpted, slim, mirror-finish aluminium case which to my eyes puts most other pieces of hi-fi equipment to shame and can either be lain flat on a rack or hung on the wall.

Control of the unit is via a matching remote (pictured left) which features a large rotary volume control and buttons for on/off, mute and source selection or via a smartphone app (both iPhone and Android). I have to admit that, while I'm a confirmed iPhone user, I found myself reaching for the remote most of the time so gorgeous is its design and feel in the hand. If Apple made hi-fi it would probably look something like this.

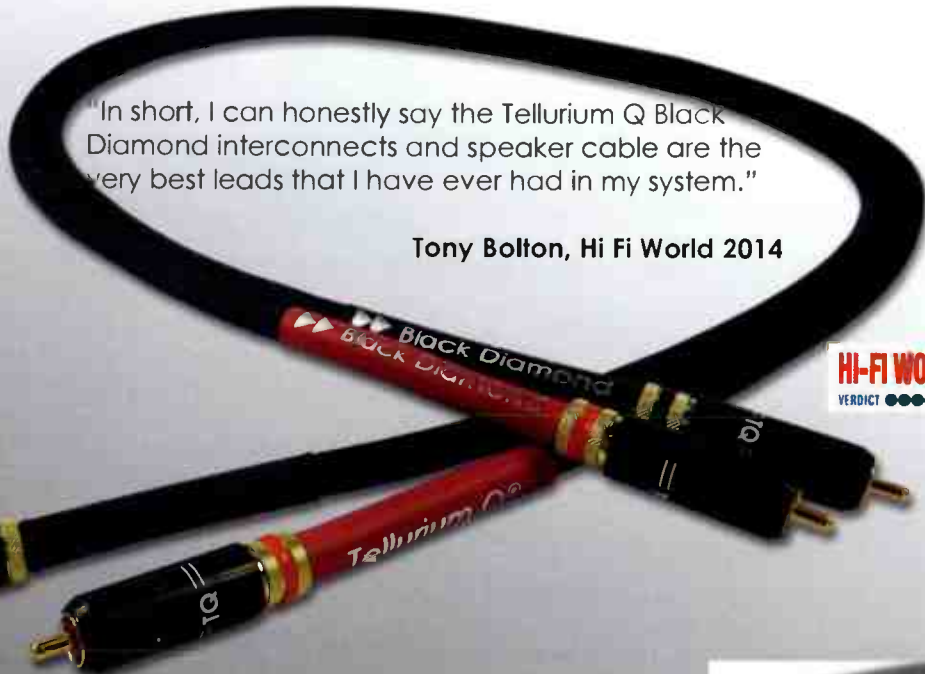
SOUND QUALITY

Duly configured and loaded with the Devialet's latest 7.11 firmware and first impressions of the 120 are an amplifier with a super-clean, super-detailed presentation.

This really is an amplifier that doesn't seem to impose any of its own character on the system but simply lets the music flow through unsoftened.

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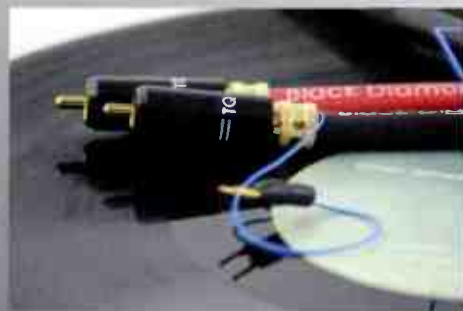


"In short, I can honestly say the Tellurium Q Black Diamond interconnects and speaker cable are the very best leads that I have ever had in my system."

Tony Bolton, Hi Fi World 2014



HI-FI WORLD
VERDICT ★★★★★



HiFi Pig Review

"The top end was clearly beyond what the K2 [Audioquest] had to offer me and I was really trying to hear something that presented itself to me which would lead me to believe that it was a bit over the top, harsh and spitty but it just didn't happen. A true increase in perceived bandwidth was shining through with strings giving small nuances of reverbs that I hadn't heard so well articulated before"

"Nordost-with-substance"

The new Ultra Silver Dan Worth, Hifipig.com

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Rear panel connections include digital optical/coaxial, USB and ethernet as well as a configurable line level/phono input - which can accept either MM or MC cartridges.

It also imposes a vice-like grip on the 'speakers, giving a welcome sense of unflappability.

Playing Lady Ga Ga's 'Monster' CD via a Cyrus transport the sound had such scale and power was enough to blow me off the sofa. But it's done with immense control – so the pounding drums, throbbing synth line and vocals are all in perfect sync.

With Pierre Bensuan's 'Altiplanos' every nuance of his guitar playing was rendered in vivid detail down to the occasional scrape of his fingers on the fretboard.

Switching to 24/96 material played into the optical input via an Astell&Kern AK120 digital player the drum strikes at the start of 'Misery' by Dave's True Story were tremendously atmospheric – echoling away into an inky blackness. Kelly Flint's vocals were also so open, honest and pure they sent shivers down the back of my neck.

Those fearing the Devialet may exhibit the sterility of some technologically-advanced amplifiers need not worry – there's a wonderful organic swing and vibrancy at work here. So much so that it sent me scurrying through my music collection to find long-forgotten gems to see how they'll sound through the Devialet.

In fact, whatever music you ask the Devialet to reproduce it seems to impart the right sense of scale and atmosphere. Rock, jazz, classical, chamber music or thumping dance music just sounded right.

Even the phono stage brings an even-handed and authoritative approach to the party. Just remember



Configuration and software updates are loaded onto the Devialet 120 via an SD card which slots into the rear of the unit.

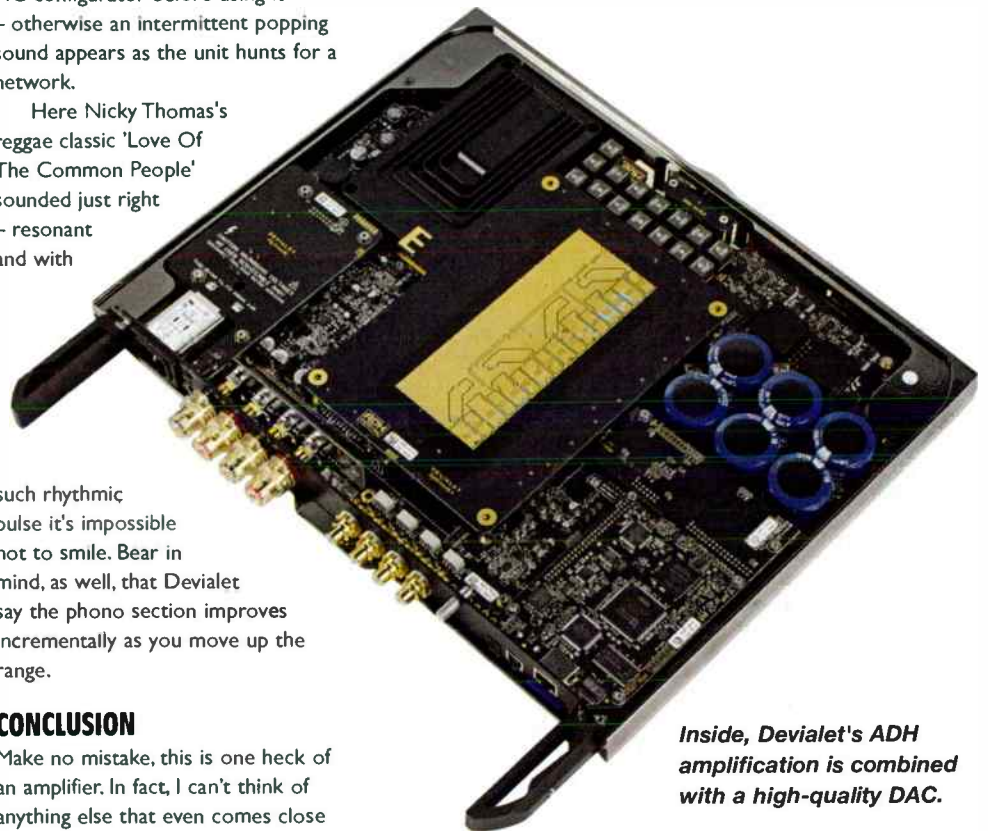
to select Auto wi-fi Standby in the MC configurator before using it – otherwise an intermittent popping sound appears as the unit hunts for a network.

Here Nicky Thomas's reggae classic 'Love Of The Common People' sounded just right – resonant and with

such rhythmic pulse it's impossible not to smile. Bear in mind, as well, that Devialet say the phono section improves incrementally as you move up the range.

CONCLUSION

Make no mistake, this is one heck of an amplifier. In fact, I can't think of anything else that even comes close to it at the price. Ultimately, it may not be quite the thing for those who crave the lush warmth of valves or whose music collection is purely vinyl-based. But for everyone else it's an essential listen.



Inside, Devialet's ADH amplification is combined with a high-quality DAC.

LOUDSPEAKER MATCHING

All Devialet's amplifiers now include its latest SAM software – or Speaker Active Matching technology.

In short, this is a loudspeaker-specific DSP operation that matches the amplifier to the specific loudspeaker being used.

Users download their specific 'speaker profile from the Devialet website and then load it onto their amplifier via the SD card – switching it on or off via the tone control on the remote.

Currently some 60 different 'speakers are supported from the mighty Wilson Sasha to KEF's mini LS50s.

Among them are the standmount GT1s from fellow French company Atohm which garnered a Five Globe review in the April 2013 issue of Hi-Fi World. They feature a beautifully-engineered curved cabinet with a proprietary 28mm silk dome tweeter and 150mm alloy mid/bass driver.

In a new promotion dubbed Ensemble the 120 is being offered with Atohm GT1 Special Edition 'speakers made especially for Devialet for £6290 – a saving of some £700 on the combined list price. The 120 comes pre-loaded with the GT1s SAM profile. Contact your nearest Devialet dealer for more information.



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World Radio History

NOEL SAYS -

The Devialet uses a precision Class A voltage amplifier and Class D current dumpers. The low power Class A output transistors are 'fast', and give low distortion figures. Devialet also use switch mode power supplies to keep case size down and provide good regulation. The 120 runs hot; it has a lot crammed inside and, with sensitive MC cartridge selected, wi-fi must be switched off in the Configurator to avoid thudding noises.

...and so to the Configurator! You can see this on Devialet's website. It configures a removable SD card in the amplifier, allowing a wide variety of options to be chosen by the user, far beyond that of other products – a unique feature. I found it easy and quick, if with a few difficulties. There are two Save operations; miss either and nothing changes. My Mac tried to save as a .css (cascading style sheet) file and this suffix had to be removed.

The wording of the Configurator is electrical engineering tech speak, on MC especially. The 'overload' slider is more commonly called 'gain/sensitivity', overload being a linked factor when a finite input ADC is in the signal chain. Load values need to be in the MC/MM section, not in the Advanced section. The Configurator offers a very wide range of options but it is a bit techy and difficult to understand; dealers are trained to help. Nevertheless, once mastered the 120 can be user-set with an unusually wide range of options.

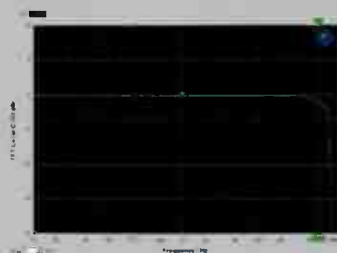
We used SAM with the Atohm GT1 loudspeakers supplied and it worked well, producing improvement. The Devialet 120 is a tour-de-force of modern electronic engineering - impressive.

MEASURED PERFORMANCE

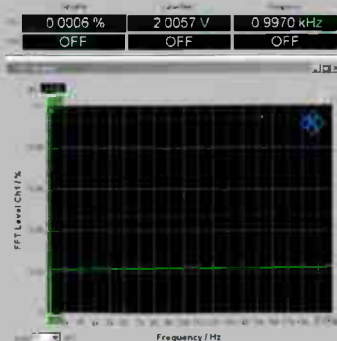
The Devialet 120 produced 84 Watts into 8 Ohms and double, or 170 Watts into 4 Ohms, so it meets its manufacturer's spec of 120 Watts into 6 Ohms. Output damping factor was very high at 90 and frequency response unaffected by load, both suggesting feedback after any output stability network. It will keep tight control over bass; high DF amps can sound dry with over-damped loudspeakers, but tame bass heavy, under-damped designs.

Distortion levels were very low right across the audio band, best results being obtained with a full level 24bit digital input, from which the amplifier produced 0.0005% delivering 1W at 1kHz, and 0.0006% 1W at 10kHz. The worst result was 0.06% from full output into 4 Ohms

FREQUENCY RESPONSE



DISTORTION, 1W 10kHz



at 10kHz, a gruelling test in which the 120 managed extremely well.

Like an A/V receiver, the Devialet is primarily a digital input device, so frequency response is set by sample rate and with 192kHz digital input via Digital 1 (electrical S/PDIF) it measured flat to 63kHz our analysis shows, before a slow roll off up to 96kHz. The optical input receiver accepted 96kHz maximum, so this has a 48kHz analogue bandwidth.

Digital distortion levels were very low, being set by power amplifier noise, and measuring 0.015% at -60dB with gain set to avoid overload at 0dB FS. Similarly, EIAJ Dynamic Range measured a high 119dB with the amplifier set to avoid overload.

There is an analogue input, labelled Phono, that can be set to accept MM or MC pickup cartridges with digital RIAA equalisation applied, or to act as a Line input. The programmable-gain analogue input amplifier feeds a 96kHz sample rate ADC that has 192k as an option, for extra bandwidth but more noise. Unlike A/V receivers, that use a similar scheme, there is no bypass switch to connect analogue input to analogue output (i.e. after the DAC) so both Line and Phono are digitally processed via the input ADC, increasing noise.

The ADC, when set to Line, has a high 4V overload ceiling, so CD can be connected, but noise was a mediocre -75dB with 1V in and -87dB with 4V in.

Set to MC (moving coil) cartridge, with maximum input at 5mV, meaning minimum gain, input sensitivity was a useful 0.9mV and actual input overload nnt 5mV as stated by 12mV - good figures. There is plenty more gain to be had so the MC stage can cope with low output MCs. However, hiss was high,

equivalent input noise measuring 0.93µV, higher than a transformer or very quiet transistor stage; this is likely from the ADC.

Frequency response via MC measured absolutely flat (i.e. RIAA equalisation was accurate) with '1976' e.q. applied, and an IEC warp filter introduced with '1953' applied (these are the wrong way around: the 1953 curve should be flat and the 1976 curve have a warp filter). Devialet's warp filter curve is faithful to IEC spec. so suffers the drawback of lightening bass a little.

The Devialet 120 measured unusually well in most areas. It produces impeccable figures, as Devialet claim, except for noise on the MC phono input. Those wanting the best from MC cartridges can, however, use an external phono stage, in conjunction with the 120's Line input. NK

Power	84watts
Line in	
Frequency response	4Hz-44kHz
Separation	102dB
Noise	-87dB
Distortion	0.0006%
Sensitivity	110mV

Digital (24/192)	
Frequency response	4Hz-63kHz
Separation	110dB
Noise	-118dB
Distortion	0.02%
Dynamic range	119dB

Disc (MC, 1mV Max)	
Frequency response	4Hz-20kHz
Separation	68dB
Noise	0.8uV ein
Distortion	0.08%
Sensitivity	0.15mV
Overload	6mV

DEVIALET 120 AMPLIFIER/DAC
£4490.00



OUTSTANDING - amongst the best.

VERDICT

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FOR

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- powerful sound
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AGAINST

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CD goes digital!



Martin Pipe reckons Teac's versatile CD-P800NT CD/network player is a £400 bargain.

With its front-loading disc tray and prominent control knob, Teac's CD-P800NT could be seen as the offspring of a CD player and a tuner. Actually, as a description that wouldn't be entirely wide of the mark as the unit does indeed play CDs and can receive radio stations. The proviso is that

the radio stations in question must stream over the Internet. This is because the CD-P800NT is essentially a CD player built for the network and multimedia age. Internet radio ('vTuner') and CDs apart, that means iPod/iPhone streaming and music playback from DLNA media-servers (such as computers and NAS boxes) or front/rear USB port.

For all its retro stylings, the CD-

P800NT isn't stuck in the CD-driven 16bit past. It will also play 24bit WAV and FLAC files with sampling rates of up to 192kHz. Other codecs supported include MP2/3, AAC, WMA/WMA Lossless, Apple Lossless and even Ogg Vorbis. It will also play DSD files (.dsf) with sampling rates of 2.8MHz or 5.6MHz. That could be your ticket to hi-res nirvana courtesy of Blue Coast Records and labels of their ilk. The DAC chip buried in its neat innards, a Burr-Brown PCM1795, natively-supports DSD as well as hi-res PCM.

But does this mean the CD-P800NT can play SACDs with its optical disc drive? Alas no. At best, you'll get the 'plain' CD layer (if your disc is a hybrid one). The only discs this player can handle are 'standard' (Red Book) audio CDs, or CD-ROMs containing WAV and/or MP3 files. Any other content, including files featuring the codecs listed above, is ignored. You can only play such files via USB or network storage. Why should that be? Investigating further, I note that the unit's optical drive isn't a computer-type IDE or SATA CD-/DVD-ROM drive; it's a Teac CD-5020 'loader unit'.

According to Teac's data-sheet,



The CD-P800NT looks very much like a CD player. Indeed, the transport is designed specifically for CD players as opposed to a SATA-type computer drive. Note too the linear power supply.

this proprietary module outputs decoded digital audio (rather than raw data) to the host unit – in this case the CD-P800NT – via S/PDIF or I2S. In other words, the loader's capabilities determines what can be played from optical media. Basically, the CD-5020 is – it would seem – a 'multimedia-enhanced' CD player without case, power supply, DAC or user interface. Had Teac's design instead specified a standard computer-type DVD optical drive, the disc facility could have been even more useful. With a little extra work the unit could have been able to play two-channel SACDs.

We shouldn't really complain, though. The CD-P800NT packs in a considerable amount of very useful functionality for a mere £400. It's not particularly easy to drive with the front panel controls, although basic operation is straightforward enough. You can also set up to 40 radio stations as favourites. However, getting them in the list in the first place could be easier – mainly because all operational feedback is packed into a single-line display! Teac's free 'AVR Remote' app (Android/iOS) can however be used to drive the unit instead.

PERFORMANCE

A few minor niggles there may be. But taking into account its modest price, the CD-P800NT cannot be faulted in terms of music-making ability. First, I sent out the vTuner in search of BBC Radio 3. According to the information available what we're listening to is a 320kbps stream. With a Roksan K2 integrated amp and Acoustic Energy AE109s, it certainly sounded convincing with the acclaimed Stravinsky Firebird/Simon Rattle/Berlin Philharmoniker Prom.

All of the work's intricacy, including the subtle string-harmony rendition, was there for the hearing – and within a natural soundscape too. Yet even as the performance approached its famous climax, congestion was never a problem. Indeed, the only real complaint that can be aimed at the CD-P800NT's presentation is that it errs towards the bright. This can however work well with electronic dance music, rich in hi-hats, cymbals and other percussive elements

A slight treble emphasis imparts attack and excitement to wonderful vintage electro like Afrika Bambaataa's Renegades of Funk (CD). The bass end of the spectrum is meanwhile



No Wi-Fi, but the worlds of Internet-radio and locally-stored music are opened up by the Ethernet port. Optical and coaxial outputs can feed an off-board DAC, while the unit accepts 24/192 PCM/WAV or FLAC.

firm and well-controlled, helping to propel the sophisticated white-funk of Level 42's Micro-Kid with fluidity and vibrancy. Driving an expensive external DAC (in this case, the North Star Excelsio as reviewed on page 45) delivered an improvement that is best described as subtle. Some minor musicalities were now discernible and the slightly bright edge was tamed, but it's surprising how close the two were.

Only with hi-res and DSD material did this tiny performance gap widen perceptibly. But that's not to say the CD-P800NT isn't less than excellent here; the sense of space from hi-res recordings like Henry Purcell's "Sweeter than Roses" as sung by Carolyn Sampson (24bit/44.1kHz FLAC) is palpable.

The headphone amp is good to see, but not necessarily good to hear. Although it's got plenty of drive there's a lack of finesse. Even Sony's warm and smooth MDR-1Rs biased towards stridency. I doubt much of the (limited) budget was allocated to the headphone stage.

CONCLUSION

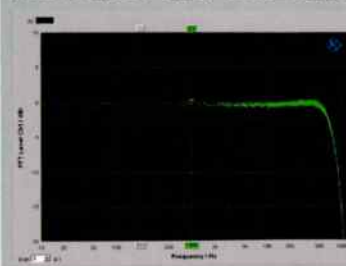
Flaws it may have but they're minor. The CD-P800NT allows you to enjoy your existing CD collection while sampling the 21st-century joys of hi-res playback, Internet radio and streaming from home servers or USB. And all for such a modest outlay! You even get an upgrade path, in the form of digital audio outputs.



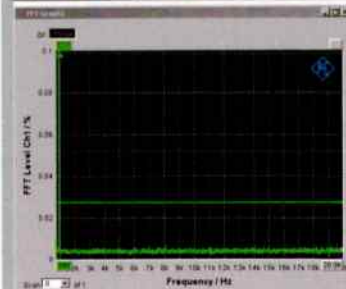
MEASURED PERFORMANCE

The CD player produced conventional results, with flat frequency response to 21kHz, without peaking or roll-off, plus low distortion of 0.21% and a dynamic range of 101dB – all typical values expected from 16bit CD where quantisation noise dominated parameters.

FREQUENCY RESPONSE 192k



DISTORTION, 24bit -60dB



CD will sound basically well balanced tonally.

Teac's DAC managed well with 24bit code, distortion dropping to a low 0.03% at -60dB, a very good result. Low distortion and noise together ensured a healthy EIAJ dynamic range value of 116dB was achieved, not up with the best (> 120dB) but still a lot better than most. Frequency response extended to 60kHz from 192kHz sample rate FLAC files, read from a memory stick in the rear socket (the handbook says 192kHz WAV will not play from this socket, I note). Also, although DSD files are played, the DSD layer of SACD discs is not played, only the CD layer, so the CD-800NT is not an SACD player.

Teac's CD-P800NT measured well all round; it houses a good quality DAC that exploits high resolution PCM well so sound quality should be good. **NK**

Frequency response (-1dB)	
192kHz SR	4Hz-60kHz
Distortion (24bit)	%
0dB	0.002
-60dB	0.03
Separation (1kHz)	111dB
Noise (IEC A)	-115dB
Dynamic range (24bit, EIAJ)	116dB
Output	2V

TEAC CD-P800NT £400



OUTSTANDING - amongst the best

VEROICT
A budget bargain. Does much, and sounds good.

FOR
- wide range of listening options
- Hi-res and many audio codecs, inc. DSD, supported

AGAINST
- optical drive accepts CD media only
- single-line display

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Chord's cords

Tony Bolton explores the capabilities of the latest versions of some tried and trusted interconnects from the Chord Company.

The model names of Chorus, Anthem and Signature have been featured on the Chord Company product list for a number of years now, but recently they have all undergone upgrades and are now in Mk 3 configuration.

The most affordable of the three is the Chorus Reference priced at £350. This is a new design with a tri-conductor configuration using silver-plated oxygen free copper and insulated with PTFE. The conductors are arranged over a spiral and shielded with a 95% coverage woven braid and heavy gauge foil. Chord's VEE 3 plugs are fitted, made with an ABS outer shell, silver plated contact areas and PTFE insulation around the central pin.

The £450 Anthem Reference interconnect uses heavy gauge, silver-plated oxygen-free copper connectors arranged in a repeating spiral and insulated with PTFE. The cables are then over-extruded with PVC to minimise mechanical noise. The shielding is provided by a dense braid and a heavy gauge foil over-wrap. VEE 3 plugs are fitted.

The most expensive cable in this review is the £765 Signature Tuned ARAY interconnect. This replaces the Signature Plus in their range and is a new design made with high-quality silver-plated conductors and PTFE insulation and two layers of a high density silver braid for shielding. This is covered with a white PTFE outer extrusion. Chord's ultra low mass RCA plugs are fitted. The silver-plated pin is surrounded by PTFE insulation, as is the silver-plated return connector. This is covered with a machined acrylic plug casing.

After thoroughly running in each cable on my Blue Horizon Cable Burn In Accelerator, each one was listened to for an evening before doing comparative listening with CDs of Ivo

Janssen playing Bach Preludes and Fugues on the piano (VOID Classics. VOID 9812) and Shpong's 'Museum Of Consciousness'. (Twisted Records. TWSCD45).

I started my listening with the Chorus cables and was presented with a big, quite warm and easy-going sound that was underpinned by a very solid bass. The central image of the flute in the first part of Shpong's opening track 'Brain In A Fish Tank' was very strong and the sound seemed to be very firmly placed just within the speaker boundaries. The piano sounds in the Bach were good, although I felt that the harmonics on a heavily struck chord using the sustain pedal showed slight traces of confusion in the definition of the sound.

Changing cables to the Anthem gave a very different presentation of the same tracks. Although the central image was still a focal point, I felt that the sounds to either side of it were more integrated to it creating a more cohesive soundscape. The bass seemed to move a little more freely and I had a perception of greater weight and agility to the rhythm.

Janssen's piano was better displayed with more attention seeming to be focussed on the intimacies of his touch on the keyboard. The music felt as though I was better able to explore it easily and the detailing of the ringing harmonics were more obviously displayed.

There is quite a jump in price to the Signature interconnect (£765) but the improved performance seemed commensurate with this. Michelle Adamson's vocals in 'Brain In

A Fish Tank' had far more space to flow naturally than with the previous two cables and I was very much more aware of the layers and the differing textures of the sounds, both natural and electronic in this track.

The Bach pieces sounded far more natural and flowing, with the harmonics successfully decoded so that I felt I was listening to a more lifelike rendition of the music.

All three cables seem to offer good performance for the prices. The

Chorus should suit leaner sounding systems while the Anthem will provide a shot of bass driven adrenaline for those that need it. The Signature stands head and shoulders above both and, despite the price, offers, I feel, excellent value for money.



CHORD COMPANY CHORUS REF. £350.00 1MTR



EXCELLENT - extremely capable.

VERDICT

Smooth and rich sounding interconnect. Will suit lean or thin sounding systems.

FOR

- full bodied sound
- solid bass

AGAINST

- may be too warm sounding for some systems.

CHORD COMPANY ANTHEM REF. £450.00 1MTR



OUTSTANDING - amongst the best.

VERDICT

open and spacious sound with excellent imaging.

FOR

- focussed soundstage
- excellent dynamics
- good treble detail

AGAINST

nothing at the price

CHORD COMPANY SIGNATURE TUNED ARAY £765.00 1MTR



OUTSTANDING - amongst the best.

VERDICT

good vocal projection combined with tight timing and a natural tonality make this cable extra special

FOR

- accurate texture and timbre
- good focus on micro details

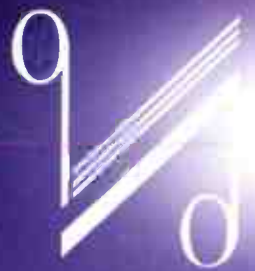
AGAINST

- nothing, not even price

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LETTER OF THE MONTH PRIZE



KEF Q100 LOUDSPEAKERS

Visit our website at www.hi-fiworld.co.uk or send your emails to letters@hi-fiworld.co.uk. Letter of the month wins a pair of KEF Q100 loudspeakers.

Answers by: **NK** - Noel Keywood; **PR** - Paul Rigby; **TB** - Tony Bolton; **MP** - Martin Pipe; **HB** - Haden Boardman; **RT** - Rafael Todes; **RA** - Rod Alexander; **JM** - Jon Myles.

For more advice see Letters from earlier issues at www.hi-fiworld.co.uk/letters

A pair of KEF Q100 loudspeakers are on their way to **CHRIS CORRIGAN**, Letter of the Month winner in our October 2014 issue.

Letter of the Month

X-FACTOR DACS

I write primarily in support of John R Walsh's letter in the October 2014 issue in which he requests a full review of the Oppo BDP-105D Blu-ray player. I have long wondered about the value of this player and how it compares to DACs at a similar or slightly higher price. I am looking to purchase a DAC but wonder about value for money and sound quality. I see the Blu-ray and music server aspects of the Oppo player as a welcome bonus, rather than the main function of the unit.

I am unconcerned about DSD functionality and simply wish for consistent and excellent performance at all PCM sampling rates, and on all inputs (S/PDIF and USB) in two channel stereo. I am aware from reviews elsewhere that the DAC section of the Oppo is supposed to measure excellently. It would be very useful to see an assessment of measured performance in Hi-Fi World in order to confirm this.

Although it is often argued that most modern DACs sound very much the same, I have found that the better DACs offer an elusive X-factor in terms of low-level resolution and soundstage that eludes cheaper models. As a benchmark, I am using the AVI Lab series CD player, which is now around 10 years old. I want a DAC that will at least equal the audio performance of this player, but will also work well with my computer audio library and other



"I understand that the Benchmark Audio DAC2 HGC has ground breaking technology" says Chris Lloyd. It has many unusual and interesting features. We are awaiting a sample for review.

digital equipment.

I understand that the Benchmark Audio DAC2 HGC has groundbreaking technology, and is of a similar price to the AVI CD player and so presumably should be comparable in sonic performance. I wonder how the Benchmark performs relative to the Oppo, and perhaps against the TEAC UD-501 and the (surely fairly definitive) Resonance Invicta Mirus DAC, favoured by Noel Keywood (as per Chris Corrigan's letter in the October issue). I note that most of these use ESS Sabre32 chips, except the Teac (which uses Burr Brown chips) and the AVI (which uses Cirrus I believe). I would anticipate that the output stages, power supplies, and isolation will make the biggest difference to performance in modern DACs? Would it be possible for Hi-Fi World to review the Benchmark

DAC?

I note in a previous issue that the budget Project DAC (£170) was reviewed, but sadly there was no accompanying assessment of measured performance to compare with that of the Resonance DAC (which was reviewed in the same issue). Surely this was a golden opportunity (missed) to compare the best in sonic performance at two extremes of the market (i.e. £170 versus £4500)? A fascinating comparison?

My secondary reason for writing is with regard to the CD and vinyl debate, which never ends. I love both formats on their own merits, but recently discovered the dynamic range database online (<http://dr.loudnesswar.info/>) and the dynamic range meter (which I use in the Foobar music player on my computer). After some study of

For The Beatles in Mono vinyl box set letters - see page 90



The Oppo BDP105D, an ignored Blu-ray player we must review say readers. It has a great specification, using an ESS Sabre32 DAC. Oppo's UK P.R. read John Walsh's letter in the October issue and has arranged a review sample.

the dynamic range of various favourite LPs, CDs and downloads I conclude that much of my love for vinyl is actually love of the increased dynamic range (via lack of compression) on older LP and early CD pressings.

Over the decades since the introduction of CD, countless remastered re-releases of many older albums have been produced, which are simply ruined by terrible compression. This makes the album unfit for playback on a hi-fi system (though no doubt great for an iPod or car, I'm sure). I can highly recommend original LP and CD releases for those that care about their audio experience and I can recommend the use of the dynamic range database as a useful guide.

Whilst many of the studio remasters are I'm sure excellent in themselves, once compression has been applied the subtle benefits of a remaster are negated in my view. In the *Hi-Fi World* review of the Beatles mono vinyl boxset, I note the mention of the lack of compression; especially relative to previous Beatles box sets. I shall be purchasing the mono box set because of this, as well as for the all-analogue transfer (the merits of the music are of course a given).

I have found the Roxy Music 1999 HDCD remasters to sound awful in comparison to the original vinyl and 80s CD issues. This is similarly the case with the Elton John back catalogue prior to the mid-80s. For example, *Captain Fantastic And The Brown Dirt Cowboy* is much less fantastic on the 1996 remastered CD than on the original vinyl and 80s CD issues (because of the awful compression applied to the remaster). This is despite hi-res analogue to digital conversion and dithering/noise shaping being utilised in remastering.

Further, in my experience many hi-res downloads do not hold a candle to original vinyl or CD releases because of greater compression, leaving me feeling duped. In any case, in terms of the science of digital audio, it is my

understanding that hi-res downloads offer no audible benefit to the human ear over CD (where both are equally well mastered). This is discussed in some detail at <http://hiddaudio.net/viewtopic.php?id=3573>, but is a separate issue.

I wish that more remastered releases were up to the stated audio standard of the new Beatles mono LP set, or for that matter, up to the standard of the Roxy Music Complete Studio Recordings CD boxset (2012). The latter is fantastically uncompressed and makes the most of the beautiful remaster. However, I won't hold my breath for many re-releases of this quality appearing any time soon. Sadly, the record industry doesn't seem much interested in true audiophile treatments of artists work for the most part. In light of the above, would it be possible for the dynamic range index and/or range to be included in future LP, CD and download reviews in *Hi-Fi World* magazine? Doing so would definitely be one simple objective measure of the fidelity of a recording, which would act as an excellent aid to the reader.

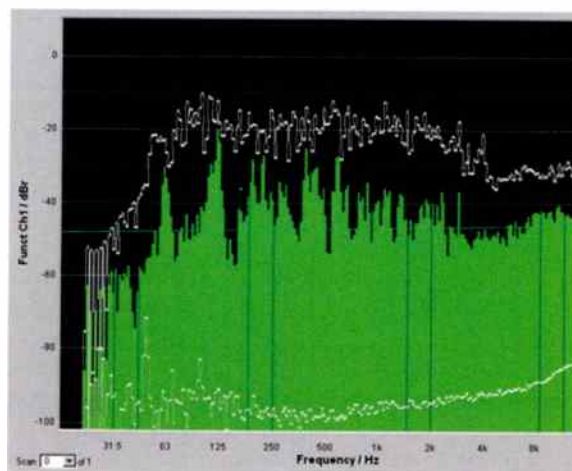
Inclusion of such a measure in music reviews would also perhaps prompt record companies to produce remastered re-releases of worthwhile quality. In my opinion, the dynamic range index should become something of a standard with which the discerning enthusiast may assess the audio quality of any given

programme material.

Chris Lloyd

Hi Chris. You cover a lot of ground here and raise so many interesting issues. On the issue of DACs and the Benchmark Audio DAC2 HGC, we will certainly try and get one for review. We review DACs in every issue and cover as many as possible, whilst avoiding DAC-heavy issues of the magazine, which would raise complaints. Also, 'UK manufactured' DACs are usually more cost competitive because they avoid import dealer margins, unless these are absorbed by the manufacturer to give comparable US/UK pricing to avoid grey importing.

This brings me to the inevitable observation repeated regularly in these pages: the Audiolab M-DAC and Q-DAC use the same ESS Sabre32 DAC, configured using four summed DAC paths per channel like the Benchmark Audio DAC2 HGC. And the dynamic range figures are similar too, at around 123dB. But



A dynamic range analysis of The Beatles 'This Boy', from the Mono Masters LP, part of The Beatles in Mono box set. The top white trace shows maximum level, and the bottom white trace minimum level - in this case vinyl surface noise. There's 75dB between them, so this is the dynamic range of the music. With a tracking limit 20dB higher, the dynamic range of the LP itself is 95dB.

they cost far less than most other Sabre packages and have a wider filter set.

I can't say the Benchmark will not offer improvement, since the inclusion of high-quality on-board linear power supplies, like those in the Teac DACs, may well lift the sound.

The Invicta Mirus uses two Sabre32 chips, one per channel with all eight paths summed, to give a groundbreaking dynamic range figure of 131dB, measured on our Rohde&Schwarz UPV audio analyser. Needless to say, it is more expensive than single-Sabre packages.

The argument that 16bit resolution is sufficient and we can't hear the benefits the extra dynamic range 24bit provides is an old one, and is based on the usual arguments. When you measure real life situations, as I do, where environmental noise appears to impose a 50dB dynamic range value – if you're lucky – it is easy to accept the figures. However, adding dither also adds noise and, interestingly, the Sabre32 chip gets great figures because it has ultra-low low noise, as well as distortion (24bit).

If the Sabre32 sounds good because of these figures then it suggests vast dynamic ranges, way beyond those theoretically needed, do make a difference. Since undithered 16bit manages around 100dB EIAJ dynamic range (IEC A weighted) and dithered 16bit around 97dB, the 120dB-130dB values achieved by modern DACs processing 24bit appear, on paper, to make no sense if you believe this rather simple argument. There is, subjectively, a clear difference between 16bit and 24bit resolution in practice: to generalise 24bit having more low level detail and insight, and also sounding creamy smooth to the point that some don't even like it!

It may be that 24bit sounds better because the original recording was made using a modern high-resolution ADC and likely better recording equipment. And also, there's more available dynamic range for editing and processing. But so what? Should we all go back to 16bit done properly? This isn't going to happen.

So tub thumping arguments supporting 16bit are not of any real life value or consequence; for whatever reason 24bit sounds better – it sounds better! Although in



"Roxy Music Complete Studio Recordings CD boxset (2012). Fantastically uncompressed and makes the most of the beautiful remaster" says Chris Lloyd.

everyday circumstances 24bit makes no theoretical sense it would seem, environmental noise rises and falls and the human brain/ear analyses audio selectively and intelligently: see Colin Cherry's "cocktail party effect" (see Wikipedia: http://en.wikipedia.org/wiki/Cocktail_party_effect).

We cannot consistently measure the true dynamic range of a recording in any meaningful way. If we were, for example, to measure dynamic range of music on CD we would measure music energy level against noise level, meaning music compressed up to peak level to sound loud (which sounds awful!) would come out measuring best since the noise floor of CD is consistent (the measured EIAJ Dynamic Range of CD is typically 100dB).

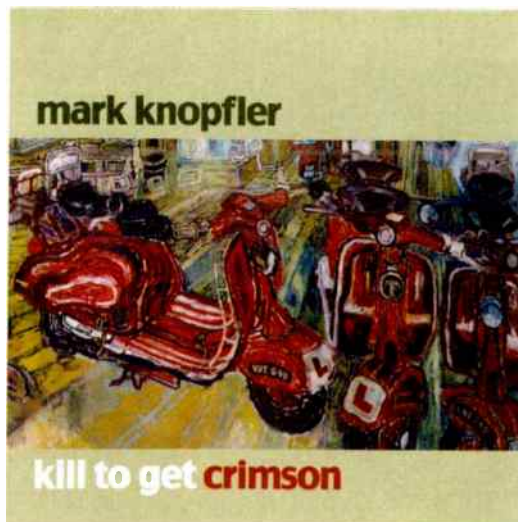
I did measure dynamic range of LP recently (see <http://www.hi-fiworld.co.uk/index.php/component/content/article/684.html>), but this was music level against background vinyl noise level. Since it was The Beatles singing 'This

Boy' the real dynamic range would have to include tape hiss and it was impossible to isolate and capture this. And invalid measurement attracts complaint (some seriously knowledgeable people read Hi-Fi World) so we cannot diddle you on this!

Whilst a lot of the recording industry doesn't care about sound quality and takes a curiously defensive stance about the subject, luckily many artists are concerned and their views have an impact. Neil Young decries CD, for example, and listen to Mark Knopfler's (Dire Straits) superb recordings, on CD and LP (get 'Kill to Get Crimson' on LP - it's superb). Then there's the DSD brigade headed by Blue Coast and Cookie Marenco, backed by Sony. That's all about sound quality. The Vandals might be inside the walls, but they haven't sacked Rome yet! People still want and demand quality and in some places the message gets through, The Beatles in Mono LP box set being a fine current example. Enjoy! **NK**



The impressive Invicta Mirus, reviewed in our September 2014 issue, returned a class leading dynamic range value of 131dB and sounded fabulous, but it costs £4499.



Some artists care about sound quality - and Mark Knopfler is one of them. Try the LP 'Kill to Get Crimson' to find out just how good music can sound on vinyl.

LET THE PAST LIE

Having just heard about Kate Bush playing live again, I am reminded of a time, fairly recently in fact, when I believed that only current up to date music was worth considering. As an artist, I was continually upset by how many people can talk about Miro, Monet, Manet et al and forget that there are artists out there now that would appreciate attention.

Many past artists were penniless during their lifetime only for the future to turn them into household names long after it would have benefited them. In terms of playing live, Kate Bush is so far back in the past that she fitted in to my 'leave the past alone category'. I appreciate that Kate has released occasional records, three original albums in fact, since the 1980s.

I also noticed your Beatles enthusiasms over the last two or three months and began to have the same feelings of let the past be the past and let's give attention to the struggling and relevant artists of today.

Then I ended up engaging briefly with a DJ on BBC Radio 6 Music, via email, about the fact that the station seemed to be largely concerned with the past only to be politely informed that the trustees of the BBC set up the station with the direct intention of accessing the BBC musical archive. Some of the sessions may have been thirty or forty years old but they were only ever broadcast once.

*So I guess that I should be more understanding, and music is still music, whether recent or from the distant past and can still be enjoyed as if it were being written today. Faithfully,
Laura Knight.*

There is so much media noise today it is difficult to discover good modern artists but I would typically point to someone like Lisa Hannigan, who readers can see at Tiny Desk Concerts on YouTube. I bumped into her strumming away on a Ukele in a demo being run by Steven Lester in the Tannoy room at the California Audio Show – see the show report in this issue. There's such a strong spiritual link between modern 'live' artists like this (meaning ones not supported by mountains of technology) and those of the past, including U.S. Blues artists of course, that I see them as one and the same. Aren't artists that did finally make it inspirational to modern artists? Even Jimi Hendrix was an unknown backing musician once, slogging it out on the Chitlin circuit. Gives you hope doesn't it? **NK**

LOYALTIES?

I have been a reader of your magazine since issue two in the days when you had DIY Supplements and articles on upgrading our existing equipment and being that I am a mechanical engineer who had built a few turntables and pickup arms as well as speakers and amplifiers this was just the magazine for me. First the DIY articles stopped, then later on the upgrades, but the readers letters and the equipment reviews were interesting and I continued my subscription.

But I am beginning to wonder if reviewer's loyalties are more towards the manufacturers than their readers! For example, when transistor amplifiers first appeared reviewers of the day praised them for their low distortion and ample power and the valve amps we got rid of are worth a fair amount of money and the transistor amps we replaced them with are now worthless and nobody said don't get rid of your valve amps yet!

Then along came CD players and they were praised for their lack of background noise and convenience and it was many years before you all decided that you preferred the sound of vinyl records!

The latest trend is to download music from the Internet and transfer record collections onto hard drives and there is not much left for those of us

who have large collections of vinyl records and CDs and do not wish to do this and there must be many of your readers who are in a similar situation and the question is: what are you going to do about it?

My suggestion is that you look into the prospect of upgrading our existing CD players for a start. I am currently using a Musical Fidelity X Ray CD player which was upgraded by JS Audio and I would like to know if an external DAC would be a worthwhile improvement. I do not expect this to be greeted as Letter Of The Month but I hope that you will publish it in your Readers Letters along with a constructive reply.

With best wishes

Bob Angus.

Hi Bob. I think what you have done here is touched on a tension between fashion and technology – and which drives which. I don't feel you can attribute such trends to reviewers, who are observant minnows.

Valves always had limitations: think heat, size, cost and reliability.



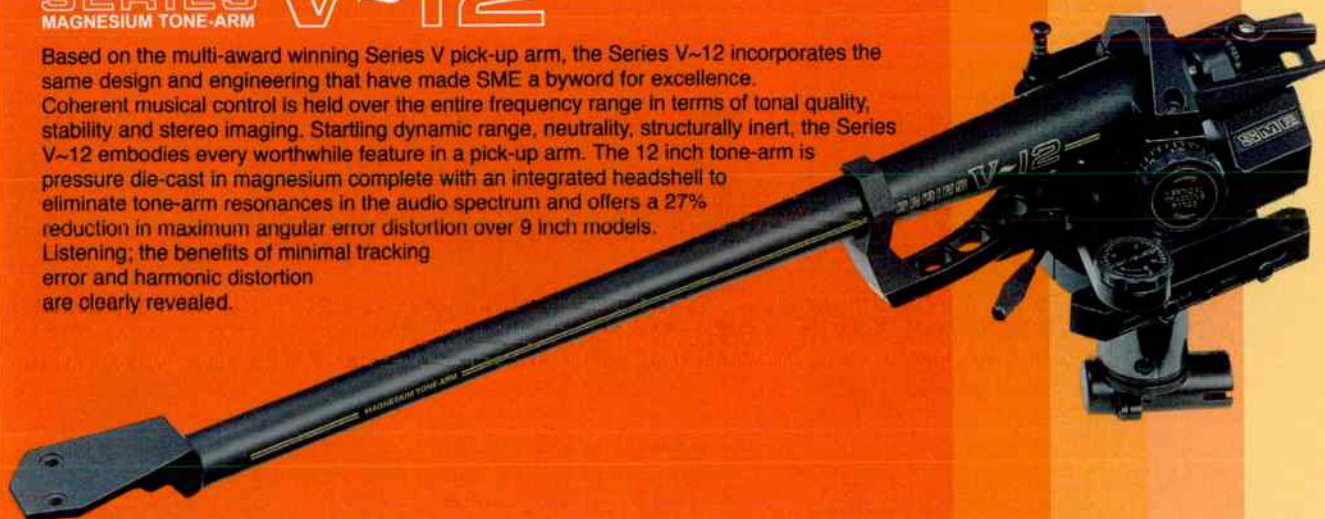
Lisa Hannigan, a lively on-stage performer. Laura Knight thinks we should support artists like this today and let the past lie.

The transistor was the dawn of a new world, one we live in today where millions of them inhabit each and every mobile phone, for example. No wonder that at the time of their invention and for some time after, they should be pressed into audio amplification, even if at heart they weren't so good at this as a valve. Valve amplifiers rapidly disappeared, as a result - they were archaic by way of contrast, at least in the 1970s.

Hi-fi magazines of the time

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Product of the Month

KLE Innovations
Harmony RCA Plugs



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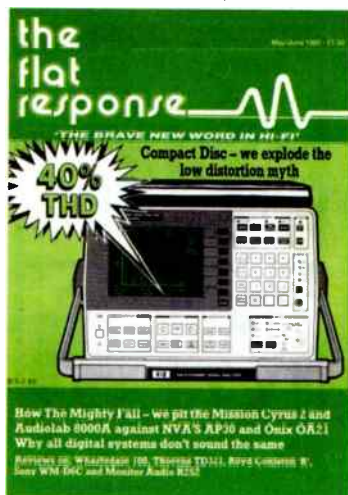
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supported this view, although I found this questionable, having built Mullard's hi-fi amplifiers in my teens and knowing their sound well. But it is hardly surprising that for most people the idea that valve amplifiers should have merit bordered on absurd, at least back in the early 1970s.

Then, when I was a freelance reviewer writing for Hi-Fi News, Tim de Paravicini arrived back in the UK from a stint working for Lux in Japan where he designed their 40 Watt valve amplifier. Note straight away that the Japanese never gave up on valves (or Garrard 401s, or big Tannoys), but Brits did. Tim immediately set about designing a valve amplifier based on the PL509 valve. I saw it and begged editor John Atkinson to review it. He was bemused; could a valve amplifier really sound any good was his concern.

It actually sounded better than valve amps of yore; I was surprised at just how good it was, better than the home built Mullard 5-20 I once used, mainly because Tim used his own design/build output transformers that were superb. From that moment on - and this was circa 1978 I recall - valve amplifiers slowly re-entered



The Flat Response, May/June 1985 issue. We showed that CD produced vast amounts of distortion - 40% - contrary to claims for perfect sound and published distortion values of 0.001%. That was another trend not followed!

the market.

I explain all this to illustrate the factors that influenced one of the complaints you make against Hi-Fi World and hi-fi magazines in general. Magazines report on what they see



The EAR509 valve amplifier, designed by Tim de Paravicini and released onto the UK market 1978, at a time when valve amps had seemingly died out. This amplifier showed valves could sound wonderful, providing a high-quality output transformer was used. They started a trend back to valves.

around them; they do not set trends. I think you will find bigger forces at work there: think Apple computer for a modern day example and, for CD, think Philips and Sony, co-inventors of the technology.

And if you want to know about my views on CD when it was launched, go to <http://thetomtomclub.net/profiles/blogs/the-flat-response-magazine> to read what Chris Frankland of The Flat Response magazine has to say about magazines, CD and vinyl.

It is a bit of an over-statement to say we all now prefer vinyl; many reviewers have no turntable, and CD remains an important music replay medium in truth. But be aware that in the background there is a groundswell of opinion now that favours analogue for music reproduction, and this is powerful in Europe and the U.S. I will point out; it has nothing to do with UK reviewers or magazines who, if anything, are a tad insular and parochial in their views.

I put this in personal terms because I was there at the time and can look back with the benefit of experience of the time and hindsight afterward.

What are we going to do about it? Well, other readers have already made this point, rightly I feel, that we should continue to cover CD. See our March 2014 issue and Dave Mayer's letter, p28. My reply is that we do, by covering DACs, because that is where the action is; quality CD players are fast disappearing from the shelves. If you want a top quality CD player nowadays you can't beat the increasingly popular ESS Sabre32

DAC convertor chip in a package like Audiolab's Q-DAC, linked to a CD transport like the Cyrus CD8t, for example. **NK**



There's renewed interest in analogue tape, because it sounds good. The Studer A80 was a classic studio machine.

MAGGIES' SENSITIVITY

In your test results for the Magneplanar 1.7 I note your mention of their low sensitivity of 82dB, which I assume is taken at the standard one meter distance. However, I believe that this measurement of sensitivity is at least somewhat ameliorated by the dispersion characteristics of planar radiators and that most listening is at a greater distance than one meter.

While the energy of a point source conventional speaker falls off quadratically with distance the energy



The sound pressure of a big panel loudspeaker like the Magneplanar 1.7, reviewed in our July 2014 issue, falls off more slowly with distance than a normal loudspeaker, notes Allen Edelstein. This compensates for our low measured sensitivity.

of a planar radiator falls off linearly. So, for example, at two meters the Maggies would be as loud as a point source radiator with a sensitivity of 85 dB. You can't compare the conventional measured sensitivity of the two types of speakers when using them in real world conditions.

Allen Edelstein
New Jersey,
USA

Hi Allen. Good point. Technically, sound pressure falls away as an inverse square of distance, at least in a free field (with no reflective cows in the way).

In a room it falls away at about 4dB per metre I find. A large panel radiating forward and backward puts out less SPL but as much sound power (i.e. lower pressure sound over a bigger area). A big bipolar panel will, as you say, lose less SPL as distance increases, so the Magneplanar 1.7 will lose less volume than a box speaker as you move back from it.

As this is a real world effect that directly impacts how loud a big panel like the Magneplanar will sound in the home, it is a good point to make.

Perhaps I should take an SPL

reading at 2m or even 3m, in addition to the industry standard 1m, as a supplementary measurement, so I can better assess loudness at a distance in our current listening/measuring room of 4800 cu ft? There's not room for such finely nuanced technical complexity in the magazine, but your wise advice is well noted – thank you.
NK

JBL PHASE

Lately checking my JBL monitors 441 I noticed my two large woofers are out of phase. I know it is common with tweeters, but what do you think about this particular wiring? Does it modify the sound? Thank you for your reply.

Remi Balestie
France

It is odd and unlikely that JBLs will be wired out-of-phase by accident. Such an accidental wiring error is a classic blooper in loudspeaker production; I've seen it in East European start-ups, but companies like the renowned JBL of the USA usually have a post-production check to detect for such errors, and often use an assembly method that makes such error difficult. Although, having said that, I do remember Audax changing

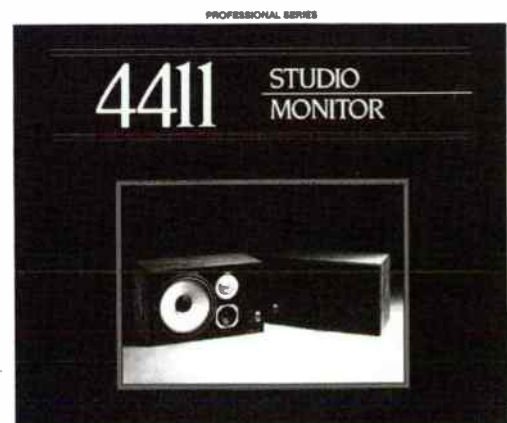
the polarity of one of their drive units (one we used in a kit) without bothering to tell anyone – and that put the fox amongst the chickens!

The classic check of phase is to connect a 1.5V battery to the loudspeakers input terminals, battery positive (+) to red terminal. Both bass cones should travel outward by convention, although they may both travel inward; whatever, if they are in-phase they must go in the same direction. If they go in different directions, then one loudspeaker is out of phase. To compensate, the leads to one (either) loudspeaker must be changed around so positive (red) goes to negative (black) terminal.

This will strengthen bass but it may de-focus stereo images across the sound stage by then putting the tweeters out of phase. To best assess this, sit within 2m of the speakers, so you hear direct rather than reflected sound off the room's walls (at a distance, random-phase reflections start to muddle the sound) and experiment. If just one woofer is out of phase then the connections to it must be changed around. I hope this helps. **NK**

TECHNICS SL-7 PROBLEM

My previously faultless and cherished Technics SL-7 has finally developed a fault and I was hoping you might be able to advise what might be the issue



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"I noticed my two large woofers are out of phase" says Remi Balestie. "Does it modify the sound?". It certainly does and is a fault, we say.

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Colin Sutcliffe's Technics SL-7 has developed a fault. What to do? Dave Cawley provides expert advice.

and how to get it fixed. It plays a couple of tracks and then it gets stuck almost as if the record has a scratch [even if the record is pristine and normally plays fine]. Reading through online literature it appears it could be down to lubrication of the tone arm guide rails, a worn arm drive rope, wear or junk in the drive cog or possibly the arm has somehow drifted out of offset or servo gain adjustment for some reason. I've noticed when playing a record the stylus appears deflected to the left so I suspect arm adjustment might be the issue.

Being a bit of a ham fisted novice [hence why I went for a fully auto turntable in the first place!] I'm a bit nervous at the thought of taking a screwdriver to it myself and I was hoping you might be able to shed some light on the likely issue and advise of a specialist who might be able to fix it and service the unit, ideally someone not a million miles away from either Nottingham where I live or Central London where I work.

I'd also really appreciate your thoughts on a potential cartridge upgrade for the SL-7. Current cartridge appears to be a Technics unit with a P22 stylus.

I'm also potentially looking for a new amplifier to pair with the unit after my Technics SU-C03 appears to have developed a fault again. I've already had it repaired twice and suspect it's getting to the end of its life. Ideally I'd like something midi-sized to sit with the record player and drive my Technics SB-F1 speakers. It will also need inputs for a CD player and Tuner.

I'd appreciate any thoughts or advice you might be able to offer. Many thanks & best regards

**Colin Sutcliffe
Notts**

Hi Colin. The Technics SL-7 is a fine direct drive turntable with a Xtal locked PLL for excellent pitch stability. The ability to mount it vertically is a novelty, especially these days. But it is over 30 years old and few consumer electronic items are working at that age. As you surmise the lubrication has probably dried up on the tonearm guide rails. It could equally be the motor bearings getting tight, the motor just wearing out or a belt issue.

A good technician is likely to charge the same as a Mercedes mechanic but with no guarantee of repair after three hours work. During this work it might fail completely so it's an expensive risk to take. I would ask a mechanically adept friend to have a look inside, the service manual is available for free on the net. If you have no luck I suggest a new Marantz TT5005 that is also automatic.

You need to repair the existing fault before any thoughts of upgrading the cartridge. In fact my recommendation is to stay with the one you have and simply replace the stylus, eBay is your friend and for just £10.00 you could buy a new replacement. Replacing the whole cartridge is complex and involves setting the tracking weight and this

might not be possible with a new cartridge.

A Marantz PM5005 would be a suitable amplifier to replace your elderly SU-C03 and will drive your Technics SB-F1 speakers nicely. Of course if the bug bites you may like to completely upgrade to the sort of system Noel used to audition the new Beatles records.

Dave Cawley, Sound Hi-Fi.

BRIDGED QUADS

Re: Tony Bolton's bridged Quad 303 amplifiers. As a long time subscriber to Hi-Fi World and an enthusiastic hi-fi DIYer I would like to learn more about Tony Bolton's Quad 303 amps which he refers to regularly as part of his second system.

I now have two 303s, both of which I have recapped and adjusted the voltages at the various test points. The sound is excellent but a little more power would be welcome and the next logical step is to bridge them. I would like to ask Tony how he went about this. I imagine that he has split the phase of the input signal to the two channels and, if so, has he done this with a transformer?

Any information and comments would be helpful to me and of interest to the many owners of this venerable old amplifier.

**Thanks and best regards,
Keith Twine**

Hi Keith. Thank you for your letter. I would like to clear up a misconception. I do not bridge my Quad 303s but run them in a 'dual mono' configuration, bi-amping my Kelly KT3 loudspeakers. I should point out, for readers not familiar with these excellent amplifiers, that each 303 is actually a stereo power amplifier with two amplification modules housed in the casework.

They were built from 1967 until 1982, by which time nearly 100,000 had been produced and their 'bomb-proof' build has ensured probably one of the highest survival rates of any piece of quality audio equipment. They were designed in an era when most loudspeakers had an impedance of between 8 and 16 Ohms. Modern loudspeakers tend to be in the 4 to 6 Ohm category and the bass output of a 303 suffers when connected to such units. To overcome this problem I bi-amp my speakers with two 303s, so each amplification unit is connected to either a bass/mid, or tweeter. Splitting the crossover of my, nominally 6 Ohm, KT3s this way

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ensures that the amp sees a nominal 12 Ohm load and thus operates well within its original specification.

The signal input on a 303 is via a four pin DIN socket. Reading from left to right, pin 1 is left channel positive, pin two is the common negative. Pin three is the right channel positive and pin four is not used. This is because the original intention was to use the matching 33 pre-amp to power the 303, as in the manner of the previous generation Quad 22/II combination.

It is worth noting that although the fourth pin is blank on a 303, power is present on this pin in the 33, so this pin must never be connected to anything.

I have had interconnects made with a phono plug at one end, to suit modern pre-amps, and a four pin DIN plug at the other, with the pins 1 and 3 joined together so that both of the amplification units in a single 303 receive a common signal. Thus I use one 303 for each channel. Both the Chord Company (Tel: +44 (0) 1980 625700. www.chord.co.uk) and Atlas Cables (Tel: 0800 731 1140 (UK) or +44 (0) 1563 572666. www.atlascables.com) have made me very good interconnects for this purpose over the years.

I spoke to Ken Bunting, Senior Engineer in the Quad Service Department (Tel: +44 (0) 1480 452561. www.quad-hifi.co.uk) who has worked there for 42 years, so started with Quad when the 303 was their main product. He advised me that bridging 303s for greater power has never been officially done by Quad. It is difficult to do, because of the layout of the internal circuit. If someone wants more power he would recommend buying a Quad 405/II, which can be bridged for more power. Quad will be happy to provide any advice on this matter. **TB**

AK240 XLR

The new Astell&Kern AK240 portable digital player sounds like it's a superb piece of kit. However, I have one thought about the balanced connection for the headphones which I feel is liable to never be used - 2.5mm 4 pin jacks are just ridiculous to use on headphones. The answer is actually a very straightforward connector used in the pro market for many years. In fact I have been fitting them on radio mic belt packs for at least 5 years. The answer is the 4 pin mini XLR. It's a good quality, robust connector that is not going to be broken by normal use. It is also ideal if



Quad's first transistor power amplifier, the 303. It had a reputation for reliability and was popular. "The sound is excellent" says Keith Twine, "but a little more power would be welcome and the next logical step is to bridge them. I would like to ask Tony how he went about this".

you want to connect the AK240 up to an amplifier with balanced inputs, as the case can then be used for the 0v / common connection. Since you seem to have a good relationship with the team at A&K why not make the suggestion? Best wishes.

**Dave Tutt
Chatham
Kent**

Hi Dave. Thanks for your suggestion. I would suggest to iRiver they use a different connector but I know they know about such things and made the decision to use a miniature and difficult to obtain connector for certain not-so-obvious reasons.

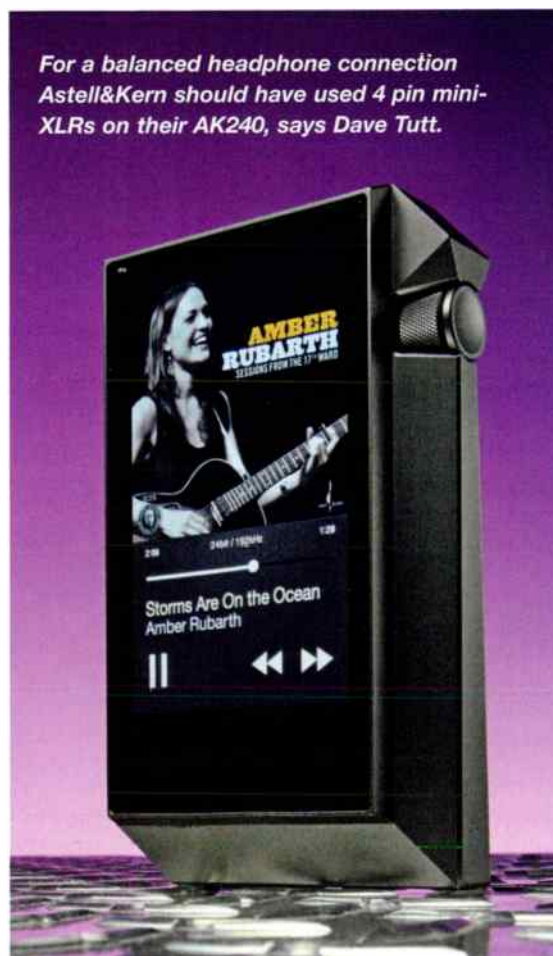
A 3.5mm 4-pole would have been best choice here I suspect, so why didn't they use it? Because a 3 pole plug would short one channel in a four pole socket I believe, possibly causing damage. As you say, a 4-pin mini XLR

makes most sense, but it is still large by portable player standards.

Readers interested in resurrection (!) can find more about Dave Tutt and his wide ranging abilities, as well as a fetching picture, at <http://www.tutt-technology.co.uk>.

NK

For a balanced headphone connection Astell&Kern should have used 4 pin mini-XLRs on their AK240, says Dave Tutt.



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Here's your chance to win the superb Bayan Audio Soundbook X3 we reviewed in our September 2014 issue. Read the review excerpt below and answer the questions.

"UK-based Bayan Audio has rolled out the Soundbook's bigger brother in the shape of the Soundbook X3.

Its larger size – 235mm wide by 40mm deep and 120mm high – means Bayan has managed to squeeze in larger speakers and more amplifier power.

Inside the solid aluminium casing and ballistic nylon cover are four

1.5-inch long-throw neodymium drivers allied to a passive 3.25-inch bass radiator all driven by a 20 Watt amplifier.

Like its smaller sibling the X3 features a clever hinged cover that flips under the base to form a firm stand, or it can be pulled back over the front to turn the unit off.

Connectivity comes via Bluetooth 4.0 with aptX as well as a built-in FM radio. There's also a 3.5mm audio-in jack on the rear, as well as a USB socket that allows you to charge mobile phones and other devices straight from the Bayan – which could be handy if you are out and about.

In addition there's NFC capability for suitably equipped devices which helps automate the pairing process. Users switch between Bluetooth, auxiliary and radio through the on/off button on the top of the unit. It sounds fiddly at first but is easily mastered after a little practice.

Out of the box, pairing the X3 with my iPhone 5, iPad and an Android device proved almost instantaneous and the connection stayed solid throughout the review period."

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QUESTIONS

- [1] Does the X3 have larger -
[a] feet
[b] speakers
[c] valves
[d] fingers
- [2] Are the drivers -
[a] titanium
[b] thermo-plastic
[c] cardboard
[d] neodymium
- [3] Does the cover form a -
[a] roof
[b] carrying handle
[c] sound board
[d] firm stand
- [4] The radio is -
[a] Medium wave
[b] Short wave
[c] FM
[d] DAB

entries will be accepted on a postcard only

AUGUST 2014 WINNER: ROKSAN K2 BT AMPLIFIER
Mr. John Moore of Swansea, Wales

Versatile Vena

Quad has launched its first amplifier with music streaming support – and it's a bit of a cracker. Jon Myles welcomes the arrival of the Vena.

In case you hadn't noticed, the traditional integrated amplifier is rapidly becoming an endangered species.

Back in CD's boom days, when even phono inputs were disappearing – all a mid-market amplifier needed was a set of line-level connections, selector buttons, a volume control and (hopefully) a decent sonic signature.

Fast forward to 2014, however, and such a set of specifications is now starting to look decidedly Spartan.

Instead, with the rise of computer-based audio, customers are now demanding their amplifiers come equipped with DACs, USB connectivity, digital inputs, Bluetooth – and in some cases streaming capability to read a NAS drive.

If you're in any doubt about the shift then just take a look at the Vena from Quad – perhaps the most traditional and revered of British hi-fi manufacturers.

Yes, at its heart it's a 45 Watt per channel integrated amplifier – but its connectivity options go farther than any previous piece of equipment from Quad at the £599 price-point.

It has two analogue inputs, two optical and one coaxial digital input and both Type A and B USB sockets. The former allows the

connection and charging of Apple iPods, iPads and iPhones while the former facilitates connection to your computer-based music collection.

In addition music can be streamed from computers and portable devices via Bluetooth with AptX codec support.

Completing the feature set are optical and coaxial digital outputs and stereo analogue outputs for connecting to an off-board power amplifier.

All this can be controlled by the compact but functional and easy-to-use remote control.

Inside, a linear power supply is built around a decent toroidal transformer while digital-to-analogue duties are handled by a Cirrus Logic CS4398 DAC. That's the same one used in Quad's Platinum DMP CD player and capable of accepting files up to 24bit/192kHz.

All this is housed in a relatively compact aluminium case measuring just 313mm x 93.5mm x 302mm (W/H/D) and weighing in at 6.1kg.

Indeed, there's more than a hint about Quad's first ever solid-state amplifiers in its looks – just updated for the 21st century.

Aside from the remote, a row of discrete push buttons of the fascia control input selection while the large rotary volume is well-weighted

and reassuringly responsive.

It comes in Quad's traditional Lancaster Grey finish with premium gloss black and white, as well as a wooden rosewood-enclosed model due later in the year for an extra £100.

All in all, it's a good-looking and well-engineered package in true Quad fashion with a feeling of quality that belies the £600 price-tag.

SOUND QUALITY

I'll make no apologies for saying I'm a big fan of Quad electronics. Recent amplifiers – like the much more expensive QMP monoblocks we use as a reference at Hi-Fi World Towers – have a supreme musicality and ease-of-delivery that few rivals can match.

Fortunately, the Vena is cut from a similar cloth.

Obviously, it doesn't have the sheer grunt of its bigger brother but as £600 amplifiers go it is impressively sophisticated.

Driving a pair of Acoustic Energy 103 floorstanders (watch out for our forthcoming review!) and fed a CD of Lady Gaga's 'Fame Monster' collection and the little Vena brought a real sense of energy to the sound.

Drum cracks were firm and solid while bass stayed firm and controlled. There was also a good sense of detail



with good instrumental separation enabling me to hear into the dense mixes with ease.

Indeed, the Vena is adept at revealing details that some other amplifiers around this price can miss. Take Joy Division's 'She's Lost Control' – a 24/96 file played into the USB input via a MacBook Pro. On this the Quad lets you know producer Martin Hannett has multi-tracked singer Ian Curtis's vocals to get the desired edgy effect of the song – whereas on lesser amplifiers it comes over as more of an echo.

Push up the volume and the Vena sounded subjectively more powerful than its 45 Watts specification would suggest. There was little sense of strain as the music grew louder and the 'speakers were struggling before the Quad showed any sense of difficulty or harshness.

Not that the Vena ever does sound harsh. If anything there's a slight sense of warmth to the overall presentation that means it sounds smooth and easy on the ear at all times.

Don't take that to mean laid back though, because feed it some uptempo music and it can rock along with the best. Led Zeppelin's 'Black Dog' thundered out with exhilarating drive and verve.

Similarly, The Turtle Creek Chorale's recording of John Rutter's 'Requiem' captured all the atmosphere of the venue with a deep acoustic space surrounding the voices and instruments.

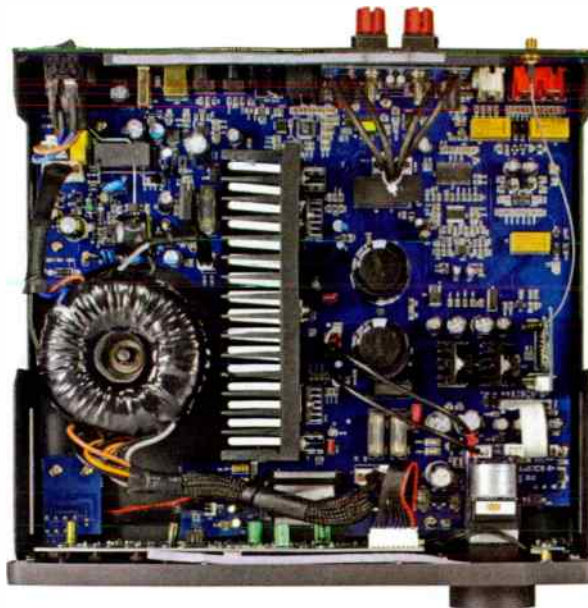
Switching from the Acoustic Energy 'speakers to a pair of big Tannoy Kensingtons (see review this issue) really showed how good the Quad can be. Costing some £10,000 the Tannoys probably don't often get paired with £600 amplifiers – but the Quad didn't disgrace itself.

The Allegri String Quartet's 'Beethoven Quartets Opus 18' was clean, clear and well-placed – the strings having just the right amount of bite and timbre to bring the music to life.

Yes, something like the Quad QMPs will give you more atmosphere and tonal accuracy but they'll also empty your pockets by another £1,800! And nor will they have the handy Bluetooth connectivity. Some hi-fi diehards might decry this feature but there's something undeniably handy about streaming music to the Vena from your mobile device in this way when you walk in the house.

The quality is also better than

you might expect. Played this way The Smiths' 'Rusholme Ruffians' had real bounce and enough definition to reveal all of Johnny Marr's studio trickery. Yes, it lacked some detail but it is eminently listenable



A substantial toroidal-based power supply is allied to the latest digital technology.

CONCLUSION

This is an extremely impressive piece of equipment from Quad. Too often, with manufacturers cramming more and more connections and digital electronics into boxes the sound can

take a back seat. Not here. One feels Quad have concentrated on building a great-sounding amplifier first and then carefully worked out how to fit the various input options around it. They've succeeded superbly.

MEASURED PERFORMANCE

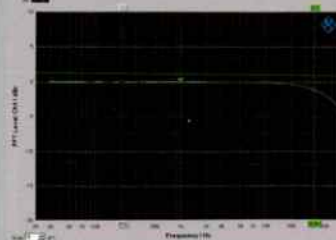
The Vena uses a well developed analogue amplifier that provides 55 Watts into 8 Ohms and 72 Watts into 4 Ohms, changing its distortion pattern little as power increases from low to high, one of our standard checks, made at 1kHz and 10kHz. It is 10kHz that counts since this is where open loop gain is falling and distortion increasing in transistor amps, explaining their less than pleasant treble, but the Vena produced little treble distortion,

0.04% at 1 Watt, and the harmonic structure did not change with level. Add in treble that rolls off above 20kHz and you have a classic Quad amplifier, smooth and easy on the ear.

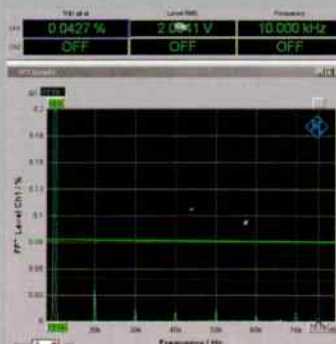
The Coax electrical S/PDIF digital input accepted sample rates up to 192kHz, and the TOSLINK optical receivers managed this as well (many reach 96kHz maximum). The USB input also accepted 192kHz data from a MacBook Pro, where again 96kHz is a common maximum. Frequency response through S/PDIF rolled off slowly and smoothly above 26kHz, USB having a little more bandwidth. Distortion was very low with 24bit resolution data, at -60dB measuring just 0.06%. EIAJ Dynamic Range via S/PDIF was high at 111dB but the USB receiver was noisier than some, limiting this input to 104dB EIAJ Dynamic Range.

The Vena measured well all round, with the exception of USB where the receiver adds a little noise. NK

FREQUENCY RESPONSE



DISTORTION



Power	55watts
Aux 1	
Frequency response	5Hz-37kHz
Separation	92dB
Noise	-97dB
Distortion	0.04%
Sensitivity	530mV
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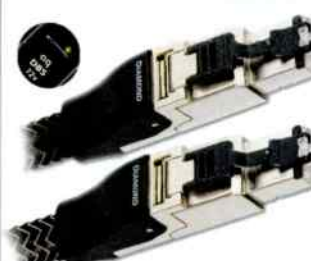
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excellent. You get four conventional inputs – two optical, two coaxial – plus an AES/EBU for pro gear.

On top of this is North Star's 'I2S' link. Designed to banish jitter to the realm of inaudibility, this conveys independent data and clock signals from one of the firm's own disc transports.

Everything's beautifully-engineered, as one expects at this price level. ESS' top-of-the-line Sabre32 ES9018 is used here in a no-compromise 'double-balanced' configuration – i.e. each channel harnesses four of its eight individual 'Hyperstream' DAC sections.

Separate power supplies for digital and analogue sections are built around high-grade toroidal transformers, while the inputs and outputs (the latter available in unbalanced phono or balanced XLR form) use robust connectors intended to last a lifetime. Talking of connectors, North Star has specified an RJ45 socket for its I2S link. Just don't accidentally-plug anything Ethernet-related into it...

The Excelsio is similar to Audiolab's M-DAC, but with on-board power supply.

PERFORMANCE

The USB link automatically accepts and adapts to whatever you're playing in its 'native' form. In other words, the Excelsio gets pure DSD data from your DSD files, CD is passed in 16-bit/44.1kHz form and hi-res PCM is heard the way it is supposed to be. Switching my PC's USB output to 24-bit/192kHz, I have to say playing DSD files conveyed a commendable degree of insight into the music – certainly when compared to the CD. It doesn't however change the fact that DSD-PCM conversion is taking place at the PC end.

Let's start with a CD, the warped new-wave of PIL's '1981' featuring some spirited drumming by Martin Atkins. Its rhythm flows propulsively here with excellent timing and dynamics, and as the track builds nothing is lost in intelligibility. The dissonant woodwind flourishes and synth bleeps aren't lost in the mix, and through it all Lydon's sinewy vocals retained all of their punkish potency.

The difference the digital filter made was minimal with PCM material, but there is some effect. With some electronic music, for example, a tad more percussive



Just about everything you'll need in connectivity terms. In addition to the four digital inputs (two coaxial, two optical) are an AES-EBU input and a USB port for computer DAC work. Both unbalanced and balanced audio outputs are also offered.

'snap' was noted in the 'hi' setting.

More modern 24-bit recordings of orchestral works shows off the Excelsio's capabilities to best effect. A 24-bit/88kHz FLAC of Debussy's evocative 'Le Mer' proved to be particularly effective. The myriad tonal colours featured in the second allegro movement contributed effectively to a musical picture of quite astounding beauty. Such qualities were combined with imaging of such prowess that the location of each instrument could be accurately pinned down.

Various 24/96 LP rips also fared well, the overall experience getting very close to the original vinyl.

Worth bearing in mind if you want to prolong the life of your LPs.

CONCLUSION

Effortless sound quality and versatility mark this solidly-built and attractive DAC. There's little you can't connect to it in terms of source!

Take care, though, if you plan to use the Excelsio to its full potential with a PC or Linux computer via USB – you may run into problems; Macs will interface without difficulty. The manuals, it has to be said, desperately need improvement, but what you get here is a top quality ESS Sabre32 effectively packaged, at a competitive price.

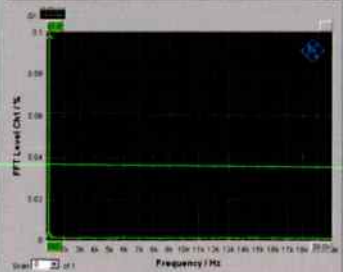
MEASURED PERFORMANCE

The Italian North Star Excelsio uses an ESS ES9018 Sabre32 DAC chip, using 4 DACs per channel (i.e. one Sabre chip, not two where 8 DACs per channel give optimum performance). The balanced XLR output with its high 4V output swing as usual gave best results, with 124dB EIAJ Dynamic Range, against 120dB for the phono output. This correlates with ESS's claims for the Sabre32 and not the 130dB claimed by North Star. All the same, this discrepancy apart, the Excelsio still provided superb results under test, in line with what is expected

FREQUENCY RESPONSE, 192k



DISTORTION, 24bit -60dB



from the Sabre32, so the Excelsio exploits this chip well. The dynamic range value is very high and best possible with a single Sabre; distortion was extremely low at 0.013% and noise very low too, via electrical, optical and AES inputs, all of which performed identically.

The DAC came with PCM filter set Lo and PLL bandwidth low, for best results. Setting the PCM filter to high extends bandwidth by a small amount, affecting CD most by taking -1dB bandwidth from 17kHz up to the usual 21kHz. PLL Lo gives longest acquisition and settling time for the Phase Locked Loop, but least jitter. DSD bandwidth affects supersonic noise as well as audio harmonics and is safest at Lo.

Whilst the electrical inputs worked up to 192kHz sample rate, the optical input receivers accepted 96kHz maximum, a limitation with optical-only sources (e.g. Astell&Kern AK100) that play 192kHz sample rate material.

The Excelsio measured very well and should give excellent sound quality. Only its optical input receivers are limited. NK

Frequency response (-1dB)	4Hz-92kHz
192k SR	
Distortion (24bit)	%
0dB	0.0001
-60dB	0.013
Separation (1kHz)	121dB
Noise (IEC A)	-120dB
Dynamic range (24bit, EIAJ)	124dB
Output	2/4V

NORTH STAR EXCELSIO £1390



OUTSTANDING - amongst the best

VERDICT

Good sound quality and low price, well packaged.

FOR

- Fluid, detailed, clean and dynamic sound
- excellent connectivity
- DSD and 'superfi' PCM via asynchronous USB

AGAINST

- difficult to make USB PC connection work
- use of RJ45 connector not particularly sensible
- manuals inadequately-describe computer setup and configuration options

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HiFi World, July 2013

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Clash of the Titans

Tony Bolton tries out the new EVO3 version of the Isotek Titan mains conditioner.

Following on from the recent upgrade of the Sigmus mains conditioner from G2 to EVO3 status, improvements in technology have made their way into the Titan, taking it into EVO3 form as well.

Originally introduced in 2005, the new Titan looks visually similar to its older sibling but contains a whole range of new technologies that have percolated down from the flagship Super Titan. One of these is KERP (Kirchoff's Equal Resistance Path). This was specially developed for the EVO3 products and features equal resistance and equal power delivery to all outlets. The internal wiring has been upgraded from that of the old model and is now made from UP-OCC (Ultra Pure Ohno Continuous

Cast) high purity copper solid core cabling. This is silver-plated before being coated with Teflon. A fine Teflon tube is wound helically around the wire before it is covered with an extruded Teflon tube, thus creating an air gap between the wire and the tube to form an air dielectric which has virtually no capacitance.

A pyramid of VDR (Voltage Dependent Resistor) devices provide 112,500A of instantaneous protection from surges and spikes. This is combined with the ability to deliver up to 4,600W of continuous power with up to 25,000W transient ability, if the power supply permits this. Alongside there is a nine-stage Direct Coupled conditioning network in a series parallel configuration that delivers extremely low impedance and high current power.

The filter system removes both common mode and differential mode noise with increases of 600% and 20% respectively over the previous model. RFI is reduced by 82dB (50 Ohms standard) down to 5Hz frequency range.

All of this technology is housed in an alloy case that measures 275w x 182.5h x 275d and weighs 17kg. The casework can be finished in either the silver of this example or black. Isotek's EVO3 Premier power cable, fitted with a 16A C 19 IEC conductor is supplied.

There are two 13A power outlets on one side of the case, alongside the power switch. Beside these there is an IEC mains input and a Neutrik socket for the output to either the multiway six output socket bar that is available



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* On compliant devices.

for £725 or to the Sigmus EVO3 which can be attached to the Titan EVO3 to provide power to source components.

Since the previous model could only use the six-way socket unit, I first listened to the new Titan with the same socket bar plugged in that had been attached to my G2 Titan.

I started listening with one of my favourite CDs, Morcheeba's 'Big Calm', and found myself being pleasantly surprised by the new levels of detail and texture that flowed from the speakers. The bass, in particular, seemed to go far deeper than previously but with added layers of colour and shape to it. Skye's velvety smooth voice also gained layers of detail that made it seem more rounded and naturally shaped, helping to increase the sensation of realism in the sound.

Turning to vinyl produced some real surprises. On one of

"just occasionally a product comes along that is so far ahead of its predecessor in all areas of performance that an upgrade to the new unit is essential..."

my favourite versions of the '1812 Overture' featuring real canon and a carillon adding sonic fireworks, the EVO3 Titan delivered these with so much bass energy during the canon shots that I was almost scared for the safety of the subwoofer cones.

I also fired up the Nakamichi Dragon and found a freshness to the sound of a 40-plus year old cassette that I would never have thought possible before experiencing the new version of the Titan.

After this I moved the Sigmus EVO3 (£2295) downstairs from the other system and wired it in using the £555 EVO3 Optimum cable supplied for such purposes (the Elite cable is also available priced at £325).

This time I was really quite gobsmacked at the difference in the sound. The canon shot sounded like

a real explosion taking place in my sitting room, while the carillon rang out loud and clear with the strike of the hammer on each of the bells seeming to be defined throughout their cascade of ringing. Even an elderly cassette showed big sonic improvements with a far more projected image of Dusty in fine form, covering the Little Anthony and the Imperials track 'It Was Easier to Hurt Him'. Morcheeba's CD gained in depth, tonal colour and a seemingly

The Titan EVO3 is supplied with an Isotek EVO3 Premier mains lead



The blue switch in the middle of the casework acts as the main power on and off control.

MUSIC USED

Tchaikovsky. '1812 Festival Overture Op.49' (Original scoring). Antal Dorati conducting the Minneapolis Symphony Orchestra. University of Minnesota Brass Band. Bronze canon, Douay, France (1775). Bells of the Laura Spelman Rockefeller Memorial Carillon, The Riverside Church. Spoken Commentary by Deems Taylor. Mercury Olympian Series Records. AMS 16010. 1959.

Dusty Springfield. 'Ev'rything's Coming Up Dusty'. Philips. CPP 1002. 1965.

Morcheeba. 'Big Calm.' Indochina Records. ZEN017CDX. 1998.

SYSTEM USED

Clearaudio Master Solution turntable, Magnify arm, Benz Micro Wood SL cartridge. Leema Acoustics Agena phono stage, Tucana II amplifier and Antilla 2S ECO CD player. Nakamichi Dragon cassette player. Chario Ursa Major loudspeakers.

far tighter grasp of rhythm.

Just occasionally a product comes along that is so far ahead of its predecessor in all areas of performance that an upgrade to the new unit is essential, and the EVO3 Titan is just such a product. I thought the performance of the G2 Titan was already first class and am amazed at just how much this could actually be improved upon. The addition of the EVO3 Sigmus to the ensemble took it up another level to the point where I am now unable to contemplate going back to using my system in its previous form. There are some upgrades that, once heard, cannot be lived without and I am somehow going to have to find the wherewithal to ensure that this combination of mains conditioners stays permanently in residence.

I can only congratulate Isotek on this product. It is nothing short of superb and once you have heard its effect upon a system I am positive that you will be in the market for one as well.

ISOTEK TITAN EVO3 MAINS CONDITIONER £2695



OUTSTANDING - amongst the best

VERDICT

A very successful upgrade of the G2 Titan that is superb on its own but excels when connected to the EVO3 Sigmus

FOR

very deep and detailed bass
- near holographic imaging
- fluid and natural timing
- micro-details in sound

AGAINST

- nothing, not even price

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World Radio History

Rondo-view

There's a growing appetite for active desktop loudspeakers – which Quadral hopes to fill with its latest Rondo Aktivs. But how does it fare against the competition? Jon Myles finds out.

Powered desktop loudspeakers seem to be all the rage at the moment – and it's not hard to see why.

With more and more of us holding large music collections on our laptop or desktop PCs and Macs the ability to listen to good quality music while working away, sending e-mails or surfing the

web is a tempting proposition.

Not surprising, then, that more and more manufacturers are seeking to fulfill that need.

So hard on the heels of the £600 Quad 9AS actives which so impressed us in our August edition come the Rondo Aktivs from German manufacturer Quadral.

Unlike the Quads – which could double as a main standmount in a

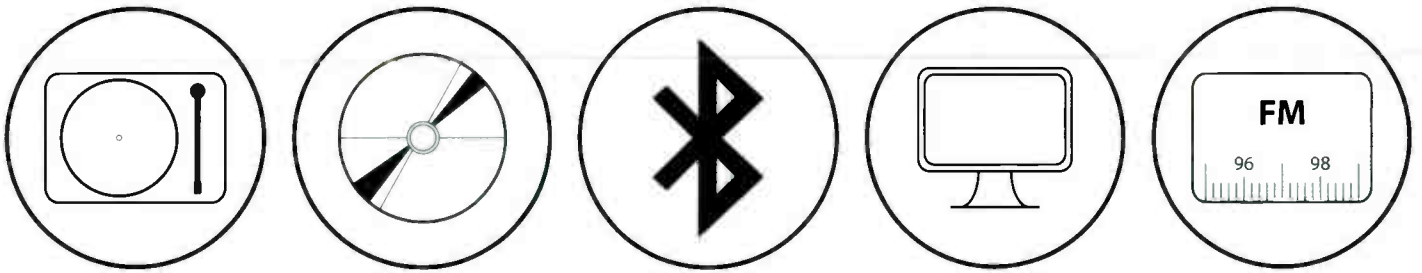
smallish room if required – the £725 Aktivs are firmly positioned for desktop use.

Measuring 280mm x 150mm x 215mm (h/w/d), our review sample was beautifully turned out in a brilliant gloss white finish, while a similar black model is also available. The edges of the front baffle are chamfered to aid dispersion.

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available – line level, USB and wireless Bluetooth with AptX coding for better sound definition. Alongside these there's also a subwoofer output with an automatic high-pass filter for those requiring a little extra bass from their listening sessions.

The right-hand 'speaker contains all the electronics and a 2x50 Watts amplifier with connection to its partner via standard loudspeaker leads.

Two solid-feeling aluminium rotary dials on the front of the right 'speaker control input selection, on/off and volume, while a discrete Quadral LED logo changes colour to indicate standby or active status.

The driver complement features Quadral's proprietary Ricom V tweeter that uses a titanium membrane which the company says helps reproduce delicate details in the music. A fixed metal grille aids dispersion.

This is paired with a 4.5 inch mid/bass unit which is itself damped with a thin layer of titanium. A small rear-firing port gives some bass reinforcement.

Unusually, a pair of small aluminium feet on the rear of each cabinet angle the loudspeakers downwards slightly (presumably to help anchor them to the desktop) although these can be unscrewed if required.

In situ, the Aktivs look and feel classy and the overall fit and finish more than justifies the £725 asking price.

SOUND QUALITY

The first thing you notice about the Rondo Aktivs is how big they sound for their relatively small size.

Placed on a desktop and fed initially through a MacBook Pro into the USB input and The Arctic Monkey's 'I Bet You Look Good On The Dancefloor' had some real punch and air about it.

Quadral have obviously engineered this loudspeaker for a forward-sounding balance with strong treble. Subjectively, it means the Aktivs seem to have more detail than their size would suggest, but also they can sound quite bright at times.

Try some classic Oasis such as 'What's The Story' Morning Glory?' and Noel Gallagher's guitar was just a little too searing.

On the other hand, vocals projected nicely, while there was good instrumental separation which made it easy to follow individual

musical strands. Leading edges of guitar notes also had great clarity and bass was firm and defined.

Okay, you are never going to get room shaking low-end from a speaker this size (and probably don't want it from a desktop system!) but what there was sounded taut and musical without ever feeling 'soft'. Pushing the speakers back against a wall helped bring out a touch more bass – and there's a good chance many users will use them this way on a desk.

The Ricom V tweeter – previously used on some of Quadral's larger models – is obviously the dominant performer. Cymbals on The Beatles' 'Come Together' really chimed and the entire track flowed well.

What is disappointing, though, is that the USB input doesn't seem to support high-resolution files. Unlike the previously mentioned Quads with their 24-bit/96kHz-capable DAC the Aktivs use a soundcard for processing duties which is limited to Red Book standard CD quality.

Given the continuing growth in high-resolution music and the expected computer-based use of these 'speakers that seems rather remiss – and hopefully something that will be addressed in future models.

They also struggle slightly with large orchestral music. On Mussorgsky's 'The Great Gates Of Kiev' the Aktivs struggled to reproduce the sheer scale and majesty of the music. I'd warrant making use of the subwoofer output may make a difference here.

Having said that, the Quadrals still sounded musical and did capture the atmosphere and flow of the piece quite well.

Switching to the Bluetooth option and back to up-tempo rock with Interpol's 'El Pintor' streamed from an iPhone 5 and the Aktivs are

back on safer ground. Here icy riffs and sonorous vocals provide superb contrast and the 'speakers capture it well.

Switching to the same song via a Samsung – which, unlike the iPhone, supports the AptX codec – and there's a subtle increase in quality with slightly clearer definition and increased clarity. It's slightly behind the USB input in terms of absolute quality but not by that much.

There is, however, a feeling that the Aktivs are pushing the music at you instead of merely letting it come out naturally. There's a temptation to try to push them back as far as possible, which isn't exactly the ideal for desktop transducers.

Just for fun, we also ran the Quadrals in open space in our – admittedly large – listening room driven through the line level inputs via a Timestep-modified Technics SL-1210 turntable and Icon Audio valve-based phonostage.

Slight overkill – but this combination ameliorated the forward nature slightly. While they ultimately struggled to fill the room there was again that sense of detail and the feeling the Aktivs were punching above their weight in terms of size.

Indeed, the Scissor Sisters eponymous first album really swung with the Bee Gees-like vocals soaring and the harmonies especially sweet.

CONCLUSION

The Rondo Aktivs are a well-built and good-looking pair of desktop loudspeakers that sound larger than they look. They have a forward nature with strong treble that makes them sound detailed but can verge on the wrong side of brightness.

They're let down slightly by the lack of high-resolution playback through the USB input – which seems a strange anomaly in 2014.

MEASURED PERFORMANCE

FREQUENCY RESPONSE

Green - driver output
Red - port output



Our frequency response analysis shows the Rondo Aktiv is basically smooth and accurate, but it has some treble lift. This will make it quite obviously bright. Detail will be enhanced, and insight, and used well off-axis this lift will counter natural roll-off.

There's good amounts of bass around 100Hz and the port helps out by peaking at a useful 60Hz.

So good, but not perfect, unless you like a bright on-axis sound. **NK**

QUADRAL RONDO AKTIV DESKTOP LOUDSPEAKER £725



GOOD - worth auditioning

VERDICT

A compact desktop loudspeaker with a big sound and wireless Bluetooth capability. Has a forward nature which might not suit all.

FOR

- elegant looks
- Bluetooth capability
- relatively big sound

AGAINST

- stiff competition
- no high-res through USB
- bright

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Clocking-on!

Rafael Todes, of the Allegri String Quartet, upgrades his CD playing experience with the addition of Antelope Audio's Rubidium Isochrone masterclock – and is stunned by the results.

It is well known amongst recording engineers that good clocks make good recordings! The clock is critical in the process of going from analogue to digital or vice-versa. Any errors of timing will result in distortion and jitter. In a more domestic setting, does this studio gear add any value to a high-end system?

I recently reviewed and purchased an Esoteric K-05 CD player which has a word clock input and curiosity got the better of me. What would the player sound like

with an external word clock that has 100,000 greater accuracy than a quartz crystal?

As it happens the K-05 accepts a 10MHz signal, so it can be powered directly by the Antelope Audio Isochrone Rubidium 10M reference without the need for the Isochrone Trinity Master word clock.

For clocks that can't work on a 10MHz signal, both units would be necessary to achieve the highest level of clock accuracy.

The Rubidium clock takes a while to achieve the required temperature

to work. This may take around ten minutes before it springs to life.

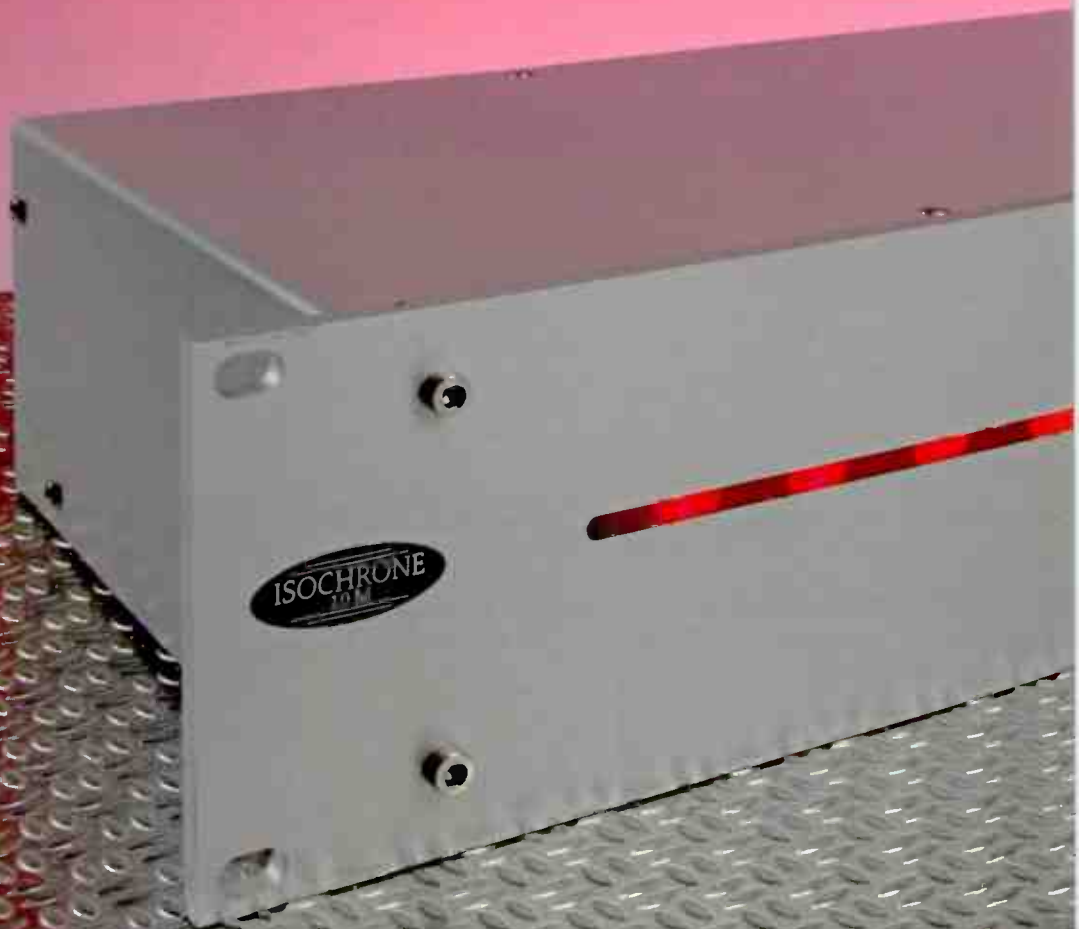
There is a message which alerts you to the waiting period, and finally when the clock comes on song, the figure "10MHz" appears in the glass window at the centre of the display panel.

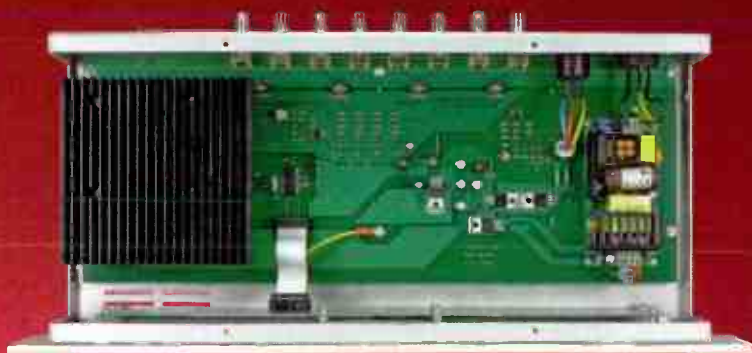
On either side of the panel there are red strips, maybe conjuring up the image of a fire. The clock connects to the CD player via a BNC cable, and needs to be selected on the CD player's clock input.

In the case that a CD player doesn't accept the 10MHz signal, you would need to use the Isochrone Trinity Master clock to connect to the CD player, which would work directly with or without the Rubidium clock to interchange proceedings.



Rear panel of 10M Rubidium clock. It can support eight devices that support 10MHz signal





Ultra-precise Atomic oscillator with stability of 1 second in 1,000 years

So how does the use of the clock affect the sound?

The differences aren't particularly subtle! Listening to Bernstein conducting the last movement of Mahler's epic Fifth Symphony on DG, switching between the rubidium clock and the Esoteric's internal clock, there is immediately a greater sense of accuracy in the space of the vast orchestra.

The soundstage extends more fully backwards, there is more delineation of the sections of the orchestra, so instead of being slightly muddled, there is much greater clarity.

The second thing I notice is the soft, squidgy attack at the beginning of notes is now replaced by a

sharper cleaner attack, with more 'beginning' to the note.

The greatest frequency range to benefit with this addition seems to be the bass: it is tighter and more focussed. There is less bloat to the cellos and basses, more definition.

Switching to a terrific recording of Suppé overtures, beautifully recorded on the Mercury Living Presence label in 1959, and which still sounds utterly natural, I see the recording coming into focus with the addition of the clock. It is a more believable sound, more detail, faster attack, and more exciting because of the increased clarity.

Obviously investing a shade over £5000 to add a clock to a CD player

which costs £7000 on its own in the first place may seem an expensive exercise.

But what for me is fascinating is to see just what a difference a state-of-the-art clock can make, to an already distinguished CD player.

With it, I get a snapshot of digital at its best, and approaching the soundstage presentation I get from great analogue reproduction.

It is also perhaps an indicator as to the next big advances in domestic digital, as prices fall for this technology.

I am also told, but haven't verified this, that different clocks have different sounds. Now there's food for thought!



Oven controlled crystal oscillator can be turbo-charged by the Rubidium clock for even greater precision.



REFERENCE SYSTEM

- VAC Phi 200 monoblocs
- VAC Signature Mk11 Triode Preamplifier
- Esoteric K-05 CD player
- B&W 802D speakers
- PS Audio Perfectwave PS10 mains regenerator

ANTELOPE ISOCHRONE 10M RUBIDIUM ATOMIC REFERENCE GENERATOR £5189

ANTELOPE ISOCHRONE TRINITY WORD CLOCK £1895



OUTSTANDING - amongst the best

VERDICT

I can think of no other way to upgrade a CD player to this level. A clock may double the total cost of a CD player, but the returns are significant.

FOR

- a major upgrade for a CD player
- clear increase in soundstage and timing
- significantly tighter bass

AGAINST

- the Rubidium clock takes around 10 minutes before it works

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Speakers that listen!

Martin Pipe recalls speakers that attempted to correct their own deficiencies, with particular reference to Philips' MFB (Motional FeedBack) technology

Much of an audio system's performance is dictated by the interaction between the amplifier and speaker drive-units, crossover and enclosure. Such interaction has been known for many years and various attempts have been tried to compensate for it in some way, to ensure a broad and even frequency response (especially at the lower end). Key to this is the idea that in a sealed infinite-baffle (IB) enclosure a drive-unit's cone movement is impeded by air pressure and the end-result seldom corresponds to the input signal. If you can monitor the actual signal produced and compare it with the input, correction can be applied.

The first approach was to sense the opposing 'back-voltage' flowing through the drive unit's voice-coil. An electrical current passing through a coil placed within a magnetic field – in this case the massive speaker magnet – causes the coil to move. It thus makes the attached cone/diaphragm 'shift' air and produce sound. Simultaneously, though, the same coil movement induces a voltage. In other words, it acts as a generator!

The resulting back-voltage is proportional to the excursion of the coil/cone. An 'error' voltage, derived from the back-voltage using a bridge circuit, could be electronically-compared with the input signal to derive a corrected version, influence the amplifier's negative-feedback path or control a variable low-pass filter connected between the source and power amplifier. Any deviation from the applied audio input (the ideal) could thus be automatically compensated for.

It shouldn't come as a surprise to learn that the electronics (including the power amplifier) tends to be built into the enclosure of such a speaker



– they are 'active' types, intended to be driven from line-level sources.

And this is exactly what Philips implements with its 'motional feedback' (MFB) system. Here, the feedback signal is derived from a sensor mounted on the woofer. Philips chose an accelerometer, built around a lightweight piezoelectric ('PZE') transducer and FET amplifier centrally-positioned just in front of the voice-coil (i.e. behind the dust-cap) as acceleration of the drive unit's cone is proportional to the resulting sound-pressure level.

In the Philips system, the sensor's signal is fed to a comparator circuit placed between an internal power amplifier and the input signal. The difference between the sensor output and the input, yielded by the comparator, is the 'error' signal. This is combined with the original input to form a corrected signal, which is then amplified and passed to the drive unit.

To reduce distortion and possible damage, filtering is applied to remove the very low frequencies that the

speaker cannot reproduce owing to its physical limitations.

Ingenious, but Philips wasn't the first to use this type of sensor-based system. In 1966, nine years before Philips' first commercial model appeared the UK, National (Panasonic, Matsushita) introduced an almost-forgotten MFB system consisting of passive two-way speakers (SB-88H) and a tubed receiver (the SA-52H). Each speaker connected to the receiver via a four-wire interface. Two wires accepted the signal from the receiver's amplifier, the other pair carrying the feedback signal. By the time it reached Europe the receiver alone sold for around £90 - around £1,500 of today's money. Such expense was hardly conducive to commercial success, and there were no further MFB products from Matsushita.

For 1970s audiophiles, though, MFB will forever be linked with Philips. Its MFB line was launched in the UK in 1975 with the RH532 which comprised a 1in. dome tweeter, 5in. midrange driver and 8in. woofer.



The RH541's electronics were fully discrete and connected to the speaker enclosure by means of a multi-way plug. One of those large blue capacitors (it's 6,800uF) AC-couples the amplifier to the speakers!

The latter sported the accelerometer, and was driven by its own 40W power amplifier. The tweeter and midrange were independently-served by a passive frequency-dividing network driven by a 20W amp; MFB's benefits were, of course, most audible at low frequencies.

'True' active speakers would have employed separate treble and midrange amps, fed by active filters. But that would have added even more cost to a speaker that already retailed for a substantial £250 a pair in 1975. Such a sum is equivalent to just under £2,000 today.

However, Philips then introduced ranges of MFB speakers pitched at different price categories. Of these, the first – in 1976 – comprised the RH541 featured here that sold for £170 per pair and the RH544 for £260. The RH541 was a 12in. tall bookshelf unit that used a single 30W amplifier to drive, via a 7in. woofer and a 1in. dome tweeter.

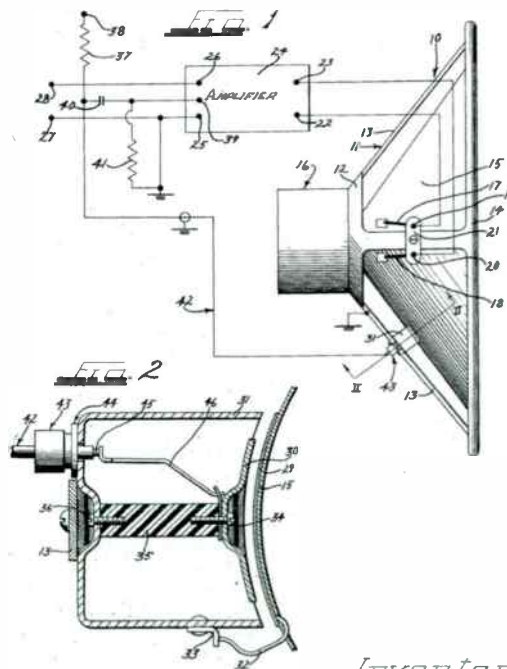
It was superbly built: my own samples, picked up for a tenner at a boot-sale, are in excellent condition and perfectly functional.

As with other MFB speakers, the amplifier is only powered up when an input signal is detected. Drive-unit and feedback connections are routed via a multi-way terminal block to the sealed speaker enclosure in front of the amplifier panel.

Oct. 21, 1958

G. H. BRODIE
 SPEAKER DIAPHRAGM CONTROLLED CAPACITOR
 FOR NEGATIVE FEEDBACK CONTROL
 Filed Sept. 9, 1954

2,857,461



Inventor
 George H. Brodie

By Hall, Shuman, Morris, Brown & Simpson *Attorneys*

Philips wasn't the first with MFB. Even before Panasonic's product was G. H. Brodie's patent (granted 1958) for a 'speaker diaphragm controlled capacitor for negative feedback control'. A fixed plate (chassis) and moving plate (attached to the cone) created a capacitance that varied with speaker excursion; the idea was that the capacitance would form part of the amplifier's negative-feedback loop.



The RH541 is well-connected. The separate input and output DIN sockets, together with the channel switch, ease installation. The three-position sensitivity switch allows the RH541 to be matched to high-level as well as line-level sources.

The same basic design applied to the 'step-up' model (the RH544). This incorporated separate amplifiers – 40W and 20W – to drive the 8in. woofer and 2in. midrange/1in.

tweeter.

These two designs were joined later by the 'professional' RH545, a 3-way floor-stander that had separate DC-coupled power amps for the bass (50W, 12in. woofer), midrange (35W, 2in. dome) and treble (15W, 1in. dome).

Although its performance is considered to be best of the Philips MFBs, the 30kg RH545 was enormously-expensive and as such remained a niche product. In contrast, the much more affordable RH541 and RH544 sold surprisingly well.

Two more generations of Philips MFB speakers followed in 1980 and 1983 respectively. They looked increasingly modern, and the final models sold well into the CD age. The columnar F9638, with its switchable signal-level indicator, 'floor correction' mode and ribbon tweeter, was discontinued as late as 1986. This 630mm-tall model dedicated a 50W amp to its flat-diaphragm 8in. woofer, and shared a second 35W amp between its 3in. midrange driver (similarly flat) and high-tech tweeter.

The 6.5kg RH541 may have been an entry-level MFB, but it can still sound good today. In my view, these speakers – along with the



The 'clever bit' of a Philips MFB speaker is this piezoelectric accelerometer (known in the trade as a 'PZE'). This tiny module lives just behind the dust-cap of a MFB speaker's woofer. The ceramic transducer 'chip' is attached to the circuit board with a pair of rubber clamps. Also visible is the FET that, together with the two resistors, forms an impedance converter.

drive-units that underpin them – are under-rated. The company's MFB implementation clearly works, and one wonders how good it could sound with more modern electronics and materials. My RH541's bass extension belies their size, with a notably 'analogue-y' warmth. Speech sounds natural and clean, if a little 'dry' on occasions. Maybe that's why Belgian radio employed MFB speakers for monitoring purposes well into the 1980s.

I regularly use mine to reproduce the rear channels from digitised quadraphonic material (they're connected to the surround outputs of a universal disc-player via a passive volume control), and have driven them from an iPod and Sony Walkman Professional. Interest in Philips MFB speakers continues to this day, primarily in Europe where they are recognised as audio classics. An excellent site, which covers MFB and Philips audio in general, can be found at www.mfbfreaks.com. It's a Dutch-language site but does offer free download manuals, brochures and service information.

As Philips MFB speakers were popular on the Continent you're more likely to meet them in European eBay listings than British ones. Although they don't sell for 'silly' money (a pair of RH544s in 'as new' condition went recently for less than £200), shipping a pair of 8kg boxes to the UK is going to be rather expensive – and there's the risk of damage too. If you do chance upon a pair on UK eBay, or going cheap at a boot-sale or audiojumble, consider snapping them up.

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TOTALLY MATCHED SPEAKER SYSTEM

To 'sell' the MFB concept to dealers and hi-fi buffs, Philips' record label released a couple of LPs. This is the second, circa 1976. Across its two sides you'll find such delights as The Hollies' 'Give Me Time' and Irvin Berlin's 'How Deep Is The Ocean'. The latter was performed here not by Aretha Franklin or Chet Baker, but by Ben Webster and the Dick Katz Trio.



CREAM

Royal Albert Hall 2-3-5-6 2005
Music On Vinyl

Setting aside the 'acrimony' and targeting the 'money', Cream decided to reform for a series of gigs at the Royal Albert Hall in 2005. It wasn't quite the one-off night or even location that many people had envisaged. Not only did the group appear at the Hall over a number of nights but they jetted off to appear in the USA, appearing at the Madison Square Garden afterwards.

This compilation of tracks from the UK shows, complete with its rather awkward title, saw the trio meld into a recognisable 'band'. The old musical connections were still there. The only problem was that the old energy wasn't and, in a way, that was half the point of the group.

Then again, the last time they truly played in anger (ignoring the mid-nineties Rock & Roll Hall Of Fame appearance), was getting on for forty years previous and the rusty nature of the inter-band relationships showed. Yes, you

can forgive a little of the more temperate outlook of the former angry men of blues-rock because they were all into their sixties at this point, so energy levels were not the highest.

Then again, the Rolling Stones are each aged around 102 and it's never affected their live performances.

What did undoubtedly affect the 2005 version of Cream, though, was a change in playing styles. Eric Clapton played like a tamed millionaire, Jack Bruce's bass was extra large but his voice wasn't while Ginger Baker was no longer quite as mad. Shame.

There was nothing to be uncomfortable about here as the admirable performances of the likes of 'White Room' and 'Sunshine Of Your Love' showed but this, superbly produced, triple album, offering beautiful mastering, remains one for the fans only. Casual listeners should stick to the studio albums.



SHEEMA MUKHERJEE

**SHEEMA
ECC 100**

Her debut album, Mukherjee already has a reputation as a top ranked sitar player, learning her craft, via Hindustani classical music, from her uncle Nikhil Banerjee, Ali Akbar Khan and Aashish Khan. The first vinyl release on the ECC 100 label is, thus, an ideal opportunity to hear this expressive instrument on analogue. This might be her debut album but fans of alternative dance music and intelligent techno, not to mention regular listeners to the much missed John Peel Show, will be very familiar with Mukherjee's output as part of the revered Trans Global Underground, fronted by Natacha Atlas, as well as her work with the Imagined Village, the multicultural folk project set up by Simon Emmerson of Afro Celt Sound System.

In 2005, she emerged as a composer in her own right, creating the music for the West Yorkshire Playhouse productions 'Gluey

and the Lion' and 'Non-Contact Time' as well as the score for the Tamasha Theatre Company's 2009 musical Wuthering Heights. Her composition 'Bending in the Dark' appeared during the 2012 Summer Olympics.

My goodness how this new album rings the changes of variety. Starting with 'Slash Sitar' which sounded positively heavy metal in its approach. 'Sikkim Girls' lowered the pace and took a lumbering, yet still complex arrangement, while 'Little Dragon' saw Mukherjee in full sitar solo flight, forming complex shapes and pictures. The cross cultural nature of her career remained on this album with her moving into Radiohead lyrics while her reggae-tinged 'Sitska' begs for regular dips to the knees during play. Then there is 'L'amite' complete with a French lyric!

Yes, it might lack a little focus but there is plenty of potential here for future excursions.

A previously unreleased album, from 1976, and you have to wonder, "Why?" This highly-accomplished, professional, inventive and creative piece offers a suite of interesting directions that, primarily, will please prog fans out there, but will also tempt psychedelic devotees too. Often offering a pastoral flavour to its production, the dominant flute immediately lends itself to Jethro Tull comparisons. The Blat Brut flute is, however, rather more gentle and less in your face than Ian Anderson's performances.

That's not to say that the band doesn't rock out. On 'Jam II', for example, the flute can be quite assertive while (ironically) Blaxploitation-like wah wah guitars provide a funky backdrop.

'Jam I' meanwhile also has that rolling, often lolling gait of an early Pink Floyd track with its baleful meander and its freaked out aimless ambience. This is continued

but just with a slightly different, almost Doors-like, tempo with 'Para Titania Y Oberon'.

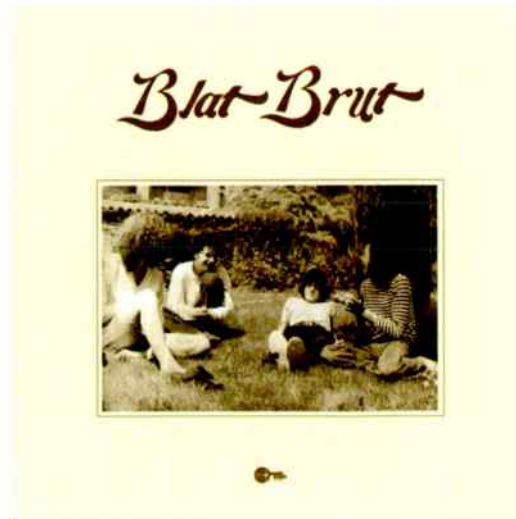
And that's what you get with this album, it's all journey. There's no real start and there's no real ending climax. The album is all about the continuing experience which, when you have three extended tracks called 'Jam I, II & III' should, I suppose, be no real surprise.

This is not a problem: it's music to lie in the warm sun by and allow your thoughts to drift.

The overall effect is incredibly mature but that's partly because the four musicians are aided by two sound engineers that also utilised the studio as an instrument, adding effects later.

Highly recommended if you're looking for music that offers complexity and, at the same time, depth.

But you're going to have to hurry if you want one. This edition is strictly limited to just 400 copies.



BLAT BRUT

**Blat Brut
Wah Wah**

I remember, I must have been, what, sixteen? Something like that. I had a temporary job at the Mersey Docks & Harbour Company before I entered college. I was an Apprentice Tracer off the back of a Conservative government back-to-work scheme and, hence (after giving my Mum her share for my keep), was enjoying the luxury of a few pounds in my pocket from my first pay packet. During a heady lunch hour, I scooted down to HMV and stood before a wall of vinyl. In front of me were three albums: Duran Duran's self-titled debut, Teardrop Explodes' 'Kilimanjaro' and Echo & The Bunnymen's 'Heaven Up Here'. As I had recently heard Duran Duran's 'Girls On Film' on the radio I plumped for that, well pleased. It was only after a few days that I realised what a mistake I had made. I should have bought Echo & The Bunnymen.

Which I eventually did...but

still. This album thus brings back memories of bad decisions and lost opportunities.

'Heaven...' was, and still is, a dark album. Experimental, the hooks are largely absent while the melodies are few. Nevertheless, the album is totally brilliant and (arguably, I know) their best. Combine Ian McCulloch's soaring, haunting vocalisations, Will Sergeant's angular guitar but, more than that, unsung heroes, Pete Dinklage's powerful yet stunning drum patterns and Les Pattinson's circular, yet always interesting, bass.

Offered by Vinyl 180 within a sturdy hardbacked book cover, plus new sleeve notes and images, you get the original album and a second disc with five extra tracks: the long version of 'Broke My Neck' produced by the Bunnymen and 'Show Of Strength', 'The Disease', 'All I Want' and 'Zimbo' all recorded at the Manley Vale Hotel in Sydney, Australia on 11 November 1981.



ECHO & THE BUNNYMEN

**Heaven Up Here
Vinyl 180**

This is a comprehensive directory of Hi-Fi Dealers throughout the UK and Ireland.

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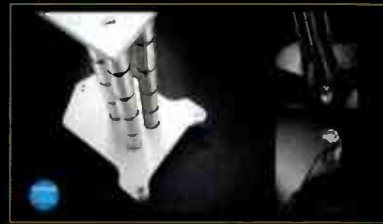
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"This is ground-zero for electronic engineering – and well worth seeing"



Noel Keywood

I'm walking down the street and hear the long, low warning horn of a distant train. A minute or so later the horn blares again – and it's louder. This goes on for many minutes and it begins to sink into my consciousness that the horn is getting suspiciously loud. But I continue walking; it's a nice sunny day and I'm looking for Duck Kee Market; urban trains don't interest me.

Suddenly there are loud and repeated blasts from the horn and warning bells are sounding – I look behind and there's one of the largest trains I've ever seen coming right down the middle of the street. Oh shoot!

Welcome to Oakland, California. I'm on Embarcadero West, close to Oakland Fire Department, having lost my way a little. I was going to check out the site of the atmospheric cover shot of Creedence Clearwater's 'Willy and the Poor Boys' album. Little adventures like that get you off the tourist trail and give a journey a point of interest.

Having made a few internet investigations beforehand I have learnt that Oakland has a 'reputation' that I can't quite understand from afar – London – so why not jump on a train from the venue of the California Audio Show (CAS), a Westin hotel by the airport, and take a look. What I find is one of the biggest trains I have seen – coming down the middle of the street!

That's California for you. CAS was a hotel-based show much like others, yet very different too. I go to shows on the conventional show circuit, and to some not on it to catch surprises, and CAS falls into the latter category.

There were none of the usual journos there, and few familiar faces. But no problem; it simply meant I was meeting people I haven't met

before and seeing products I haven't seen before - a blast of fresh air in truth.

Perusing maps of the area around the show beforehand piqued my interest. There's Oakland close by, so I'll be going there, I thought to myself, and Berkeley University is just up the road, where Spice was dreamt up, so I'll drop off there too.

Back in the other direction, south from the hotel, I spot Monterrey on the map, but it is too far to visit, and there is Stanford and places I've subliminally heard of but can't quite identify, such as Palo Alto and Menlo Park.

These are, I have to admit, not seaside resorts, so I didn't pack my bucket and spade. They're all tied up in the fabric of electronic engineering in its broadest reaches, from Hewlett Packard through to Facebook and Google.

A huge sweep of land south of San Francisco, much like Southern England in the sun – with a tad less grass – constitutes Silicon Valley that is, topologically, more a plain. This is ground-zero for electronic engineering I realise – and well worth seeing.

So as well as travelling north to Oakland, which has urban problems I found, meaning long wide streets of dilapidated buildings and people living on the streets, I travel south to prosperous Silicon Valley.

And lovely it is, although America is big more than gentle; you don't get Britain's lush green fields here. The suburbs south of Palo Alto are endless miles of straight, beautifully manicured semi-tropical gardens, and houses with verandas basking in the sun.

Being on a peninsula, the area is cooled by Pacific sea breezes and it isn't viciously hot; Californians call it Mediterranean.

Ending up at Mountain View,

sipping a cool beer outside a U.S. bar close to the station, where the sidewalks are covered and the buildings low profile, I understood why anyone would want to live in this part of the world.

The San Francisco bay area has sun and light - it's a lovely environment. In this area sit many cities, including San Francisco, Oakland and San Jose, and the population totals that of London - around 7 million.

So it is economically substantial, yet even at this size is outgunned by the Los Angeles area to the south. All the same, it is no surprise perhaps that this is an area where people are inspired to be creative by the supportive climate, social and physical, around them.

Did I mention that Cupertino, the home of Apple, is also just a few miles away, south of the California Audio Show?

An environment like this, bedded in the strength of the American economic engine, is going to be a fertile place for audio, and that's what I enjoyed about this visit. Steve Jobs was famously into his music and I won't go into the reason why he chose Apple as the company's name.

The same dedicated belief and creativity exists today, I found when speaking to Cookie Marenco of Blue Coast Records. Sony were there, supporting her – and I felt this was a partnership that could go somewhere.

DSD sounds good by popular acclaim – and I agree with that view. Right now, it isn't widely used but who knows what we may be using tomorrow?

California and "the bay area", as they call it, has a long history of music creation I realise after my visit to CAS and can spring surprises other than trains in the middle of the road. ●



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"there is nothing quite like the folk and roots music of the USA"



Paul Rigby

Every country has its folk music. Every country can tap into a roots culture that connects contemporary modern music and modern living to a past that not only explains how we got here but illuminates a history. One that sometimes preserves lost traditions, places and even peoples.

There is nothing quite like the folk and roots music of the USA, however. I'm not saying that it's any better than the folk/roots music of anywhere else but what America has is its inherent and most obvious 'melting pot'. No other country has a population that features so many people from such a diverse suite of other countries, cultures and traditions that has been thrust upon each other in such a small space of time. Most countries, Britain for example, have that same diversity but spread over many more years and on a graduated level.

The opportunity for cultures to clash, therefore, has never been so ripe as that seen in the USA. Black against white, Irish against Jewish against Puerto Ricans. Then the conglomeration of beliefs also collided in terms of politics and religion. From Chinatown to Little Italy, every corner of the USA has forced its people to look both backwards and forwards. Lamenting the past, struggling with the present and hopeful of the future. Above all, a clamour of voices appeared. All wanting to tell their stories. Stories about their life, hardship, their work, events, tragedies, injustice. A lot of these songs were penned and then forgotten, some were sung only within a small area and were hopelessly obscure.

That introspection can be seen well within Bear Family's new batch of four box sets that examines 'Troubadours'. Subtitled 'Folk And

The Roots Of American Music', each contains three CDs and a thick book, spanning around 150 pages each, packed with information on all of the artists involved. As an aside, if you put all four boxes together, the spines form an attractive, collected single period street scene image.

This set provides a series of popular artists such as Bob Dylan, Phil Ochs, Tim Hardin, Fred Neil, Judy Collins, Tom Paxton, The Byrds and Michael Nesmith but, as an aside, some of the characters populating these sets are colourful indeed. You tend to wonder at them. One thing is for sure, many couldn't have survived today's media. The news sources would have eaten them alive.

Take Lead Belly who assaulted one woman for refusing his advances, attacked a white man with a knife and slashed another acquaintance after he had approached Lead Belly's wife. The guy was in and out of jail but still managed to write iconic songs and music. While Lead Belly told of the black experience, Carl Sandberg told of the...Swedish experience. Well, not strictly. Sandberg had a notable, rather monotonous, vocal delivery (hey, Dylan made millions with his) and was a committed socialist in his beliefs and his lyrics.

Earl Robinson was more than a socialist, he was a died in the wool Communist, a force of politics that Robinson forged during the Great Depression. He and a few others began the Composer's Collective that aimed to create a body of work of people's music that would appeal to the working classes.

After that group failed because the members only created unpopular European avant-garde songs, Robinson moved to the American Music League. Robinson ended up writing the music to 'The House I Live In' that was a song within a filmed featurette starring Frank

Sinatra - who ended up winning a special Oscar for his work on anti-racism.

One of the more fascinating groups in this collection was formed from four names: Laura Duncan, Ernie Lieberman, Betty Sanders and Osborne Smith. They recorded an intriguing oddity in 1952, a 19th century German song on one side of a record that encapsulated freedom of thought and was used by anti-Nazi activists as an underground anthem during WW2. It's 1952 incarnation sold 1,200 copies through leftist bookstores.

I've talked above about people writing obscure songs about their life and work. Sometimes it took outsiders to bring these stories to light.

One emerging folk singer was Paul Clayton (a tormented soul and repressed homosexual) who began his career after discovering a batch of obscure songs in, of all places, New Bedford Whaling Museum. You might remember a fascinating documentary, recently broadcast on BBC Four, about Britain's now obscure, whaling fleet. This cache of songs told of similar tales, forming Clayton's first album in 1954.

In many ways, Clayton and others like him acted as archivists and historians, collecting songs from small communities and bringing them to the larger public ear. 'Pay Day At Coal Creek' was one such song that told of a coal mining disaster in 16 May 1902 at Fraterville, Tennessee that killed 216 miners. Poignantly, some of the trapped miners penned messages to loved ones as their oxygen gave out.

This is one series of box sets that provide an education, in addition to plenty of essential entertainment. I'm just happy that they corral another suite of rare and 'lost' music ready for public consumption. ●

“turntable sales have stayed stronger than most other types of audio equipment”



Tony Bolton

Last month I discussed the very buoyant state of sales of new vinyl LPs and the gradual falling off of the sales of hard copy digital music sources. This led me to wonder how the sales of the relevant playing equipment are going over the last few years.

I started doing a bit of research and discovered a post from Pro-ject Audio on their Facebook page dated 11th November 2013 announcing that they were making their 500,000th turntable. This is an impressive achievement considering that the vinyl format has been written off as dead by most of the mainstream media for the last 20 years. It also suggests there are plenty of new users; these can't all be replacement sales.

The figures from Pro-ject are obviously for worldwide sales, so I became curious as to the state of the UK market, not just for one manufacturer, but overall. With this in mind, I contacted GFK.

This is a company that was established in Germany in 1934 to carry out market research, and has grown over the years to employ over 13,000 people in over 100 countries. They are a world-renowned source of consumer, retail and media data that is used by companies across the globe to see the effectiveness of their businesses and to plan business opportunities and strategies. They do not supply information to the general public but I was able to get hold of a breakdown of hi-fi separates sales within the UK over the last few years from them, which has made for some very interesting reading.

I should also point out that I was supplied with only the raw data from GFK, so the interpretation of these figures, and any conclusions that I have drawn from them, are purely mine.

I obtained figures for the number of units sold in the following categories of audio equipment: amplifiers, non-

portable CD players, loudspeakers (excluding soundbars), receivers, tuners and turntables from the year January to December 2007 and for every year up to the one ending December 2013. I have focussed on the number of units being sold. This includes those sold through shops and online.

I do have the figures for the value of items sold as well, but decided not to focus on those since there are many external forces, such as inflation, and whether to adjust for it using the Retail Price Index or the Consumer Price Index, which make the comparison of like-for-like figures more difficult.

After the optimism of the vinyl sales figures that I looked at last month, these numbers do not make for pretty reading.

In 2007 a total of 885,000 units of audio equipment were sold in the six categories that I have mentioned. The breakdown is as follows: amplifiers - 103,000; CD players - 76,000; loudspeakers - 508,000; receivers - 81,000; tuners - 38,000; turntables - 79,000.

By the year ending 2013 the figures had declined to the following: amplifiers- 43,000; CD players - 24,000; loudspeakers - 273,000; receivers - 75,000; tuners - 7,000; turntables - 48,000; making a grand total of 470,000 units of equipment sold during that year.

The most noticeable decline is that of tuner sales. I think there may be several reasons for this, one being the inherent reliability of the devices, and the fact that once you have bought one it tends not to get upgraded in the same way that a CD player or turntable would be, but sits on the equipment rack and soldiers on for years.

Having said that, the decline in CD player sales looks to be nearly as steep and can, I think, mostly be accounted for by the change in format usage as more people move over to

using computers as their digital music storage medium and output the sound through DACs into their systems, or use desktop speakers rather than full size hi-fi separates.

Receiver sales have tended to buck the overall downward trend with the following figures: 2007 - 81,000; 2008 - 94,000; 2009 - 92,000; 2010 - 104,000; 2011 - 99,000; 2012 - 79,000; 2013 - 75,000. Quite what is driving this market, I do not know. I would suggest that home cinema installations could account for a lot of these sales figures, and this would tie in with the boom in this type of system throughout the early part of the century that has started to decline in popularity in more recent years. It could well be the case that the majority who wanted such systems have now bought them, hence the rolling off in sales. Their strength through the worst of the recession could be explained by people investing in home entertainment for the family as a cheaper option than going out.

Loudspeaker sales also showed a small increase in 2010 (448,000 units, up from 405,000 the previous year) before dropping off again.

So is there any optimism here? Well, turntable sales have stayed stronger than most other types of audio equipment, although they too have declined over this seven-year period, with a small boom in 2010 (74,000 units; 2009- 68,000 units) down to the 48,000 units of 2013.

The only bright spot on the horizon is that early sales figures for the year July 2013 to June 2014 show all of the components are either maintaining steady sales or are looking to have an increase over those of the previous year.

When the full year's figures are available I shall revisit this topic and see if we have actually turned a corner towards a more positive future for this industry. ●

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California Audio Show

With San Francisco a few miles away, Noel Keywood couldn't resist the temptation of a show set in sunny California.



A picture of the Golden Gate Bridge arrived at my in-box, part of a flier for the California Audio Show (CAS). I took a look at it, pondered – and packed! Superficially, CAS is a regional show whose exhibitors are primarily dealers and importers, but when the region is California you can expect surprises.

I met and chatted to well known DSD recording engineer Cookie Marengo. She's the light behind Blue Coast records (<http://bluecoastrecords.com>), a California based company that records to Direct Stream Digital, Sony's one-bit digital code originally used on SACD. It gives a more open and expansive sound than normal PCM, more analogue in nature – and talking to Cookie I saw California's laid back creativity in action.

I got to hear how Blue Coast record to analogue tape running at 15 i.p.s. (inches per second), mix down in analogue and encode to DSD to optimise sound quality. By the way, analogue is now cool in California it seems.

In the Blue Coast/Sony show suite, demo tracks were played through a Sony system comprising HAP-ZIES player, Pass Labs VFET 40th Anniversary power amplifiers driving Sony SS-ARI loudspeakers

(\$27,000!) and the sound was impressively crisp and dimensional.

Cookie was walking around with a tiny DSD (and PCM) USB powered Hi Sonus UFO DAC that Blue Coast sell for \$399. Recordings in this unusual digital code scheme remain rare, mainly because studios are not equipped for it. All the same, hearing Cookie talk about audiophile DSP recording techniques was something I could only experience in California and justified the 10 hour flight. As I walked from the room this is as good as it gets, I said to myself – but it was going to get better.

Sunday – the last day of the show and I'm a bit the worse for wear after three days pounding the floors of the show and the streets of San Francisco. One exhibitor I have yet to visit is Tannoy: I know the products, so expect no surprises. Walking in I see the room has a large 8ft projector screen, flanked by Kensington Gold Reference loudspeakers driven by VTL ST-150 tube amplifiers. Promising – but it's an A/V system and I wait for the explosions.

Instead, up steps an artist new to me, Lisa Hannigan, singing live on stage whilst playing a Ukulele. Intrigued, I sit through many NPR Music Tiny Desk concerts (see YouTube) and settle in, confronted by a massive image of superb quality and

both the projection and power of the Tannoy Kensingtons, that we are currently using in the office – and are reviewed in this issue.

The room was run by Steven Lester, Tannoy's local representative (www.stevenlester.net) who played a range of vivid live musical performances that filled the room and gripped my senses. His selection of excerpts was excellent – I realised I had never seen A/V used like this, purely for live music excerpts – and certainly not with Tannoys&tubes. What was different was the use of video clips from the internet of sparky live performances from a wide range of artists, many little known. It was an adventure in music, especially suitable for a show – but also more immediate and captivating than Blu-ray concert videos punctuated by banal stage talk, noisy audiences and what have you. It was the last demo I saw, Sunday afternoon – and the most gripping. They do things big in the U.S. – the screen was huge – and California does it best.

So CAS was a 'small' show, yet at the same time it had big exhibits; there were products and demos I just would not have seen anywhere else in the world. Combine this with the scenic beauty of San Francisco, its bridges and lovely bay, and CAS was altogether a great experience – a beautiful show.

california audio show

San Francisco

MUSIC LIFE AUDIO





IDA RIEGELS

Performing live throughout the show's duration was Ida Riegels, a classical and baroque soloist from Denmark. In a "triathlon" she sequentially played cello, recorder and piano live to small audiences, to acquaint them with the sound of instruments close up and unprocessed, even un-amplified in the case of cello and recorder.



GENESIS ADVANCED

My first stop of the show was the Aspen room, where Genesis Advanced Technologies were demo'ing a pair of massive line arrays, the G2.2Jr (\$85,000) that, they say, are "for the smaller space" and are "family friendly"! If you want to read more about the G2.2Jr and even larger Genesis loudspeakers, built in Seattle, USA, go to www.genesis-loudspeakers.com. Imaging was pin sharp.



MARTIN LOGAN

Demo'd by Soundscape A/V was this system in which Martin Logan floorstanding 60XTs – a new model – were producing snappy sound, driven by McIntosh amplifiers. Marc Silver of Soundscape, Santa Rosa, California, was waxing lyrical about them, and they did sound good.



SPATIAL

The Spatial (Utah, USA) loudspeaker comprises two 15in drive units on a small open baffle – it's as simple as that. They sounded lovely and did not lack bass. I asked whether bass boost was being used to counteract baffle cancellation and was told it was unnecessary, because the twin fifteens produced so much low end in any case. The slogan "box speakers are obsolete" struck a chord with me. Definitely interesting! And priced at \$3500 a pair. For more, see www.spatialaudio.us.

BLUE COAST/SONY

Cookie Maranco (Belmont, California, USA), founder of Blue Coast Records, talked about the difficulties of recording artists live, in a group and straight to tape in one unedited session. The analogue recording is then converted to Direct Stream Digital (DSD), a proprietary Sony format, for best sound quality. The demo was held in conjunction with Sony and featured Sony hi-fi components.

Go to <http://downloadsnow.net> or <http://bluecoastrecords.com>.



ELECTROSTATIC

People were talking in the corridors about this exhibit – the largest electrostatic loudspeakers I've ever seen. SoundLab of Utah, USA, had on display their Majestic 945s, standing 106in tall (8ft 10in / 2.7m). Needless to say they set up a massive sound stage, instruments playing down at bemused listeners. Price is \$40,570 a pair. See www.soundlab-speakers.com

LINN AUDIO LOUDSPEAKERS

These are the Lyceum loudspeakers from Linn Audio Loudspeakers, Oakland, California, USA. Believe it or not, at 4ft 8in (1.4m) high they are “smaller” models in the Linn Audio range; some make it to 7ft 8in high, no less. Go to <http://linn-audio.com>. The company was founded by David Linn, by the way, and has no connection with Linn of the UK.



STEVEN LESTER Co

OK, the room doesn't look so attractive in our pic, but the music was. Steven Lester (www.stevenlester.net) played a great selection of live music clips on a giant (8ft) screen, illuminated by a Sim2 projector and flanked by Tannoy Kensington Gold Reference loudspeakers, driven by VTL tube amps. The picture was fabulous – and so was the sound. I was hooked by gripping live performances delivered in larger-than-life form – for me, the best demo of the show.

BURWELL&SONS

Burwell&Sons craft cabinets using local hardwoods, that typically house a 15in JBL bass driver coupled to an Altec horn. Their attractive demo speakers were driven by tube amps, like so many at the show, and you can see an open-reel tape recorder acting as a source. For more, see www.burwellspeakers.com. Burwell is their family name and the name of the village in Cambridgeshire from which they originate.



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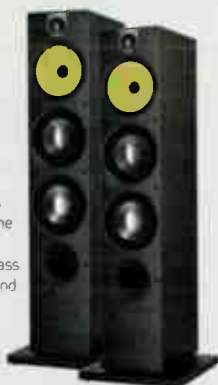
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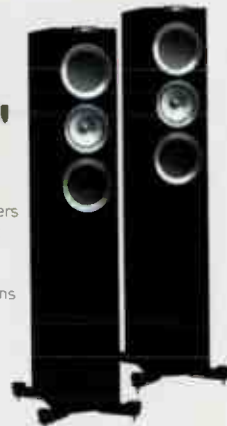
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FUNK FIRM VECTOR V TURNTABLE 83
Tony Bolton takes Funk Firm's latest Vector V turntable for a spin

TRANSFIGURATION AXIA CARTRIDGE 88
Transfiguration's latest cartridge impresses Tony Bolton

LETTERS SPECIAL 90
Five pages of your views on the Beatles In Mono box set

news

GOT THOSE BAD VIBRATIONS?

Two from Bad Vibrations (www.badvibrations.co.uk). 'Live At Bad Vibrations' is a compilation featuring the likes of The Kub, Night Beats, Cosmonauts and Holy Wave. Lots of new psych/garage weirdness interpretations. Like the 13th Floor Elevators OD-ing on frothy lattes. Meanwhile, The Asteroid No.4's self-titled LP is a psychedelic, lava lamp infused, entirely Syd Barret-esque affair.



SUNDAZED DUO

His magnificent, self-titled debut from 1957, Bo Diddley exhibits real, honest to goodness rock'n'roll. Unique and absolutely infectious.

Also check out The Youngbloods 'Beautiful! Live In San Francisco, 1971'. Offering a pseudo-Lovin' Spoonful folk-rock sound with extra keyboards.



MOV JAZZ AND MORE

Jazz fans will be more than happy with Music On Vinyl (www.musiconvinyl.com), this month. First up is Duke Ellington's 'Indigos' (1957), an easy, if not exactly essential, suite of ballads.

Thelonious Monk's 'Misterioso' (1958), a cohesive and swinging set with seemingly psychic interplay between the four musicians.

Onto Bill Evans now and 'You Must Believe in Swing' (1977), a posthumously released LP exhibiting the man's artistry as a pianist. Features the 'Theme From M*A*S*H'.

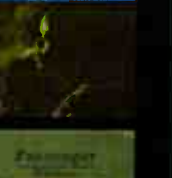
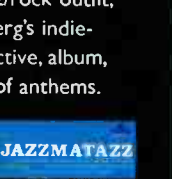
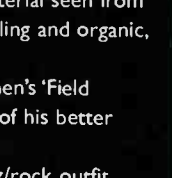
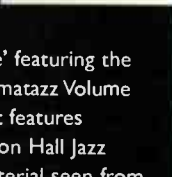
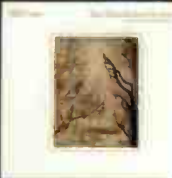
Madeleine Peyroux's debut 'Dreamland' (1996) created a stir due to her vocal resemblance to Billie Holiday but there's enough variation to deny 'tribute band' accusations.

Also check out Benjamin Herman's 'Trouble' featuring the vinyl-only track 'Autumn Serenade', Guru's 'Jazzmatazz Volume 1' (1993), a successful blend of jazz and rap that features Brandon Marsalis and Roy Ayers and Preservation Hall Jazz Band's 'That's It!' (2013), the first all-original material seen from this New Orleans outfit in fifty years. Freewheeling and organic, it's never stodgy.

Other, none-jazz titles include Leonard Cohen's 'Field Commander Cohen: Tour Of 1979' (2001) one of his better recordings as a vocalist.

On that tour, Cohen was backed by the jazz/rock outfit, Passenger. Not to be confused by Mike Rosenberg's indie-folk excursion, Passenger and the new, introspective, album, 'Whispers', his sixth LP release. A sweet series of anthems.

ELLINGTON INDIGOS



TAKE A LEFT

More avant-garde rhythms now. Prostitutes' 'Petit Cochon' (Spectrum Spools; editionsmegeo.com), a new LP of infectious, beats-laden electronica.

Also on Editions Mego is Jean-Claude Risset's 'Music From Computer'. Recorded from 1968-1985, it takes us on a minimalist electronica dreamscape of swooping, synth slopes and loops.

'Macchia Forest' from Limpe Fuchs, Christoph Heemann and Timo van Luijk (Streamline) is an organic suite of field recordings and almost tribal beats.

From Care Of Editions (www.careof.co) is Boris Hegenbart's '#/Tau', an also Steve Reich-like accumulation of electronic loops that move within their own restricted space.



We GIVE YOU, WAH, WAH, WAH!

There's plenty of Wah Wah here (www.wah-wahsupersonic.com). To begin, two from Canadian psych/folk/pop man Huckle in conjunction with Mapache Records. Firstly the incredibly rare debut, 'Once Upon A Time' (1974), a sparse, simple, yet beautifully melodic outing featuring the high-toned vocals of the man himself plus 'Wild Blue Yonder' (1976), featuring a backing band this time and including easy, smooth and very attractive vocal harmonies.



Next is the second LP from Mormos (including a bonus 7" single). '... The Magic Spell Of Mother's Wrath...' (1972) is an acid folk/jazz LP of interest to prog fans. An LP that improves as it goes with a brilliantly grandiose B-side.

Also look out for Swedish composer/musician/singer Hans Elder's 'Elektron Kukesö' (1971) and his pioneering computer music LP; Important folk-rock man, Bob Lind's 'Since There Were Circles' (1971). His final, rather lethargic, album, which enjoyed zero marketing despite featuring Doug Dillard, Gene Clark and Carol Kaye.



SPEAK UP

New from Speaker's Corner (www.speakerscornerrecords.com) is Ahmad Jamal's 'The Piano Scene Of...' (1965) which shows the importance of Jamal's (and Epic's) early jazz work.

Shakti with John McLaughlin's 'Natural Elements' (1977) calms the early albums blistering virtuosity to calmer, more memorable interchanges.

Deodato's 'Deodato 2' (1973), his CTI debut, offers a funky fusion bringing in rock grooves to produce a memorable amalgam.



NEW NINJA TUNE

Four from the hip-most hipsters (ninjatune.net) is Kate Tempest's 'Everybody Down', who is more a performance poet rapper. Arresting stories on wax.

Martyn's 'The Air Between Words' offers blanchange electronica swirling over a constant beat with, on occasion, interesting art spaces. From Fink and 'Hardbeliever' who is digging his own songs straight from the earth. Soil-infested and crawling with multi-legged melodies.

Finally, Taylor McFerrin's 'Early Riser' features good to be alive rhythms while, at times, sounding curiously retro.



...AND FINALLY

From Luke Sital-Singh, 'The Fire Inside' (Parlophone) is a folk/pop LP in the Bon Iver mould, adding musicians to his usual spare sound.

Samaris' 'Silkdrangar' (One Little Indian; www.indian.co.uk) offers electronic/pop-rock and a haunting, beat-driven hypnotic noise.

From the leaders of Broken Social Scene. Kevin Drew's 'Darlings' (City Slang; www.cityslang.com). His second solo LP, you get a weary focus with well written songs.

Wye Oak's 'Shriek' (City Slang) is bass-driven, open, rhythmically interesting and backed with waves of warm synths. Uptempo ballads.

'Stockholm' (Caroline) is Chrissie Hynde's new album that sees a happy go lucky lass in a lighter frame of mind offering sprightly melodies. It sags at times but it's a good effort.

Kylie's new LP 'Kiss Me Once' (Parlophone) is a bit of a shock. It's very, very good indeed. Powerful, fun but with all the usual Kylie glitter.





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Funky fun!

Tony Bolton tries out the latest incarnation of the Funk Firm's Vector V turntable with two different arm options.



Sometimes the styling of a product, while very contemporary at the time of its introduction, can date very easily, but there are also designs that manage a degree of agelessness and, in my opinion, the Funk Firm Vector V turntable comes into the latter category. The first model left the factory back in 2005, and although the shape hasn't changed, this fifth incarnation of the deck still looks as fresh and modern as it did nearly ten years ago.

The curvaceous plinth, while being attractive to the eye, is also designed to minimise internal resonances. It is made of MDF and

spray-finished in a pleasing colour called African Grey. This is carried over onto the edge of the platter which is topped off with a white Achromat that is firmly glued in place. The inside of the platter is made of a laminated glass construction called Strata which is a non resonant material specially developed by The Funk Firm for such purposes.

The deck arrives partially assembled, requiring two slave pulleys for the three-point Vector Drive system to be inserted into the carbon fibre bracket that sits below where the platter resides. A small amount of grease should be applied to each one. Oil needs to be put into

the well containing the main platter bearing. This is made of a Swiss sapphire thrust plate which runs against a matched ceramic ball. Care needs to be taken when handling this assembly because the sapphire can shatter, so the deck should never be transported with the platter in place.

The most fiddly part of the process is fitting the drive belt. This is placed around the two slave pulleys and the one attached to the motor. Some string is supplied and three pieces of this have to be looped around the mid-point of each run of the belt. The platter is lowered into place and then the pieces of string should be pulled so that the

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belt slides over the edge and onto the platter. The string can then be removed and stored for later use.

Power to the two-speed motor is supplied by a wall mounted transformer plug. The socket for this is at the back of the motor and the cable can be easily hidden out of view. A substantial switch mounted at the front right selects the speed.

A Linn-style arm mounting plate is supplied prefitted for your choice of arms from the Funk Firm range. The arm is secured in the mounting by a hex key and arm height is adjusted by loosening this and moving the arm to the appropriate position.

For this review we chose two arms to try. The F6.5 thread bearing arm and the F5 which has a conventional gimbal bearing. Starting with the F6.5. This is a variant on the F6 arm that I first encountered a few months ago when I reviewed the Funk Firm Flamenca turntable. The F6.5 has a taller bearing housing



The Vector Drive system with the belt in position to show component disposition. An inner hub underneath the platter engages with the drive belt at three points ensuring an even rotational speed.

Slackening this off allows the azimuth of the arm to be adjusted. The headshell is made of acrylic which is claimed to help stop resonance within the arm. The effectiveness of this can be seen on Noel's measured performance figures for both the F5 and the figures obtained for the F6 in

ring is placed along the arm tube. This should not be moved.

Both use the same mounting and headshell, so changing between them was easy. My Benz Micro Ace L cartridge, that finds itself on all visiting arms and decks, was easily mounted on the arms, and both proved quite quick to set up and adjust, although I will say that the antiskate adjustment on the F6.5 took a little tweaking. The amount of twist required on the threads is something that is quickly learned but, since there are no calibration marks, setting it up is initially a bit hit and miss. I erred on the side of caution, gradually increasing the twist until the desired effect was achieved.

Once I was happy that everything was correctly installed and the deck had been leveled using the adjustable feet, I started my usual ramble through my record collection for a couple of evening's worth of listening with each arm. I started with the F6.5, since I had already heard it in action on another turntable so would be better able to assess what the Vector V deck sounded like.

I started off with 'Rhapsody In Blue'. This is a good but lesser known recording issued by Decca in the 1970s. I bought it for Julius Katchen playing the piano and found myself pleasantly surprised with the performance as a whole. It is in good condition so I was unsurprised by the quiet blackness that followed my lowering of the needle into the groove. The famous opening slide up the musical scale on the clarinet sprang out of nowhere, hung in mid-air and was then joined by the piano and orchestra. It felt very vivid and very open. This was confirmed as I

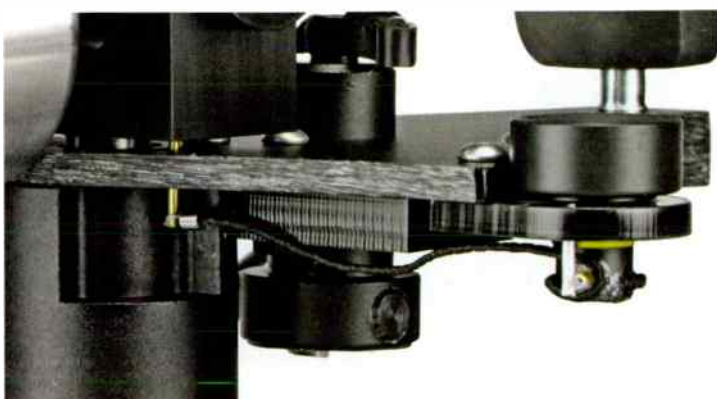
"... timpani had a real punch to the sound and the lowest piano notes had a little more presence in the mix"

than the F6 which allows space for longer suspension threads to be used. The nylon threads are put through holes on the arm and the bearing housing so that the arm is suspended in a sort of cat's cradle. Antiskate is applied by rotating the knob on top of the arm anticlockwise.

Below this is a locking screw.

the Flamenca review.

The F5 arm is of a more conventional design with a gimbal bearing assembly that uses high-toleranced bearings housed in a conventional alloy block. Both arms use the same counterbalance weight, and, to my eyes, both arm tubes look very similar, being made of alloy. A damping



The antiskate mechanism on the F5 arm. As the knob on the right is rotated the tension on the cord hanging below is gradually increased.



Arm height is adjusted by accessing the hex screw hidden in the threaded hole visible in the arm bass. The screw in the counterweight holds in position once tracking force has been set.

listened to the rest of the piece. The mid-band was beautifully described with the sort of gracious air and space to the sound that I normally associate with unipivot bearing designs. There are a couple of points in this piece where there is potential for the sound to get a bit cluttered as piano and orchestra almost jostle for prominence and I was very impressed with the way this £470 arm negotiated these areas.

Bass output from this arm seemed closer to the levels normally associated with a gimbal bearing design, as I discovered when I let Human Blue's deeply pulsing Trance beats loose through the system. The timing was good, with an accurate description of the little bounce to the beat that elevates this LP above the conventional 4/4 timed electronica. The spacial presentation of the floating sounds that populate most electronica's soundstage was good. It occupied quite a large area that extended a bit beyond the speaker boundaries and seemed to gently decay away into the blackness that surrounded the edges of this soundscape.

My next track choice was a Ray Charles number called 'Two Ton Tessie'. This track has a somewhat unusual rhythm that lurches along if mishandled by the playing equipment,

but if played correctly has a gentle lobe to the beat. The Vector V proved to be exemplary here, describing the gently shuffling flow of sound accurately. The recording is very detailed with Charles's voice making regular appearances just a little off centre to the left, while the backing vocalists occupy the right hand side of the soundstage.

I also tried playing one of my favourite Benny Goodman LPs and found that the open midband of the arm left me listening to the details around the main sounds, so I was very aware of the audience interaction with the band on this recording, which was originally intended for radio broadcast from the "Make Believe Ballroom" show on station WNEW based in New York.

After all of this I changed over the arms and settled down to play the same music with the F5 arm in charge.

The sound had a radically different quality. Bass notes had greater weight as I would expect from a gimbal bearing'd arm. The attack of notes, such as the deep pulsating bass on 'Electric Roundabout', had a greater urgency which propelled the music along in a more energising manner. The same

applied to the Ray Charles track where the rhythm was correctly described but had a bit more drive to the opening of the beats than when played with the F6.5 arm.

The midband had a different flavour as well. It was still quite spacious in presentation but had a more grounded feel to the sound and I would say that Ray Charles's voice had a slightly deeper tonality that made him sound like a more substantive presence in the studio.

The soundstage was possibly slightly wider but, more obviously, had more firmly defined parameters. I felt that I knew more accurately where the edges of the space were. If I was looking at an actual stage I would have been aware of the spotlight showing me where the studio walls actually were, whereas with the F6.5 arm those same walls were shrouded in shadow and not so defined.

I ended my listening with the Gershwin piece, where timpani had a real punch to the sound and the lowest piano notes had a little more presence in the mix. The complex sections were handled very well again but with a firmer hand placing the performers in space and lighting them accordingly.

The thing that became really apparent during all of this listening was the essentially neutral nature of the Vector V deck. It seemed to have very little sonic signature of its own, merely serving as a semi-invisible platform that allowed the arms and the cartridge to display their differing personalities. As to which sound I preferred, I am honestly not sure. Both have areas in which they shone.

The F5 arm in situ on the Vector V deck. Antiskate force is applied by rotating the knob to the left of the arm mounting plate.



"The F6.5 thread bearing arm. The nylon thread that supports the arm can just be seen through the bearing housing. Antiskate force is applied by rotating it anticlockwise. The acrylic headshell fits both designs of arm."



MUSIC USED

Gershwin. 'Rhapsody in Blue'. Julius Katchen with the London Symphony Orchestra conducted by Istvan Kertesz. Decca Records. SPA 525. 1976.

The Benny Goodman Trio 'Plays For The Fletcher Henderson Fund.' Columbia Records. 33SX 1020. 1953.

Ray Charles. 'The World Of Ray Charles'. Decca Records. 1974.

Human Blue. 'Electric Roundabout'. Spiral Trax Records. SPITLP 010. 2002.

SYSTEM USED

Benz Micro Ace cartridge.
Leema Acoustics Agena phonostage and Tucana II amplifier.
Chario Ursa Major loudspeakers

The F6.5 had a deliciously open mid-band and a treble that seemed to reach for the stars, gently fading into invisibility whereas the F5 defined shape and space more obviously, and combined this with a deeper and possibly slightly faster attack to the opening of sounds. On the other hand, the F6.5 seemed to offer a more gentle and slightly longer display of the decay of a note.

Which arm to choose would depend ultimately on the way you like your music presented and the interaction of the deck and arm with your phono stage and other components. If I was the purchaser I would probably use the F6.5 if the deck was on my downstairs system (which was used for this review), which has a bigger, more impressively architectural, sound to it and choose the F5 to provide a little more bottom end grunt if I was using the deck on the upstairs (Quad/Kelly set up) where the sound is more intimate and the mid-band already more accessible.

I can only recommend that you bear in mind the performance of your system when auditioning this deck and choose the accompanying arm with that in mind.

Whichever choice you make it will prove, I think, very musically satisfying and worth every penny.

MEASURED PERFORMANCE

The Vector jockey-pulley system used by Funk Firm radically reduces basic rate wow at 0.55Hz (33rpm) and the Vector V turntable benefited enormously, exhibiting little wow. It will have the rock solid tonal stability of a Direct Drives, avoiding the slightly vague-pitch quality of a typical belt drive. Our analysis does also reveal a small but discrete wow

component at 5Hz, but this is at low level.

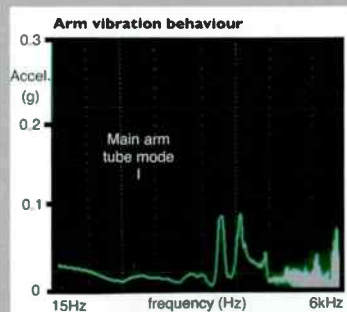
The 33rpm speed adjustment screw was difficult to locate with a screwdriver but once engaged speed adjustment (which is coarse) was able to get the Vector right onto correct speed, so there's no recorded speed error in our figures.

Both arms measured well too, a Bruel&Kjaer accelerometer attached to the F5 head shell showing an almost complete absence of the usual tube mode at, or close to, 200Hz. There were only a few higher pipe ringing resonances around 1kHz, but all arms suffer this sort of thing - and usually at a higher level. The headshell looks clean, suggesting treble will sound well defined and muddle free. Headshells often ring quite strongly above 1kHz, exhibiting multiple resonant modes, but the Vector arm avoided this.

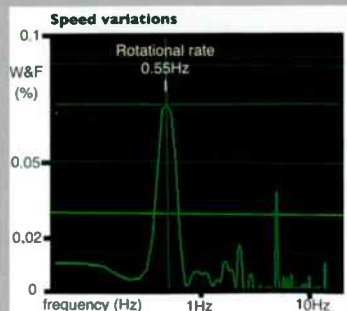
In all then, although the Vector V turntable is fiddly to set up, requiring a lot of user input, once up and running it works very well, measurement shows, rather better than most rivals. **NK**

wow **0.12%**
Flutter **0.04%**
Total W&F, wtd **0.08%**
Speed **adjustable**

ARM VIBRATION



WOW & FLUTTER



FUNK FIRM
VECTOR V
TURNTABLE £1500
F6.5 ARM £470
F5 ARM £700



OUTSTANDING - amongst the best

VERDICT

a neutral sounding deck that allows the purchaser to tailor the sound to their preference with a choice of arms.

FOR

- excellent timing
- wide, detailed soundstage
- attractive styling

AGAINST

- fiddly to set up but worth the perseverance

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Musically Transfigured

Tony Bolton enjoys the updated Transfiguration Axia MC cartridge, hand crafted in Japan.

The Transfiguration brand of moving coil cartridges, made by Immutable Music of Japan, have recently signed a new distribution deal in the UK and are now imported by County Durham-based Decent Audio.

This has coincided with the release of new versions of all three cartridges in their range; the £1375 Axia S (under review here), the Phoenix S, priced at £1995 and the range-topping £2995 Proteus.

The Axia S, like its siblings, has a body made of machined, solid aluminium. Within this are two magnets arranged in a yokeless, double ring configuration which results in the 5N silver coils being positioned inside the magnets. This model boasts a samarium cobalt magnet at the front and a neodymium one at the back. The cantilever is made of 0.3mm diameter solid boron and is tipped with a 3 x 30µm stylus.

Installation of the cartridge was easy due to the square edges to the body and the cantilever being easily visible where it sticks out of the

front of the cartridge. I set the tracking force on the Clearaudio Magnify arm to the recommended 2g and started listening.

The instructions recommend 30 hours of running in time and although I understood that this had already been done, I felt that the sound benefitted from a few hours more. I then started tweaking the set up a bit, finding that this cartridge proved to be very sensitive to fine tuning of both the tracking force and the SRA (stylus rake angle). Very small changes had the ability to change violin sounds from being on the edge of shrieking at me to being a correctly-toned rendition of a bow sliding across a string. Once I was satisfied with my fettle of the set-up I

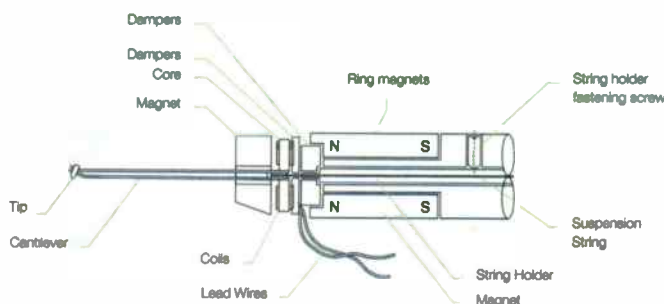
spent a few very pleasant evenings exploring my record collection before settling down to do more intensive and focussed listening. I also tried it on the SME M2-9R which is currently gracing the Master Solution and found a similar sonic response with both arms.

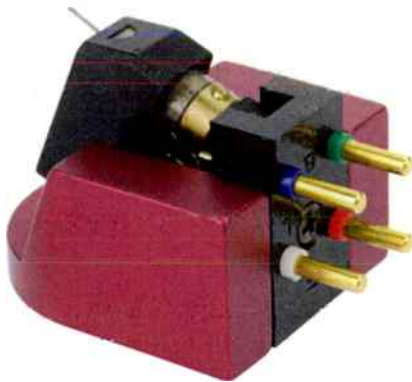
I started off with a 1968 stereo pressing of Smokey Robinson and the Miracles 'Greatest Hits'. This record, like a lot of my collection, was acquired by me second-hand and had obviously been enjoyed, but reasonably cared for, by the previous owner; it displays odd moments of groove damage when played with most cartridges. I was pleased to discover that the Axia S seemed to ignore this and get on with the task of reproducing the music held in the grooves rather than the condition of the groove walls themselves.

Smokey's distinctive voice was placed very firmly in front of me with the band placed around and behind



This diagram shows the internal layout of the Axia S cartridge. The unusual arrangement of the magnets can be seen.





The square edges and easily visible cantilever make installing and aligning this cartridge an easy task.

him on a quite expansive soundstage. Each of the musicians was clearly visible in my mind's eye and I enjoyed this almost panoramic display of the band at work. The dance-able rhythms of such Soul classics as 'Shop Around' and the melancholy of 'The Tracks Of My Tears' flowed out of the Ursa Majors quite effortlessly.

After this I put on Dave Brubeck's 'Time Out' LP. This is a near mint American stereo second pressing and I quickly found myself immersed in an exploration of Brubeck's unusual time signatures. All were delivered to my ears with aplomb and an easy-going flow that helped me to forget about listening to the cartridge and to focus on the tunes being played instead, which is surely the object of the whole exercise.

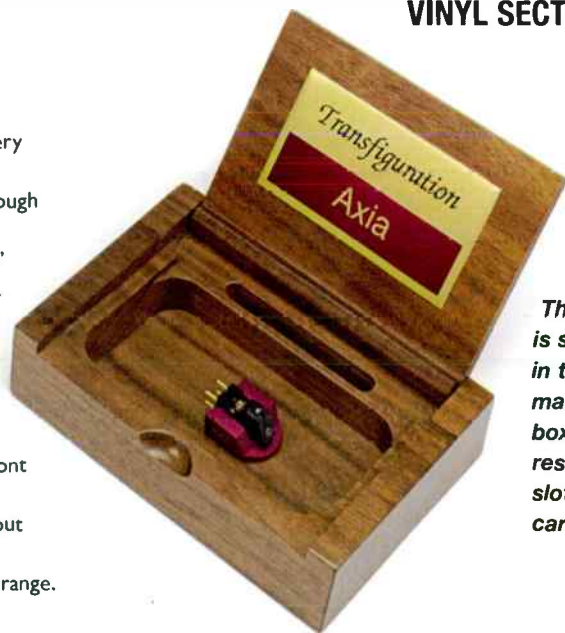
My next musical stop was with Bach's 'Brandenburg Concertos' led by Yehudi Menuhin. No. 3 is a particular favourite and will be known to most readers as the one-time theme tune for Antiques Roadshow. The opening Allegro movement skipped along in a precise manner with the various elements of the Bath Festival Orchestra being presented in, I would say, a tonally correct manner. Cellos had resonance without gruffness and the aforementioned violins soared

high and clear. In short it was very enjoyable.

I finished off with a trip through 'The Ultraworld' with the Orb, floating past 'Little Fluffy Clouds' and greeting a 'Perpetual Dawn'. This mixture of samples and synthesizers made full use of the staging area in front of me with sound either hanging in space or moving gracefully across the room in front of me. The seismic bass in these tracks was well portrayed without any perceptible crowding of the music further up the frequency range.

I have thoroughly enjoyed listening to this cartridge. It seems to display impeccable manners, even when provoked with records that have been mistreated during their lives, leaving the listener firmly focussed on the music before all else. A foray into grand opera during my early listening showed that this cartridge can display grandiose scale when required but can also do intimate with the same finesse.

At £1375 it is not cheap but the performance seems to be worth the money and at this price I cannot really find anything to fault. It does not seem to be genre dependent



The Axia S is supplied in this nicely made wooden box. The tools reside in the slot behind the cartridge.

to give its best, and sounded tonally consistent on both the arms that I used. As such, it comes highly recommended and will, I am sure, provide a great many hours of listening pleasure to any purchaser.

SYSTEM USED

Clearaudio Master Solution turntable. Magnify arm and SME M2-9R arm. Leema Acoustics Agena phono stage and Tucana II amplifier. Chario Ursa Major loudspeakers.

MUSIC USED

J. S. Bach. 'The Six Brandenburg Concertos' Yehudi Menuhin. The Bath Festival Orchestra. EMI Records Ltd. (HMV). SXDW 3054. 1959.

Dave Brubeck Quartet. 'Time Out'. Columbia Records. CS 8192. 1959.

Smokey Robinson and the Miracles. 'Greatest Hits.' Tamla Motown Records. STML 11072. 1968.

The Orb. 'Adventures Beyond The Ultraworld.' BIG Life Records. LC 0407. 1991.

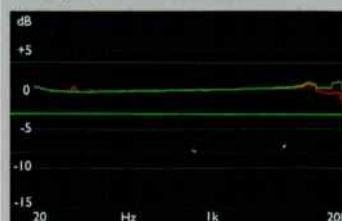
MEASURED PERFORMANCE

I first tested this cartridge in our October 07 issue. The new Axia tracked very well at its recommended 2gms downforce, clearing torture tracks at 300Hz and 1kHz, if with a smidgen of mistracking that VTF increase to 2.2gms, the maximum recommended, suppressed. This is a very good result that will translate to a confident, stable delivery of vocals in particular. This new Axia is up with the best in this area, like the '07 sample, and should sound confident in the groove.

Lateral tracing distortion was very low, vertical distortion was again high at 5%, mainly second harmonic, due to a high Vertical Tracking Angle of 30degrees. This may colour left and right images a little. Output was low at 0.42mV at 5cms/sec rms, so a quiet MC phono stage is needed.

Our frequency analysis trace of the

FREQUENCY RESPONSE



07 sample showed strongly rising treble above 8kHz, enough to give quite a sting to the sound from LPs with strong treble energy on them. The new sample Axia measured flat, however, as our analysis shows, so it will sound tonally balanced, accurate and sting-free. Tracing loss was minimal on inner grooves (red trace), indicating a quality stylus.

This new sample Axia measured well. It is now more tonally accurate than earlier samples and gives fine results in all areas, except for a high VTA that produces some Left and Right image distortion. Subjectively, however, this effect is difficult to detect so is not a major issue. **NK**

Tracking force	1.7-2.2gms
Weight	7 gms
Vertical tracking angle	30degrees
Frequency response	20Hz - 12kHz
Channel separation	23dB
Tracking ability (300Hz)	
lateral	88µm
vertical	45µm
lateral (1kHz)	25cms/sec.
Distortion (45µm)	
lateral	0.7%
vertical	5%
Output (5cms/sec rms)	0.42mV



The Ogura PA stylus has dimensions of 3 x 30µm and is attached to a 0.3mm solid boron cantilever.

TANSFIGURATION AXIA S MC CARTRIDGE £1375



OUTSTANDING - amongst the best

VALUE - keenly priced

VERDICT
smooth and well-balanced sound

FOR
- good vocal projection
- excellent surface noise control
- wide and deep soundstage

AGAINST
- takes a bit of tweaking to get it to sing

Decent Audio
+44 (0) 5602 054669
www.decentaudio.co.uk

Mono mail

'The Beatles in Mono' vinyl box set letters

For other mail - see page 27

MOBILE FIDELITY BOX SET

Like many, I read with interest your review of the new 'The Beatles in Mono' box set. In particular, the fact that the original Abbey Road studio master tapes were used for mastering. Some time ago, when you featured the release of the then-new stereo boxed set which used, controversially, digital transfers, you published my letter expressing my reservations about digitalising this iconic music.

I mentioned my ownership of the Mobile Fidelity boxed set of the early 1980s, which were indeed produced from the original master tapes – and how impressive and authentic I considered the sound to be. From memory, I believe it was your contributor Paul Rigby, who commented that he can recall hearing this boxed set but felt, somewhat surprisingly, that the digitalised version was superior.

This is all of course subjective and therefore fair comment. However, further comment was made casting doubt as to whether, despite their claim to the contrary Mobile Fidelity did indeed have access to the original Abbey Road tapes.

Bringing matters up to date, in the concluding summary of your review of the mono set on page 89 of your October issue, you feature previous Beatles boxed sets issued over the years with 'For' and 'Against' comments for each of them. This time you definitively state that 'Against' the Mobile Fidelity set, was as follows. "Not from Abbey Road Master Tapes." This is a statement of fact, not an opinion, and contradicts the company's claim which in most cases, probably forms the basis from which most MF customers bought not just this boxed set but just about every product they have ever produced, spanning many decades! As a result, I contacted Mobile Fidelity and their response can be read below:

"Thank you for your email. I spoke with Michael Grantham who let me know that we did indeed use the original stereo analogue master tapes from Abbey Road Studios. He personally

carried most of them back and forth between California and the UK in 1982. And it is one of the last times these analogue masters were let out of that studio to be worked on. Is the For and Against listing in a print issue or can I find it in the link you have provided? Thank you for the heads up on this by the way".

**Customer Service,
Mobile Fidelity
Sound Lab.
Chicago, USA.**

regards,
Clive Kerr.

Hi Clive. Very interesting. I was told that the master tapes had never left Abbey Road, at least in the knowledge of the person speaking. However, over the period I have worked with Abbey Road, from the early 1980s when Brian Southall ran the operation and Maggie Russell headed up PR, there have been many personnel changes, so perhaps this was not correct. Knowledge departs with the people holding it – and it has been a long time.

I am surprised that the original masters were physically carried; usually transfer masters were made for this purpose. The original masters have always been of immense value since The Beatles went global immediately. If Mobile Fidelity state they did have the original masters, and not transfer masters as is likely, then we will publish this claim. I will contact Michael Grantham. **NK**

Michael Grantham of Mobile Fidelity Sound Lab (MFSL) writes:

A colleague of mine passed along some



The Mobile Fidelity Beatles stereo box set was also taken from the master tapes, says Clive Kerr, so your statement that it wasn't contradicts their claims.

recent e-mails re: the accessibility of original first-generation analog two-track stereo (UK versions) Beatles masters and Mobile Fidelity Sound Lab (MFSL).

Having been lucky enough to be in the position at MFSL, starting in 1980, to hand-carry most of these reels from Abbey Road to our mastering studios, which were in southern California at the time, I am happy to give you a little background.

When I joined MFSL, they had already licensed and accessed master reels via EMI from the Abbey Road vaults on three Beatles titles, Pink Floyd's Dark Side of the Moon, Queen's A Night At The Opera and Gerry Rafferty's City To City. This arrangement had been made after assurances were given to EMI executives Bhaskar Menon and Rupert Perry, who were satisfied, and after MFSL obtained a million dollar per-title insurance policy.

A limited quantity of reels per-trip (usually no more than six) were either personally picked up at Abbey Road by an MFSL executive (either myself or our president Herb Belkin) or, in one or two cases, a bonded courier service was used.

Sometime after MFSL had released all the EMI UK titles they desired, a change in this policy was established to no longer let tapes out of Abbey Road for any third-party work.

I can personally attest to making at least six trips over myself and working with Ken Townsend, the then GM (general manager) of Abbey Road in filling out a lot of paperwork and then picking up Beatles, Pink Floyd and John Lennon masters on a regular basis, over a 5-6 year period at least.

I hope this helps in clarification.

Sincerely,

Michael Grantham
Managing Director
A&R / Licensing
Mobile Fidelity Sound Lab



Abbey Road Studios released master tapes "after Mobile Fidelity obtained a million dollar per-title insurance policy", Michael Grantham, Managing Director A&R/Licensing, tells us.

Thanks for that Michael. It is a fascinating piece of information. I was told by Abbey Road that transfer masters were used in the past but the conversation did not relate specifically to Mobile Fidelity, so much as security and transfer of master tapes generally. Whatever, this does mean the Mobile Fidelity LPs were truly from original analogue masters, an interesting fact.

Next up is the equalisation applied by Mobile Fidelity, disc cutting e.q. and vinyl quality! **NK**

MFSL's Beatles Boxed Set went on sale in 1984, so it's been a while and I'm not 100% sure about the approach taken by our cutting engineer at that time re: EQ and such. All Beatles titles were mastered by Stan Ricker, who is semi-retired in southern California. As I remember, most were cut pretty flat. They were well recorded and mixed from album one. It was fascinating to hear them evolve from two-track mono/vocals hard-left, all instruments hard-right on the early ones to better and better stereo separation and experimentations as they grew as artists.

Funny we didn't even think to check out the mono mixes. As an audiophile label I think we were stuck in a stereo mindset at that time. Until the reels for Sinatra's Songs For Swingin' Lovers arrived and we realized how wonderful a great monaural recording could be.

All were pressed on virgin vinyl by JVC at their plant in Yokohama. Incredible pressings indeed and a shame that they decided to suspend pressing all LPs in the early 90s. We tried to persuade them to keep one press running in Japan or consider moving one or more presses to one

of their US locations, with MFSL partnering to support future output, but to no avail. End of a unique era. Good luck,

Michael Grantham

Wonderful stuff, Michael. Thank you so much for your insights. **NK**

THE BEATLES IN STEREO

I have always greatly enjoyed the level of insight and debate in the pages of *Hi-Fi World* that make the magazine such a great read. However, I am less sure about the obsessive attention being given to the latest Beatles in Mono release which seems to indicate that all our previous Beatles recordings are now totally redundant and we must find another £300 for the new mono box set, apart from adding a dedicated mono cartridge to our systems. Even then, we will be missing Abbey Road and Let it Be.

I own an original early mono pressing I was given of *With the Beatles* which looks like it might destroy my stylus and I admit it does sound amazingly fresh and immediate despite

the surface noise and lack of bass.

I had previously collected the Beatles on vinyl second-hand, mainly mid-1970s stereo pressings, but always craved the stereo vinyl box set which I purchased recently. I have found the quality of the LPs excellent, heavyweight, flat pressings and super sound quality which has brought back the bass parts that Abbey Road engineers previously prohibited. Yes, the stereo separation is of its time with Ringo bashing away in the left corner of my room on early tracks but that was the way it was and makes it authentic; I also have a live Dave Brubeck LP from 1958 where Brubeck and Paul Desmond are totally separated.

So feeling slightly piqued by the back to mono Beatles brigade, I revisited the Paul Rigby review of the 2012 Beatles stereo vinyl set. I was glad to see that Paul had given the LPs an enthusiastic and positive review and saw the use of the high-resolution digital copies used as beneficial to the final pressings. Sadly, I am unable to justify another £300 for the mono set so will make do with stereo on my Rega P9,



The Beatles stereo box set, reviewed by Paul Rigby in *Hi-Fi World*, February 2013 issue. It was derived from a 2005 24/192 digital transfer-master tape.

Croft, Audionote ANE system. Not as iconic as a Dansette but certainly very enjoyable.
Kind Regards
Mark Armitage

Hi Mark. The stereo box set was very good – and you get Abbey Road of course, arguably their finest album. I have the stereos too (1980s factory samples from Abbey Road studios) and I'm not overwhelmed by differences in mixing between them and the monos, even if the monos were artistically definitive. The new monos have been so well transcribed from the original master tapes that they sound superb, however, and of course there's no 2005 digital in there as a permanent stain on authenticity. They are as good as it gets and some of the early performances on Mono Masters are breathtaking. But let's see – Christmas is coming up, so you can start making hints! **NK**

BEATLES MONO BOX SET

People must be sick of reading about The Beatles Mono box set at this stage. I bought the set! All I can say is that the meticulous comments about the box were absolutely spot on and, really, it is an absolute revelation from start to finish.

Every album has a freshness and aliveness that makes you feel you're listening to the boys performing from that legendary place The Cavern, warts and all. They are so much in the room with you it's uncanny, especially on the early albums up to Rubber Soul. The rest still sound amazing despite the azimuth issues pointed out by Noel and glory of glories, the White album sounds positively Neanderthal thus trouncing any other version by a mile.

I have never heard such non-audiophile LPs sound so much like live music, thus giving a lie to supposed audiophile editions of any music. It's a testament to the boys and George Martin especially what they achieved in the hallowed halls of Abbey Road using the most basic equipment imaginable. In my opinion that's always the best way because you short circuit straight to the most alive sound you can achieve. And that's exactly what you have here!

So I'll end off by thanking all the important people for getting this historical artefact released, simply because the old way of doing things actually sounds better than the modern way. Also a big thanks to Noel, Paul and the rest of the guys in HFW for a wonderful series on the Mono box

this few issues. And for inspiring me to go out and buy all the albums in one go. I'll tell you one thing: if like me, you're not sure about whether to buy them separately or in one go, you'll definitely be back the next day to buy the rest when you hear how good they sound!

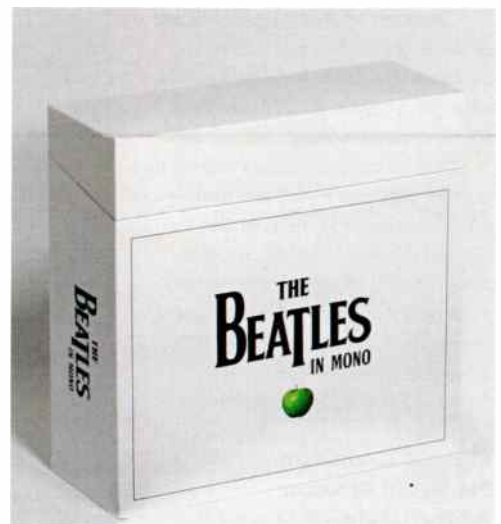
Finally, I have to say, that I now respect enormously what the boys achieved in that hallowed studio and, even though I appreciated and loved their music from all their phases, I was never a massive fan. I am now...and this time I have the goods to prove it. As recommended as they come and definitely the BEST purchase I've ever gone ahead with...
Best,
Dermot Bell
Eire

NOT TANNOYS - ALTECS!

As wonderful as the Tannoy Gold speakers are, Tannoys were not used for tracking or mixing any of The Beatles records at EMI Studios until the last album Abbey Road. The experts here are Kehew and Ryan. In their book "Recording the Beatles" they are quite adamant on this point. In fact, they even identify the exact loudspeaker unit used: Altec 605A#3; which was the right-hand loudspeaker in Studio 2 for most of the nineteen-sixties (for mono work, only the right-hand loudspeaker of the pair was used).

I've attached a couple of pictures from the Altec catalogue which illustrate the Altec (Utility) cabinets for the 605A drive-units. These images match many pictures of The Beatles using the Altecs in the control-room of Studio 2. (I've attached some examples of these but they aren't cleared for use - I don't know their provenance, they're just research shots of my own).

For the album Abbey Road, which was recorded in a revamped control-room with the new TG12345



The Beatles in Mono box set. "I bought the set...it is an absolute revelation from start to finish", says Dermot Bell.

console, the standard monitoring set-up did include the new Tannoy Gold loudspeakers.

Modern (Thiele-Small) analysis of the Altecs in the Utility cabinet demonstrates that – in order to achieve the best alignment – the bass response was considerably attenuated at the driver resonant frequency by tuning the bass-reflex port rather high. This maybe why the classical balance engineers preferred alternative speakers for monitoring. Certainly the Altec speakers are limited in both the bass and the treble regions. I've heard replicas and they really do sound quite "cuppy"

PLAIN BACK and speech-input equipment for recording and broadcast studios

605A DUPLEX SPEAKER SYSTEM

The 605A Duplex Loudspeaker is a compact, recessed two-way speaker system employing a multi-driver high frequency driver. It is designed particularly to confer upon recording studios the best quality reproduction in the most realistic, clear or spacious sounding location, providing warm, smooth, natural sound reproduction for listening and any other "critical" application which requires a high performance floor or wall mount.

Recommended cabinets are 4 to 5 cubic feet each as the 604A, 605A and 612 and 603-6050 systems described elsewhere.

TECHNICAL SPECIFICATIONS

Frequency Response	30 watts (200 watts peak)	LF VOICE COIL	8" diameter motor with 1" LF driver
Impedance	16 ohms (8 ohms, guaranteed)	LF CONE	1.8" dia. 1.5" long
Construction	100% steel, 100% aluminum, 100% copper	LF CONE WEIGHT	2.5 lbs. 10mm x
Dimensions	10" dia. 10" high	LF CONE SURFACE AREA	100 sq. in. 10mm x
Weight	10 lbs. 10mm x	LF CONE SURFACE AREA	100 sq. in. 10mm x
Power Requirements	100% steel, 100% aluminum, 100% copper	LF CONE SURFACE AREA	100 sq. in. 10mm x
LF Driver	100% steel, 100% aluminum, 100% copper	LF CONE SURFACE AREA	100 sq. in. 10mm x
LF Driver	100% steel, 100% aluminum, 100% copper	LF CONE SURFACE AREA	100 sq. in. 10mm x
LF Driver	100% steel, 100% aluminum, 100% copper	LF CONE SURFACE AREA	100 sq. in. 10mm x

*Standard to I.E.C. rating 50 db at 20 ft. 1 watt

605B

The 605B is a 10" x 10" x 10" cabinet with 10" x 10" drivers. It is designed for use in recording studios and broadcast studios.

TECHNICAL SPECIFICATIONS

Frequency Response	30 watts (200 watts peak)	LF VOICE COIL	8" diameter motor with 1" LF driver
Impedance	16 ohms (8 ohms, guaranteed)	LF CONE	1.8" dia. 1.5" long
Construction	100% steel, 100% aluminum, 100% copper	LF CONE WEIGHT	2.5 lbs. 10mm x
Dimensions	10" dia. 10" high	LF CONE SURFACE AREA	100 sq. in. 10mm x
Weight	10 lbs. 10mm x	LF CONE SURFACE AREA	100 sq. in. 10mm x
Power Requirements	100% steel, 100% aluminum, 100% copper	LF CONE SURFACE AREA	100 sq. in. 10mm x
LF Driver	100% steel, 100% aluminum, 100% copper	LF CONE SURFACE AREA	100 sq. in. 10mm x
LF Driver	100% steel, 100% aluminum, 100% copper	LF CONE SURFACE AREA	100 sq. in. 10mm x
LF Driver	100% steel, 100% aluminum, 100% copper	LF CONE SURFACE AREA	100 sq. in. 10mm x

*Standard to I.E.C. rating 50 db at 20 ft. 1 watt

605C

The 605C is a 10" x 10" x 10" cabinet with 10" x 10" drivers. It is designed for use in recording studios and broadcast studios.

TECHNICAL SPECIFICATIONS

Frequency Response	30 watts (200 watts peak)	LF VOICE COIL	8" diameter motor with 1" LF driver
Impedance	16 ohms (8 ohms, guaranteed)	LF CONE	1.8" dia. 1.5" long
Construction	100% steel, 100% aluminum, 100% copper	LF CONE WEIGHT	2.5 lbs. 10mm x
Dimensions	10" dia. 10" high	LF CONE SURFACE AREA	100 sq. in. 10mm x
Weight	10 lbs. 10mm x	LF CONE SURFACE AREA	100 sq. in. 10mm x
Power Requirements	100% steel, 100% aluminum, 100% copper	LF CONE SURFACE AREA	100 sq. in. 10mm x
LF Driver	100% steel, 100% aluminum, 100% copper	LF CONE SURFACE AREA	100 sq. in. 10mm x
LF Driver	100% steel, 100% aluminum, 100% copper	LF CONE SURFACE AREA	100 sq. in. 10mm x
LF Driver	100% steel, 100% aluminum, 100% copper	LF CONE SURFACE AREA	100 sq. in. 10mm x

*Standard to I.E.C. rating 50 db at 20 ft. 1 watt

ALTEC LANSING CORPORATION

and it was EMI's classical engineers who campaigned for the Altecs to be replaced by Tannoys.

Interestingly however, it is reported by Kehew and Ryan that Geoff Emerick

often wheeled the Altec speakers into the control room during the sessions and the mix of Abbey Road because the engineers better trusted the old, limited speakers they knew. There is a general belief amongst the EMI recording staff of the sixties that the limitations of the Altecs forced the engineers to work hard to get a good sound and that this translated well to the radio and to record-players of that time.

All the best,

Richard Brice

Reference: Kehew, B and Ryan, K. (2008) Recording the Beatles, Curvebender Publishing.

MONO MISTAKE

I bought my September 2014 issue of Hi-Fi World as usual from W H Smith. When I got it home, I thought that I had mistakenly picked up a copy of a Beatles Fan Club magazine. But on closer inspection I did find a little information about hi-fi.

How many readers are really interested in so much about the Beatles, especially as we had already had more than enough about the new box sets in the last two or three issues? I see that a Beatles fan writing in the letters column thinks that only mono releases were important in 1964 and a few years later. That may have been true for purchasers of the Beatles kind of material but those of us with tastes such as classical or orchestral music and jazz were already preferring the more realistic sound of stereo rather than the manufactured sound of rock and roll.

This brings me to my serious question. What is the point of the new one (or two) speed turntables with a fixed arm with a fixed head? These can only be used to play 33 rpm or 45 rpm records that are in stereo. I note that Tony Bolton plays mono LP records on such turntables as part of his review. What does that tell us about the turntable and cartridge and, indeed, about Tony Bolton?

A stereo stylus reaches down into the bottom of a mono groove where it encounters any rubbish that might have accumulated. To play mono LPs one needs a proper mono cartridge with the appropriate stylus, but if you have one, who is going to the trouble of replacing a stereo cartridge with a mono one on a turntable every time one wants to play a different type of record?



If you want to play 78s, as well as all else, use a Garrard 401, Noel suggests. An SME arm with removable headshells housing 78rpm and/or mono cartridges can be used too.

The situation is even worse for those of us that still play 78rpm records. There are a few turntables that offer 78rpm in addition to 33/45 but only with a complicated change-over routine. And how does one use the correct 78 stylus when the head is fixed? Unlike your correspondent from Portugal, there are few of us with the financial resources and the space to house two or even three turntables. I use a good quality three-speed turntable with interchangeable heads and a selection of cartridges and styluses and I get results that have long made me realise that CDs are generally sonically inferior to 78s or LPs.

I see that we are to be subjected to even more about the fatuous (that's not a spelling error) four in next month's issue. How will those mono LPs be auditioned? With a high grade mono cartridge and stylus or will it be with something more in keeping with the stereo cartridge and stylus that most Beatles fans will be using, assuming that they still play "vinyl"?

Sincerely,

**George Hulme
Hampshire**

Hi George. You identify the problem that I warned Abbey Road about: old mono LPs had wider grooves than later stereos, so anyone attempting to get the best from the new Beatles mono LPs by playing them with an 'old' mono cartridge would damage them. Hence Ortofon's dedicated 2M Mono SE cartridge, a high-performance design specifically for this album set, or any modern microgroove monos. We played these LPs with a 2M Mono SE and a stereo moving coil, the Ortofon Cadenza Bronze, via an Icon Audio PS3 phono stage with mono switch.

Like you, I use a three-speed

turntable, a Garrard 401, with a removable headshell SME 3012S, and this allows me to cope with just about any situation, as well as enjoy music – including those Beatles LPs of course! **NK**

Hi George. I agree with you that if a mono record is going to be reproduced at its best then playing it with a stereo cartridge is not necessarily the most suitable method, but I am also aware of the fact that there are a lot of readers who have a few mono records in their otherwise stereo record collections, but who do not have the option of changing to a cartridge that is optimised for this format. I therefore use mono records in a stereo cartridge or turntable review so that I can advise those who wish to know whether or not the stereo cartridge or deck in question will produce an acceptable performance from these records.

I agree that the stereo needle will ride lower in the mono record groove, but since any record, mono, stereo or standard groove, that goes near my turntables has been through a vacuum cleaning machine, I do not consider this to be such a problem as it would be when playing uncleaned records. **TB**

ZERO TO HERO

Is it possible to go from zero to hero in just a few months? Well I am here to tell you that it is. You may remember from a previous letter that I am now the owner of some free second-hand hi-fi and am enjoying music properly, as in no distractions, and getting a lot more from it than just background entertainment.

Well since then I have heard a variety of music, some loaned from

friends who no longer seem that interested in physical discs and so don't mind sending them in my direction – and I am also reading a work colleague's copy of *Hi-Fi World*.

Well – and this may sound crazy for someone who up until very recently used to use music as an accompaniment to vacuuming the carpets – as I write this I am around eight days away from having *The Beatles* in Mono vinyl box set sent to me. £288.00 of records that quite frankly six months ago would have passed me by completely. I thought excitement and anticipation were the preserve, by and large, of the very young, or at least young-ish, but it is not so.

September 8 is but nine days away.

Regards,

Michael Broadbent.

Hi Michael. September the 8th is now long gone so I hope you are as happy as a pig in doo-doo. **NK**

VINYL SECTION LETTERS

WHY NO REGA?

Why is it you reviewed just about every Ortofon Cartridge there is but no Rega cartridges? I know Ortofon have just produced two new ranges, which I am glad to see, but I have never seen any reviews for the Bias, Super Bias, RB 78, Elys, Super Elys, Exact. Please forgive me if they have been reviewed many moons ago, as I know these are fairly old and I have only been into hi-fi for the past three years.

Where can I get high-quality silver wire - the type used for internal wiring of a passive preamp which I am building?

When are you going to review Rega's new Apheta MC cartridges or the new P3 TT - as you've probably realised I am a P3 owner with a Goldring 1042 which has loads of hours on it, and I'm looking for a replacement and I don't want to mess about with VTA. Any answers or suggestions would be a great help.

Jezz Price

Hi Jezz. For the wire that you require I would recommend contacting The Missing Link on +44 (0) 1623 844478 or www.the-missing-link.net. Mark Sears sources his own silver ore, chosen for its specific chemical fingerprint, and has it smelted into bullion. It is then drawn into wire and coated in Teflon. Various weights and grades of cable are available, I suggest you contact them for more information.

During my seven year tenure at Hi-Fi World I have reviewed one Rega cartridge, the £35 Carbon MM in the October 2013 issue. As you say, the cartridges that you mention are quite venerable designs now and may well have been covered before I joined the magazine.

Regarding your need for a replacement cartridge, you do not mention a budget for this so I am assuming that you would be willing to spend up to around the cost of a new Goldring 1042, currently listed as £285. The simplest answer would be to buy a new one, or replace the stylus for £185, provided that the cartridge itself is in good condition. It is distributed by Armour Home Electronics; see below for their contact details.

I reviewed the Grado Reference Platinum cartridge for another magazine a number of years ago. It is priced at £265. I recall it having the sort of strong bass output that you would be familiar with from the Goldring, accompanied by a very smooth and detailed midband. It is also distributed in the UK by Armour Home Electronics. Telephone +44 (0) 1279 501111, or visit www.gradolabs.com.

If you fancy a change then the Ortofon 2M Bronze is £295. Noel reviewed this in the November 2007 issue, describing it as "highly detailed and insightful", but that the "bass comes across as light but tight." The Goldring 1042 has quite a big bass sound so you may find the 2M Bronze provides a very different take on the sound of your records. Telephone +44 (0) 1235 511166 or visit www.henleydesigns.co.uk. **TB**

THORENS ADVICE

I have just acquired a Thorens TD125 Mk2 and remembered an article that you had published on rebuilding and tweaking so I dug it out from the pile of magazines that I have kept, it is the December 2005 edition.

In the article you recommend that the inner drive hub is filled with expanded polystyrene. You state "let the polystyrene dry out overnight" implying that it starts out in a wet, liquid or foam form. I have tried my very best to investigate this, but cannot seem to find anything like it or anywhere to buy such a thing. Could you please provide me with some more information.

Thanks in advance,

Frank Weston

Hi Frank. Unfortunately I do not have the article you mention but over the years I have tried various tweaks on my Thorens TD150s and a TD160, both of which use a similar design of platter and similar suspension, so I am basing this reply on that experience.

The only type of expanded polystyrene that I can think would be useful in this context would be the expanding foam, available from most DIY stores and builders merchants. This comes in a can and is sprayed through a nozzle to fill a space in stud walls and the like. Personally I would be a bit wary of such a product. It is very messy to use if not sprayed into a totally sealed space and very difficult to remove if you do not like the effect that it has upon the sound. I am happy to try these things, provided that there is the opportunity to remove them without trace, or damage to the deck.

I have had very good results using the bitumastic sound deadening panels used in car bodywork, such as doors and floors. They are about 3mm thick and are usually sticky backed on one side so fitting is quite easy, and if you do not like the resultant sound, they are also very easy to peel off, returning your deck to its original condition. They are available from good car accessory shops.

Any addition to the mass of the platter will affect the way the suspension of the 150, 160 and 125 decks responds, so the suspension will need rebalancing before the deck is used again. There are various sources of advice for this on the internet. The advice provided by www.theanaloguedept.com has lots of photographs and seems quite comprehensive and there are various YouTube films showing similar things. I would advise reading several different sources of instruction before attempting this yourself, and be prepared to exercise a great deal of patience. Setting the suspension on one of these decks is a job that can proceed very easily or can drive you to the point of near insanity. Good lighting and plenty of clear space are required along with a fairly minimal toolkit of suitably sized spanners and a couple of screwdrivers.

Should you want more direct advice on this matter, or feel uncomfortable tackling this yourself then I would recommend contacting Vinyl Passion who specialise in attending to all suspended subchassis designs of turntable. (www.vinylpassion.com). **TB**

free reader Classifieds

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GRADO 325 headphones, £100 ono, A&R T21 FM tuner, £30 ono. Tel: 01743 245 888

AVI LOUDSPEAKERS for sale. Floor standing, cherry finish, cost £1000 new, excellent sound, 30" high, can demonstrate, £400. Tel: Doug 07940 704 570 or 01634 924 144 (North Kent)

ARMMSTRONG 626 receiver, £45. Philips 104 CD, mint, boxed, £70. Grundig 5XV 600, A5000 pre/power, 120wpc, £200. Quad 66 CD, £150. QED A2305 amplifier, mint £80. DCC tapes. Tel: 01708 457 691

YAMAHA RX-A2020 AV Receiver, 9.2 channels, black, £400. Tel: 01625 433 996

ZEROSTAT ANTI-STATIC pistol, white, original boxed, £26. Includes postage packaging. Also Sansui SP 1001 3 way speakers, floorstanders, walnut cabinets, wood grills, very good condition, £120. Demonstration. Collection only. Tel: Derreck 01455 220 214 (near Coventry)

CLASSIC HI-FI - Rega Planar-2, 1980, rosewood plinth. New RB251 arm, Ortofon 2M Red, drive belt, cork mat, all new last 6 months. £190 ono. Tel: 0151 334 5085

GRAHAM SLEE Project Elevator EXP moving coil step-up with PSU-1. Upgraded power supply. Mint condition with packaging. Current model. £325. Tel: Mark 07815 449 602 or Email: mdevoyr@yahoo.co.uk

PRO-JECT CARBON Esprit, Goldring 1042, Graham Slee Gram amp 2SE and PSU 1. Cost £1200. All mint with few hours. Meridian 557 and Audiolab CDQ also available. Tel: Phil 07973 426 291

ARCAM NEO Solo, mint, boxed, about 18 months old. £650. Tel: 01243 574 828

ARCAM ALPHA One CD player. No remote. £40. Quad FM1, untested, £35. Audio Note 5 tier equipment stand, 10mm glass shelves, piano black finish, £90. Tel: 01722 334 694 or 07979 705 644 (Salisbury)

FOR SALE: Bought Orbe, I use SME Series IV-D, hence Techno arm 'A' and VTA adjuster for sale. New, un-used, £450. Tel: 01505 346 791 (Renfrewshire)

LINN LP12 Sondek, heavy mahogany plinth with oak cone feet and new lid. SME Series III-5 pickup and acoustic platter mat. Serviced and set up by mechanical engineer. £750. Tel: 01277 219 639 (Essex)

PS AUDIO GCC Class 'D' stereo amplifier, remote control, original box, £400. Jolida JD102B, EL84 valves, 25 watts, integrated amplifier, The Rhythm King, £350. Tel: 020 8531 5979

TALON KHORUS X Mk2 reference quality, full range floorstanders in tigers eye maple. Deep, powerful and tuneful bass, rich transparent mids and detailed highs from supertweeter. Non fatiguing. Rarely seen for sale. £16k when new. £2950 ono. Tel: 07766 510 612 or Email: jcm131@hotmail.co.uk (Glasgow)

EDISON TWELVE £325, Snell K's £245, Kelvin Labs Class 'A' integrated £395, Dean Alto speakers £150, Leak Troughline (mono) mint - offers. Wanted: Elite Rock/Valdi turntable. Tel: 0113 255 9475

DENON DM39 DAB/CD/Receiver, black, mint condition. boxed, £155. Monitor Audio Vector 10 speakers, boxed, £110. Dali Zensor I speakers, black, unused, boxed, £150. Tel: 01943 467 859 (Yorkshire)

WANTED: Audio Research Amplifier SP8 or SP9 and a Lector CDP 0.6T CD Player. All equipment must be in very good condition and in very good working condition. Tel: Ray on 07708431963.

SONUS FABER Concertino speakers with Sonus Faber Piano Black fluted stands in excellent condition, with original boxes £550.00, Musical Fidelity X-Dac v3 £195, Pr 3mtr bespoke Silver High Breed Quintessence speaker cables, banana terminations, £75, Arcam DVI 137 DVD Player excellent condition £245 Tel Coventry 02476 679165 or davidhirst244@o2.co.uk

WANTED-Hi-Fi Choice issues from 1975 to 1987 and The Collection 1988/1989. Also Audio Research 5P8/5P9. Must be in very good condition/working order. Contact Ray on 07708431963.

MUSICAL FIDELITY A3.2 RDS tuner £295 Musical Fidelity A308CR CD player £695 Musical Fidelity A308CR pre-amplifier £695 All are as new condition owned by me from new. Less than 100 hours use. Pristine, unmarked c/w original boxes, remotes & instructions. Protected in an audio rack. Kept covered with a dust sheet. Smoke & pet free home. All are in the full silver finish. Mike (Cheshire) 07500 804700 michael.yates7@ntlworld.com

FOR SALE: pair of Celestion 5L700 speakers and stands in excellent condition £600 o.n.o. Contact David 01758 614380.

ARCAM rDAC-kw wireless with rWAVE for link to PC. Effectively as new, used for short trial only. Cambridge Audio Azur 840C CD Player (black). Very good condition - light usage, few times a year at holiday home only. West Yorkshire. Offers and more information: call 07717577576 or email lawzed@gmail.com

FOR SALE: Beolab 9 active loudspeakers in blue 700 watts per speaker plus cable if required £3000. Hi-Fi World 5 globe review. Collect and demo Mddx 01923829354.

POWER SUPPLY for Class A amplifiers, this is a self contained free standing unit, suits John Linsley Hood's 1969/1996 designs £299 or near offer accepted, price to include posting. Tel: 0207 499 8729.

QUAD 404 power amp in working order for sale. Offers to Rick on 07931 526 106. Pick up from South London.

LINN KARIK 3 and Numerik, excellent condition, one owner, both Slimline Brilliant SPS, little used since laser replaced by Linn. Complete with receipts, boxes, cables, manuals. £480 Richard 01865 881582

QUAD II Anniversary Amplifiers in Gold Written provenance these were the pair reviewed by "Stereophile" magazine. £2,750 ovno Full details via email to: womble0007@gmail.com

WANTED: STANDESIGN Audio equipment rack Model - 5T part of The Design series sloping central back column and shelves including floor spikes black MDF 5 - shelves must be in mint condition 'Very good price paid' contact E-Mail: fiskallen@aol.com

RUSS ANDREWS Ultra Purifier Block with Mega Clamp, Mains Zapperator Plus 8 Clarity mains modules installed, mint condition, RRP £1750 - £915 Tel: 01902 884694 Email: jukey39@yahoo.co.uk

WANTED QUAD 44 preamp grey with phono sockets, non workers considered. Contact Mike 01758 613790.

QUAD 22/2 AMPLIFICATION in genuinely outstanding condition. Original transformers, paintwork, chassis fittings. Nearly new, AVO tested, GEC KT66, Mullard GZ32, EF86. Service receipts, manual. £1395 Tel: 01842 812895 (Suffolk).

NAKAMICHI DR-2 three-head cassette deck for sale £225 ovno, Beautiful sound - one owner from new. With sales receipt and manual. Buyer collects. Kettering. Call John on 07788174437.

CUSTOM DESIGN wall mounted turntable support. Black metal frame. Toughened glass shelf. Complete with all fixings. In as new condition. Offers please Tel: 01293 524587 Mob. 07951596593 West Sussex

ART EXPRESSION loudspeakers. Black finish; virtually new condition. Superb sound! Complete with matching stands, boxes and paperwork. Will demonstrate. £895. Contact Jim: 07736339194. email: j.boswell@rbht.nhs.uk. Bromley.

TOM EVANS MicroGroove Plus Phonostage Mint condition as new £450 offers invited Can demonstrate, call for details (Bedfordshire) Email: stuartdarshan67@googlemail.com T: 07870 912 963

NEXT MONTH DECEMBER 2014 ISSUE

ICON AUDIO MB81 AMPLIFIER

No, your eyes do not deceive you...Icon Audio's latest amplifier features mighty Russian GU81 valves weighing 1kg each and standing 260mm tall and some 100mm wide.

Running in triode mode, the new MB81 monoblocks will output some 200 Watts each. Don't miss next month's issue for our exclusive review (er...what's Pickford's phone number?).

Also, we hope to bring you –

ACOUSTIC ENERGY 103 'SPEAKERS	OPPO BDP105 BLU-RAY PLAYER
JBL AUTHENTICS L16 'SPEAKERS	YAMAHA A-S701 INTEGRATED AMPLIFIER
CLEAR AUDIO OVATION TURNTABLE	ADL A1 24/192 USB DAC HEADPHONE AMPLIFIER /ANDROID
COCKTAIL AUDIO CA-X30 STREAMER	DIGITAL OUTPUT INTERFACE
ASTELL&KERN AK120 II PORTABLE PLAYER	BAYAN AUDIO SOUNDBOOK GO

...and much more.



This is a selection of what we hope to bring you, not a complete list. We regret that due to a wide range of issues, such as failure under review, we cannot guarantee that all products listed above will appear.

PICK UP THE DECEMBER 2014 ISSUE OF HI-FI WORLD ON SALE OCTOBER 31ST 2014, OR SUBSCRIBE AND GET IT DELIVERED TO YOUR DOOR: SEE PAGE 42

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DECEMBER 2014 - 8TH OCTOBER

JANUARY 2015 - 5TH NOVEMBER

HOLLAND-DOZIER-HOLLAND

THE COMPLETE 45s COLLECTION

HARMLESS



"you will find some of the trio's most impressive and imaginative songs in this set"

Sometimes this column focuses on an album as a 'Classic Cut' but we also like to take note of classic collections of singles. The songwriting team of Lamont Dozier and brothers Brian and Eddie Holland wrote and produced for a host of top-selling artists such as The Four Tops, Marvin Gaye, The Supremes, the Isley Brothers, Martha & the Vandellas and every other top-flight Motown act between 1962 and 1968. Their songwriting credits often need no introduction. Titles such as 'Baby Love', 'Nowhere to Run', 'Reach Out I'll Be There' and 'Where Did Our Love Go' are ingrained within the pop firmament.

In fact, Lamont Dozier commented, "It was just an awesome time (back at Motown). We had a huge amount of success. During this period, whatever we touched seemed to go straight into the Top 10. The hits went on and on. Many of our songs have turned into beloved songs of the American Songbook".

This was Motown, though, and the trio began to feel overworked and rather under-appreciated so they decided to leave the label, amongst much acrimony, and set up on their own, creating the Invictus, Hot Wax and Music Merchant labels which featured acts like Chairmen Of the Board ('Give Me Just a Little More Time') and Freda Payne ('Band of Gold').

The nature of the songs from Holland-Dozier-Holland always seemed to strike a chord with the listening audience. Eddie Holland provided a clue as to their source. "I would write these songs from my own experiences. I would write about something personal that was going on in my life at the time. I always thought that females were the most interesting subjects. I would become friends with women - I'd ask them a lot of questions. They would tell me their little secrets that they usually wouldn't tell other men. I got a lot of ideas from what I learned talking to women. I also had a principle and approach to writing. The most important thing was the feeling; does the lyric feel right? Is it interesting, and does it draw an emotional reaction? When Brian and Lamont first gave me the track to 'Baby Love,' they already had this title. At first, I thought 'Baby Love' was such a trite, simple title. But I eventually realised that the title 'Baby Love' worked very well with the

music. The title was simple, but it felt right".

To celebrate the trio's work within their own labels 'The Complete 45s Collection' presents every single, that's both A- and B-sides, and all have been remastered. That's 288 tracks plus a range of rarities, as producer Ian Dewhirst explained, "We scoured the world for many of the legendary unreleased singles and a number of extremely rare acetates now residing in private collections. We managed to unearth previously unreleased recordings by the Chairmen Of The Board, Eloise Laws, Honey Cone, the Barrino Brothers, the Jones Girls and 100 Proof Aged In Soul, so we've popped these in as a bonus. So another sixteen tracks there".

They include, Chairmen Of The Board's 'What's The Use' and 'Where There Is Faith, There Is Hope', Satisfaction Unlimited's 'Bright City Lights', Barrino Brothers' 'Something About You' and 'I Want To Give You All The Love You've Been Giving Me'.

In addition to the previously unreleased acetates and test pressings you get three previously unreleased Tom Moulton remixes and a sixty-four page booklet packed with exclusive images and sleeve notes from Dean Rudland, who many will be familiar for his work over at Ace Records.

Despite overflowing with talent, the trio's output never reached the heights of their Motown tenure. Part of the reason for this was the long-running legal action that basically spanned the entire life of their own labels. During this time, the trio could not openly produce their own songs (although they did use pseudonyms such as Edith Wayne).

Another reason was that the three labels lacked big name stars while the genres tackled focused more on contemporary sounds such as funk, psychedelia, deep soul and rock, which the chart-oriented Motown tended to avoid.

Don't be distracted by these factors and don't see this box set as second rate. Far from it.

While you will begin to hear the end of the partnership on this set (they got to a stage when they had obviously had enough), you will find some of the trio's most impressive and certainly imaginative songs of their entire career in this set.

PR

USHER

The USHER Dancer Diamond Series features the world's first amorphous DLC (diamond-like carbon) diaphragm tweeter. This is a tweeter which is second to none in the current market. To find out more, visit www.usheraudio.com or your nearest USHER dealer...



"2012 Editor's Choice" Awards --- AUDIO ART

Mini X Diamond

2-way system: 1.25" Diamond DMD dome tweeter, 7" midrange
Sensitivity: 87 dB @ 1 watt / 1m
Nominal impedance: 8 ohms
Frequency response (-3 dB): 41 Hz - 40 kHz
Power handling: 100 watts
Crossover frequencies: 2.3 kHz
Weight: 15.5 kgs/34.2 lbs. per piece
Dimensions (w x d x h): 26 cm x 37 cm x 43.5 cm;



Behind the scenes

Dr. Joseph D'Appolito a world renowned authority in audio and acoustics designs the crossover and performs prototype testing/final fine tuning for Usher Audio. Consulting to a couple of famous audio companies, Joe always finds the tremendous value Usher Audio products represent a delightful surprise in today's high end audio world.

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pure virtuosity



For more than a quarter-century, Sonus faber has represented the pinnacle of loudspeaker aesthetics. From its earliest models, incorporating real wood, furniture-grade finishing, seductive curves and even grilles that reveal style and inventiveness, this repository of Italian artisan skills and artistry has achieved what was once deemed impossible: creating speakers that sound as beautiful as they look.

Along with a series of models paying homage to the great luthiers of Cremona, the company has since been inspired by the Teatro Olimpica in Vicenza. It is appropriate that this new family of speakers considered the standards of a famed venue as the ne plus ultra of the reproduction of music with vivacity and power... exactly what defines music from opera to orchestral to rock music to soul to jazz. To achieve this, Sonus faber has exploited all that it has learned since its inception.

Like all Sonus faber loudspeakers, Olympica represents what is possible, while respecting what has mattered.



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