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Paul Rigby, Jon Myles, Martin Pipe



If you've read anything about hi-fi you'll know that electrostatic loudspeakers are something esoteric, something special. But there's another type of panel loudspeaker – the magnetic planar – that's also trying to grab our attention. They are altogether a rarer animal, even though technically easier to build than an electrostatic. Like electrostatics – and for the same reason – they must be big to develop deep bass.

Well, the Magneplanar 20.7s we review in this issue – see p10

– were to me eye-poppingly big. Moreover, they needed all

of our 25ft long listening room to sound correctly balanced and produce deep and even bass. But once in position they offered a glorious sound and there was some discussion amongst us all – and bemused visitors – as to which was best: the 20.7s or the sizeable Martin Logan Renaissance electrostatics I reviewed last month.

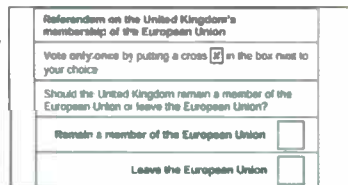
There wasn't agreement on this: some loved the smooth and consistent sound of the Maggies, others leaned toward the visceral analysis of the Martin Logans, tolerating the obvious sonic difference between electrostatic panel and box bass. Irrespective, I feel they both are exemplars of alternative loudspeaker technologies that could trickle down to become more easily affordable and more common as a result. About time too since Gilbert Briggs, founder of Wharfedale, devoted a chapter to Baffle 'speakers in his book *Loudspeakers*, published in 1948.

Loudspeakers continue to confuse us; I hope you like our review of the new super-Maggies all the same, and I also hope you get to hear them sometime. If you do, please write to tell us what you think.

The room has at last stopped moving around me as I write. As jet lag brought on by a short and very intense four day visit to California recedes, I can check to see that what I wrote about this show wasn't similarly wobbly! Both the USA – and Canada up the road – continue to innovate and intrigue in high fidelity, I was to find from this visit, as you'll see in my report on p54. And where do those big panel loudspeakers I talked about earlier come from? The USA of course.

What did you vote a few weeks ago on June 23rd? Writing this just before the Brexit referendum – and totally undecided about what to vote – I wonder what we will all be thinking after the vote. I am assailed by one thought from my 16 year old son who's studying politics – it doesn't matter whether we are in or out because the EU in current form is unworkable and will have to be reformed. I hope he is right and Europe will move forward, irrespective of the Referendum's outcome. What follows afterwards will be crucial.

**Noel Keywood**  
*Editor*



## testing (see [www.hi-fiworld.co.uk](http://www.hi-fiworld.co.uk) for full explanations of all our tests)

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

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

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

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



## verdicts

- ● ● ● ● OUTSTANDING amongst the best
- ● ● ● EXCELLENT extremely capable
- ● ● GOOD worth auditioning
- ● ● ● ● MEDIOCRE unremarkable
- ● POOR flawed
- £ VALUE keenly priced

## ELECTRONIC MAGAZINE

Go to our website [www.hi-fiworld.co.uk](http://www.hi-fiworld.co.uk) to buy an electronic version of this magazine, individual issues, back issues or a subscription.

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# contents



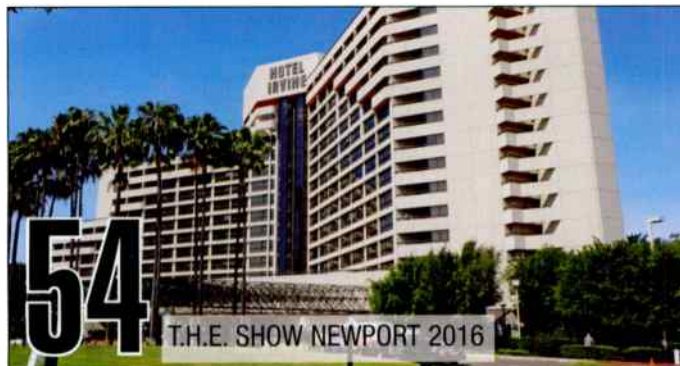
**14** UNISON RESEARCH SH HEADPHONE AMPLIFIER



**19** OPUS#1 DIGITAL AUDIO PLAYER



**35** ARCAM iRDAC II



**54** T.H.E. SHOW NEWPORT 2016

## LOUDSPEAKERS

### MAGNEPLANAR 20.7 10

A large panel loudspeaker that rewards careful set-up, says Jon Myles.

### Q ACOUSTICS 3050 61

A budget floorstander that punches well above its weight, finds Jon Myles.

## DIGITAL

### OPUS#1 DIGITAL AUDIO PLAYER 19

Noel Keywood tries out a worthy competitor to the likes of Astell&Kern and FiiO in the high-resolution DAP market.

### ARCAM IRDAC-II 35

Martin Pipe discovers just how good the new upgraded Arcam IRDac-II can be.

## AMPLIFICATION

### UNISON RESEARCH SH HEADPHONE AMPLIFIER 14

Martin Pipe finds Unison Research's combination of valve power and high-resolution DAC technology a good way to drive his headphones.

## SYSTEM

### LEEMA ELEMENTS 40

A well-specified package from Leema combines a new pre-amp/DAC plus versatile power amplification. It makes perfect sense, says Jon Myles.



**40** LEEMA ELEMENTS



# AUGUST 2016

VOLUME 26 : NO. 6

## CABLES

### 23 ATLAS EOS IEC POWER CABLE

Scotland's Atlas cable company debut a new entry-level power lead - which Jon Myles says is a bit of a bargain.

## FEATURES

### 54 T.H.E. SHOW, NEWPORT 2016

Noel Keywood heads to California to bring you all the latest equipment from Newport's high-end show.

## OLDE WORLDE

### 75 PIONEER PL-12D TURNTABLE

Martin Pipe looks at the heritage of the Pioneer's budget but brilliant PL-12D belt drive deck.

## PORTABLE LOUDSPEAKERS

### 51 URBANISTA MELBOURNE

Small, powerful – and perfect for the summer. Jon Myles goes out and about with Urbanista's impressive Bluetooth loudspeaker.

## VINYL

### 84 NEWS

All the latest and greatest vinyl releases for you, from the pen of Paul Rigby.

### 87 GOLDRING 1012GX/1042 MM CARTRIDGES

Noel Keywood tries out two new MM cartridges from Goldring - and can't help but be impressed at the value for money.

### 91 AUDIO DESK SYSTEME VINYL CLEANER PRO ULTRASONIC

Paul Rigby dusts the dirt from his record collection with the new Audio Desk Systeme vinyl cleaner.



## REGULARS

### 7 NEWS

Words from the world...

### 28 MAIL

Seven pages of your views, wonderful as always...

### 25 COMPETITION

Your chance to win a pair of Dali loudspeakers worth £649!

### 38 SUBSCRIPTIONS

Ensure your copy every month and save money too!

### 44 WORLD STANDARDS

Updated guide to the latest and greatest hi-fi hardware on sale

### 64 AUDIOPHILE VINYL

Paul Rigby rounds up the latest audiophile vinyl releases

### 78 WORLD CLASSICS

Brilliant designs that have stood the test of time...

### 67,69,71,73 OPINION

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

### 92 DIAL-A-DEALER

A comprehensive guide to UK hi-fi retailers

### 94 CLASSIFIEDS

Two pages of second-hand bargains

### 96 NEXT MONTH

What we hope to bring you in the next sizzling issue...

### 97 ADVERTISERS' INDEX

### 98 CLASSIC CUTS

Paul Rigby looks at Labi Siffre's classic 'Crying, Laughing, Loving, Lying'.



# Bowers & Wilkins

## Designed for listening

The new CM Series loudspeakers are undoubtedly beautiful, capable of gracing any room with their clean lines and high-quality finishes. But as with all Bowers & Wilkins loudspeakers form must follow function, and thanks to our Decoupled Double Domes and tweeter-on-top technology you won't believe how beautiful your music can sound.

[bowers-wilkins.com](http://bowers-wilkins.com)

Decoupled Double Dome tweeter

email:news@hi-fiworld.co.uk

# news



## A LONG TIME AGO ON A PRO-JECT FAR, FAR AWAY....

Pro-Ject celebrates its 25th anniversary with a new turntable that bears a resemblance to designs of ages gone by. But there are changes that bring the design up to date. The two-plinth design utilises Thermo Plastic Elastomers (TPE) to isolate the sub-chassis, rather than the traditional method of a spring-loaded sub-chassis. The main platter on The Classic is machined from an aluminium alloy which is lined underneath with TPE damping. The sub-platter/bearing assembly combines a hardened steel rod with a bronze bushing that is lined with Teflon. The configuration is similar to that of a Debut turntable but the tolerances for these components have been improved.

The Classic also boasts an entirely new tonearm with a conical tube made from aluminium, wrapped in a layer of carbon fibre and using Zircon bearings. Underneath, a Japanese-designed ball-bearing has been installed, as has a new nickel-finished counterweight, also TPE-damped.

The turntable is supplied as standard with the Ortofon 2M Silver cartridge, which has been designed exclusively for Pro-Ject. The Classic turntable is available in eucalyptus, rosewood or walnut finishes. Price is £799.

But that's not all, the Classic was chosen to help launch a new, limited, DMM-edition of 'Star Wars: The Force Awakens' original soundtrack on vinyl. The double vinyl version was given its exclusive global premiere in Abbey Road Studios, played on the new Pro-Ject Classic turntables.

The 180gm double LP comes with a 16-page booklet. Call 01235 511166 or click on [www.henleydesigns.co.uk](http://www.henleydesigns.co.uk) for more information on the Pro-Ject.



## TEAC CD WITH RADIO APPEAL

TEAC has launched an all-aluminium alloy construction compact disc player with a built-in DAB/RDS FM tuner. The PD-301 is a compact model measuring just 215 x 61 x 232mm and features a quick-loading slot drive that will also decode home-made discs encoded with MP3 and WMA content.

For those who also want to play back WAV or AAC files there's a USB slot on the front panel for thumb drives. If your stored songs are accompanied by ID3 tags, the song and artists names are shown on the player's own display (MP3, WMA and AAC files only).

Available in silver or black, the unit features a Burr-Brown PCM5142 DAC, while the chassis also sports coaxial and digital outputs. If, at a later stage, you decide you want to use the player as a digital transport partnered by an external DAC, you can (the Reference UD-301 has built-in 192kHz up-conversion).

The DAB/RDS FM tuner arrives with twenty presets plus upgrading potential. DAB/RDS FM signals received by the unit can be sent as digital signals (using the optical/coaxial outputs) from the player to an external DAC (44.1kHz/16-bit resolution). The PD-301DAB with DAB/RDS FM tuner is priced at £349 while the PD-301 with RDS FM tuner retails at £299.



## CONTOURS

Dynaudio has unveiled its new, re-designed and re-engineered Contour loudspeaker range. The new series consists of four models: the compact 20, the medium-sized floor standing 30, the larger floor standing 60 and the 25C dedicated centre channel speaker for movie lovers.

All designed and manufactured at Dynaudio's newly expanded research and manufacturing facility, the latest Contours feature Dynaudio MSP diaphragms with varied thickness and optimised geometry, new aluminium voice-coils, selected crossover components and improved internal wiring and a heavily braced, curved multilayer enclosure combined with a solid aluminium front baffle.

The new Contour models are available in walnut satin, white oak satin, piano black and piano white and on special order: rosewood high gloss and bubinga high gloss.

Prices are: the compact Contour 20 at £3,750, the medium-sized floorstanding Contour 30 at £5,750, the larger floor-standing Contour 60 at £7,500 and the Contour 25C dedicated centre channel speaker for movie lovers at £2,750.

To learn more go to [www.dynaudio.com](http://www.dynaudio.com)



## WILSON AUDIO ALEX

High-end loudspeaker specialist Wilson Audio chose London's KJ West One hi-fi dealership for the UK debut of its new £105,000 Alexx model.

The new top-end loudspeaker replaces the long-standing MAXX line and uses a vertical 'MTM' (midrange-tweeter-midrange) layout in the loudspeaker's upper section. The 25mm soft-dome 'Convergent Synergy' tweeter with the latest iteration of Wilson's own rear-wave chamber design is flanked by two midrange units; the top model being a 146mm upper-midrange, the lower a 179mm cone for the lower midrange.

The bass cabinet continues in a similar fashion incorporating 267mm and 312mm woofers. The tweeter enclosure is fully sealed but both midrange units are ported and the bass cabinet has the option of front or rear porting.

Wilson Audio's usual attention to detail means the upper mid/tweeter configuration can be adjusted by in micro-steps to ensure correct time alignment in varying rooms.

For more information contact Wilson Audio's sole UK distributors Absolute Sounds at [www.absolutesounds.com](http://www.absolutesounds.com) or telephone 020 8971 3909.

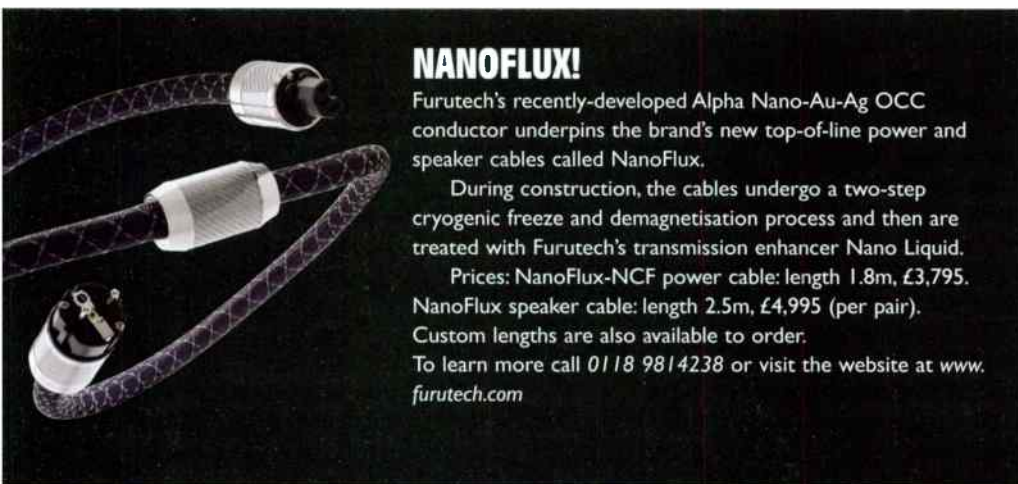


## NANOFLEX!

Furutech's recently-developed Alpha Nano-Au-Ag OCC conductor underpins the brand's new top-of-line power and speaker cables called NanoFlux.

During construction, the cables undergo a two-step cryogenic freeze and demagnetisation process and then are treated with Furutech's transmission enhancer Nano Liquid.

Prices: NanoFlux-NCF power cable: length 1.8m, £3,795. NanoFlux speaker cable: length 2.5m, £4,995 (per pair). Custom lengths are also available to order. To learn more call 0118 9814238 or visit the website at [www.furutech.com](http://www.furutech.com)



## PHONAUDIO UK

A new series of headphones from Phonaudio, a new British outfit, includes the PHN100 and PHN200 designs.

Smartphone compatible, each headphone operates with iPhone and Android handsets without the requirement for separate cables, while a microphone is included in the Phonaudio ear cups to prevent having to talk into your headphone cable after your phone rings.

Each headphone design is constructed from TR90 which the company describes as "Plastic Titanium...you can physically twist our headphones and they will not break".

The over the ear PHN100, available in gold, silver and black, includes a multi-function button on both ear cups for music and call control and a detachable cable is fitted with a volume slider. Arriving with a 40mm driver and a 1.3mm cable plus carry pouch, the PHN100 weighs in at 187g and is priced at £229.

The on-the-ear PHN200 design features the same multi-function button, cable length and volume control plus basic material construction but weighs 160g and is priced at £209.

Click on [www.phonaudio.com](http://www.phonaudio.com) for more details.



## REVEL'S CONCERTA2

Karma-AV has announced the UK launch of Revel's Concerta2 Series loudspeakers.

The six-model Concerta2 range includes the M16 bookshelf monitor, two floor-standing tower speakers the F35 and F36, the C25 centre and S16 surround speakers and the 800W B10 active subwoofer.

Concerta2 Series loudspeakers employ a 25mm aluminium tweeter with an integral phase ring derived from Revel's Performa3 Series. The tweeters are fitted with a patented fourth-generation Acoustic Lens Waveguide. The Concerta2 bass/mid drivers feature newly developed deep-anodised aluminium cones.

Concerta2 loudspeakers use a 19mm MDF enclosure construction with non-parallel sidewalls to attenuate internal standing waves. The enclosures have edge-to-edge bracing to reduce cabinet-induced colouration.

The Concerta2 enclosure's curved side panels are enhanced by the matte black trim rings surrounding the drivers, a matte black tweeter waveguide and a removable magnetically fastened grille. There are no visible fixings on any front surface. Revel Concerta2 loudspeakers are available in high-gloss black and high-gloss white painted finishes.

Prices are: F36 2.5-way floor-standing tower, £1,900; F35 2.5-way floor-standing tower, £1,500; M16 2-way bookshelf monitor, £900; C25 2.5-way centre channel, £600; S16 2-way surround speaker, £450; B10 powered subwoofer, £1,350.

To learn more, call 01423 358846 or visit [www.karma-av.co.uk](http://www.karma-av.co.uk)



## SOLID MATERIALS

Noble Audio has added a trio of new colour/material options to its flagship Prestige range of bespoke in-ear monitors - Pablo, Pinecone and Space Zebra. Pablo is a new colourful material that, says the company, is "Cubist in appearance and reminiscent of select works by one of the greatest artists of the 20th century." Pinecone is created from tiny pinecones cast in numerous colours for a spider-like appearance while Space Zebra comprises thousands of layers of knitted material, cut and combined at angles. The Prestige option applies to two custom-fit models from the Noble Audio range: the flagship 10-driver Kaiser 10 and the new Savant and begins with digitising acrylic moulds of the inner ear before the pieces are shaped and hollowed-out to accommodate the driver assembly and internals. Prices? For the Kaiser 10 Prestige: Pinecone £1,870; Space Zebra £1,940 and Pablo £2,010. Prices for the Savant Prestige are: Pinecone £1,185; Space Zebra £1,255 and Pablo £1,325. Go to [www.nobleaudio.com](http://www.nobleaudio.com) for more information.



## EVO3

The new IsoTek EVO3 Initium is IsoTek's new entry level power cable, providing three 2mm squared conductors, arranged in a parallel construction with a slight rotational twist while 99.9999% oxygen-free copper (OFC) conductors are included along with Polyethylene (PE) dielectric. Filler is cotton based with a paper wrap to secure the construction prior to the application of the PVC outer jacket which is terminated with bespoke IsoTek moulded connectors featuring solid OFC with nickel plating. Price is £64.95 for a 1.5 metre terminated cable.

Log-on to [www.isoteksystems.com](http://www.isoteksystems.com) or call 0118 981 4238 for more information.



## BLUE LOLA

Blue has announced Lola, a new set of headphones with a sealed over-ear design and custom 50mm drivers - the same as the company's own Mo-Fi headphone.

Blue's default headband design features a four-point multi-jointed linkage system and pivoting arms that allow the headphones to stay parallel at all times. Lola furthers this design with a new slimmer headband.

The ear-cups - shaped like ears - provide a complete seal in an attempt to enhance bass, improve isolation and reduce "sound bleed".

Lola comes with a soft travel case and two audio cables, including a 3-metre audio cable and a 1.5-metre cable with built-in mic and Apple iPhone/iPad controls.

Price is £200 and they will be available in charcoal

black and pearl white in December from Amazon.co.uk and other authorised retailers worldwide.

For more information visit [www.blue-headphones.com](http://www.blue-headphones.com).



## DESIGNER LINNS

Linn and interior designers Timorous Beasties have launched a new range of design-led, speaker systems based on the Series 5 speakers.

The new collection of 'Fabrik' covers brings together 10 Timorous Beasties designs, exclusively customised for Linn, and prints them on Linn Fabrik. Available to order now, the collection includes the expansively named Kaleido Splatt plus Indie Wood and Topical Tropical.

Series 5 consists of two systems, the Linn 520 and 530 while a Series 5 system complete with the Timorous Beasties covers costs £9,600 with additional covers available from £350.

Click on [www.linn.co.uk/find-a-shop](http://www.linn.co.uk/find-a-shop) for more information or to book an appointment.



## ROBERTS FIRMWARE UPDATE

Roberts has announced a firmware update for its Stream 93i and iStream 2 Smart Radios. This update will add Dynamic Adaptive Streaming over HTTP (DASH) Support that allows you to listen to BBC Internet Radio streams at a significantly higher audio quality than previously (up to 320kbps AAC, with a sample rate of up to 48kHz).

The new On-Demand Listening feature means that you can catch up on many recent broadcasts from the BBC. In addition, you may pause, resume, rewind or fast-forward through the programme being listened to.

Complementing the existing support for MP3, WMA, AAC, FLAC and WAV, the products now support playback of Apple Lossless Audio Codec (ALAC) music files, streamed to the radio using DLNA or played from a USB memory device.

Visit [www.robertsradiotechnical.co.uk](http://www.robertsradiotechnical.co.uk) for more information.



# Truly

**Big but undeniably beautiful - Jon Myles and Rafael Todes are both impressed by the new Magneplanar 20.7.**

**F**lat panel loudspeakers do many things very well – imaging, scale, detail and overall coherence are the first that spring to mind. Unfortunately, they can also fall short in one other area – bass quality.

The likes of Martin Logan counteract this by incorporating a powered bass cabinet into their electrostatic loudspeakers – as in the £25000 Renaissance (see Hi-Fi World review July 2016).

Minnesota-based Magneplanar, who produce Magneplanar loudspeakers (known as Maggies to their devoted followers) take a slightly different approach with their new Magneplanar 20.7, going for outright panel size to generate the low-end grunt.

As such, the 20.7s are big – no, make that very big – loudspeakers. They stand over 6.5 feet tall and are 29 inches wide. As such, you'll need a large room to accommodate them. But, being panels, they are relatively thin at just 2.5 inches deep.

Unlike Martin Logans, the Magneplanar 20.7s are not electrostatic but ribbon loudspeakers, where a lightweight mylar film carries ribbon electrical conductors set between magnets. They do not have to be plugged into the mains as a result.

What you have is a three-way loudspeaker comprising a five foot high, quarter-inch wide tweeter allied to low mass ribbon midrange and bass drivers. These utilise aluminium strips attached to thin Mylar panels which are stretched between the frame and suspended over carefully placed magnets. As the music signal passes through the aluminium strips the Mylar panel moves backwards and forwards to produce the sound.

Crucially there is no box to smear the sound nor introduce its own colourations into the mix. On the downside, the 20.7 can present





# Mag-nificent!

a challenging load, being rated by Magnepan as a 4 Ohm impedance and 86dB sensitivity (see Measured Performance for the definitive figures). Suffice to say, gutsy amplifiers are the order of the day here.

Positioning is also important. The Magneplanars are handed – you get left and right loudspeakers – but you can choose to have the tweeter panels on the outside or inside. Magnepan says going for the outside presents the widest sweet spot; however I found positioning them on the inside, the usual choice, provided greater focus and insight.

Being a panel, the 20.7 radiates energy both forwards and backwards so it needs to be used well away from a rear wall to give its best – four feet at least.



*The speaker binding posts sit above the metallic jumpers for tweeter and mid-range tuning. Different resistors are available from Magnepan.*

Set-up is easy enough: sturdy metal stands attach to the bottom of the panels and two handles screw into the rear of the loudspeakers to make moving them around the room a simple task. A slight toe-in helps anchor the sound, although this will be very much room and personal preference dependent. Experimentation is recommended.

Round the rear are a single pair

channel Chord CPM 2800 integrated amplifier (see review next issue) and playing Keith Jarrett's 'Paris/London: Testament' (24/96) was akin to being transported to the concert hall. Every note had body and presence, while the timing was immaculate. That thin Mylar film means there is absolutely no overhang or smear to the music – you get exactly what is on the digital file.

"the sound swells to fill the room; instruments are anchored in place in an utterly lifelike manner"

of 'speaker terminals, plus one other tweakable option – sockets for the mid-range and tweeter, connected by metallic jumpers. These can be removed and replaced by resistors of varying values to alter the overall response of the loudspeakers. Installing a 1 Ohm mid-range resistor, for example, will provide a slightly warmer balance to the overall sound. For the purpose of this review I left the supplied jumpers in situ for an unaltered view.

## SOUND QUALITY

My last experience of Magneplanar loudspeakers came in the shape of the £7000 3.7i. Rafael Todes hailed it as one of the best loudspeakers he'd ever heard at the time (see Hi-Fi World review March 2015 issue). While I could see his point, I found the lack of bass extension a drawback.

The 20.7s, by contrast, nullify that criticism. They are taller and wider than the 3.7is – and with that comes a much more impressive frequency spectrum.

No, they don't do seismic bass in the way of boxed cone and dome loudspeakers – but what they do do is something utterly remarkable. Set up properly the music simply floats free of the loudspeakers in an eerie fashion, giving an almost holographic soundstage quite unlike anything else.

Paired with the 170 Watts per

Listening to Kraftwerk's 'Minimum-Maximum' the entire ambience of the different venues where this collection was recorded was laid out before me. What's more the music positively motors along with a strong sense of detail and punch.

Most impressive was just how natural these loudspeakers sound. On the hard-charging rock of Deep Purple's 'Smoke On The Water' from 'Made In Japan' bass was rich and fulsome. It did not dominate or overwhelm, instead providing just the right foundation for Richie Blackmore's blistering guitar work.

One of the great advantages of a large line-source loudspeaker such as this is the sheer size of the image presented. The sound swelled to fill our room: I could sit, stand or walk around and individual instruments were anchored in place in a lifelike manner. Traditional dynamic 'speakers cannot get close to such a presentation.

Special mention must also go to the integration between mid, bass and treble. The tweeter, especially, is an extremely smooth performer, sounding light and airy with a delicacy that breathed life into female vocals. Listening to Billie Holiday's impassioned rendition of 'Strange Fruit' via the Magneplanars was enough to send shivers down my spine.

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- Jon Myles, *HiFi World* 2015

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- Awards Edition, *HiFi World* 2015

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- *Mono & Stereo*, 2015

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**Stereo Times**  
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 2015

**HI-FI WORLD**







The tall, slim tweeter (high frequency) panel is obvious at rear, firing backwards as well as forwards.

Of course, no loudspeaker is perfect; I can imagine fans of heavy dub or

bass-laden dance music would crave more low-end grunt than the Magneplanars provide. On James Blake's 'Limit To Your Love', for example, the very bottom octaves were missing. However, I was happy to trade that for everything else the Magneplanars were doing in terms of scale, definition and hear-through clarity.

They also do need serious power to generate volume – amplifiers of around 100 Watts and upwards are the order of the day. The Chord CPM 2800 worked well but other, lesser-powered, amplifiers struggled to bring the best out of the Maggies.

Having said that, get the combination right and the 20.7s are capable of going very loud without any sense of strain. Part of this is down to the fact that there is no cabinet to add colouration so you are purely hearing the drive units.

Yes, you'll need a big room to hear the 20.7s at their best – and a sufficiently powerful amplifier to pair them with. But if you can satisfy those demands these loudspeakers promise a performance that's quite unlike anything else I've heard before.

**CONCLUSION**

At £16500 the 20.7s aren't exactly cheap. But I've heard loudspeakers

**RAFAEL TODES SAYS:**

Listening to the Magneplanars via my Astell&Kern AK120 feeding optically into an Audiolab M-DAC+ and a pair of Quad Elite QMP monoblocks showed just how good they can be.

Listening to a newly released Allegri Quartet CD of Alec Roth Quartets, (No 3) the sound presentation is generous and full. Tonally rich, sumptuous, (even more sumptuous than I remember from the session!) the Maggies clearly can do strings well. There is a truly organic sound to the quartet, no shrieking at the top, just a very solid image. Pizzicato (plucked notes) were fast and plosive, the cello sound was clear and defined, slightly light at the upper end but generally credible. There is of course a huge advantage of hearing a string quartet with the same type of drivers top to bottom. A conventional box loudspeaker may use a range of different materials for the different drivers, and this will always act against the unity of tone.

Listening to the Beaux Arts Trio playing Mozart Piano Trio K542 slow movement, the piano sounded utterly natural. Very few speakers can perform this trick like planar magnetics or electrostatics, as the piano has such a large range, and it is really refreshing to hear it as one instrument and not three or more!

The Maggies are deeply musical, plenty of subtle micro phrasing and detail, even more so than the previous Maggies I reviewed a year or so ago. There is a grace and elegance to the way they navigate around this music, it is beguiling to hear and not at all fatiguing. They are tall and imposing and may not be as wife-friendly as the smaller models, but certainly have more bass extension than their little siblings.

The midrange blooms, particularly woodwind and strings sound really lush and beautiful, there is a grand scale to the music, and altogether a very enticing rendition.

costing many thousand of pounds more which don't do half the things the Magneplanars are capable of.

Whether it be rock, classical, jazz or acoustic music they come the closest I've yet heard to reproducing the true experience of live music.

**MEASURED PERFORMANCE**

Frequency response of the Magneplanar 20.7 is largely flat and smooth across the audio band our third-octave, pink noise analysis shows. There was some variation across the width of the panel due to phase addition and cancellation that always affects wide, flat panels, unless they are curved to ameliorate the problem. Our microphone position was between treble and mid/bass panels, height not affecting the result.

The bass dip around 90Hz was consistent irrespective of mic height and distance from the panel, in a 6000cu ft room too large to have influence here, so appears to be a true panel property. A gated impulse response, not shown here, gave a smooth bass response at low frequencies and is a better assessment of the panel's basic (quasi) anechoic bass behaviour, but of course in real life floor influence is a reality.

The sharp roll off in output below 50Hz is due to panel 'baffle' dimensions, something 'room gain' around 30Hz from

an 18ft long room will help counteract, whilst a narrow width dimension of 10-12ft will insert a dip at a central listening position at around 55Hz to counteract the peak, suggesting ideal room dimensions for the 20.7s. But then, long narrow rooms do best suit open panels of all sorts, the panel being best positioned close to or against a side wall (as Peter Walker always recommended for Quad's ESL-57s).

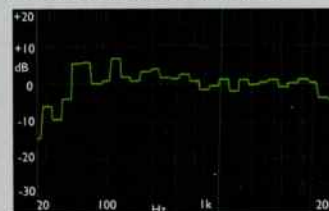
The high frequency unit reaches smoothly up to 16kHz but there is dip around 1kHz our analysis shows – consistent across a range of mic positions. It will add warmth to the sound.

Voltage sensitivity was low, the 20.7s producing just 83dB from one nominal Watt of input (2.8V, or two true Watts), but since they are a 3.7 Ohm resistive load, our impedance analysis shows, they draw current and demand a powerful amplifier to go loud.

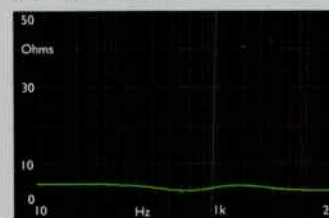
The 20.7s are basically smooth and

accurate. There is some bass emphasis and a midband dip that may influence apparent integration. They demand the use of a big power amplifier, 100 Watts minimum, to go loud. **NK**

**FREQUENCY RESPONSE**



**IMPEDANCE**



**MAGNEPLANAR 20.7 £16500**



**OUTSTANDING - amongst the best.**

**VERDICT**

An impressive loudspeaker that has a massive soundstage and a performance traditional box loudspeakers just cannot manage.

**FOR**

- vast soundstage
- detail
- fulsome bass
- stereo imaging

**AGAINST:**

- big
- need a powerful amplifier

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# Headphone heaven



**Having previously focused on driving speakers, Unison turns its attention to smaller-scale transducers. Martin Pipe tries the SH USB DAC/headphone amp**

**W**ith tell-tale wood-work and livery, the SH is a veritable feast for the eyes. It's a little larger (and, for that matter, heavier) than the average headphone amplifier, because the devices that drive your 'cans' are tubes.

Inside triodes play a key role in this 21st century product. The two 'halves' of a ECC83/12AX7 double-triode are independently-used to drive the amplifiers that power each headphone channel. These are built around EL84 power-pentodes - valves that will be familiar to guitarists around the world. Here,

though, they're operating in Class-A triode mode with 16dB of negative feedback. The toroidal output transformers that couple their signals to 'cans' are vertically-mounted behind the front panel. Power for the amps and the rest of the circuitry comes from a linear power supply built around a larger third toroidal





**The 12AX7 double-triode driver of the SH is made by Tung-Sol in Russia. 12AX7s are also known as ECC83s.**

transformer bolted to the inside rear of the casework.

Two pairs of headphones can be accommodated, courtesy of a pair of recessed 6.3mm jacks. Great for those who like to share!

But what about the signals you feed to them? Well, there are phono sockets for an unbalanced line-level analogue source but Unison has also catered for digital via asynchronous USB. The DAC, based around an ESS Sabre32 chip will handle PCM sources up to 384kHz/32-bit. DSD64/128 is also supported natively, courtesy of DSD-over-PCM.

**Here are the valves - a 12AX7 double-triode driver, flanked on either side by an EL84 that provides headphone drive for each channel. As can be seen, Unison has specified a high-grade ALPS Blue potentiometer (visible between the transformers) for the volume control.**



PC users require drivers, which can be downloaded from the Unison website. There's alas no visual means of confirming what you're listening to (which can help to troubleshoot PC software configuration issues) but at least Unison has gone to the trouble of detailing the set-up of Windows and Mac-based audio playback systems. What a pity this extraordinary amalgam of old and new doesn't cater for conventional S/PDIF digital sources, like CD transports. A sign of the times?

The source you select via a recessed paddle switch (which simply begs to be 'flipped') is introduced to the amps via a non-motorised ALPS pot (no remote control here!). An adjacent switch gives you a choice of sensitivity/output level, enabling the SH to be matched to different varieties of headphones. It has all been seriously thought-out internally, although some electrolytic capacitors (mercifully, 105°C-rated) are located too close to warm-running valves for my liking. Furthermore, a little circuit board that contains the input-switching relay and a tiny DC-DC converter for the DAC is only properly-secured to the chassis via the rear-panel phono sockets. But such matters are, I guess, all down to space; the innards of the SH are rather busy. It can get a little heated in use, but no reliability problems were experienced at any time - even with listening sessions running for several hours at a time. The use of

toroidal transformers also keeps mechanical noise to a minimum.

## SOUND QUALITY

Equipment partnered with the SH for this review included Oppo PM3 headphones, a Cambridge CXN streamer (connected via analogue phono) and a Windows 7 PC. Let's start with USB and Windows (somewhat more fiddly than Mac or Linux). I followed the somewhat-involved instructions and, using the Foobar2000 player was able to enjoy hi-res FLAC and DSD tracks. First of



**Made in Russia are the Electroharmonix-branded EL84s power output tubes configured for triode operation. EL84s, also used in guitar amps, enjoy widespread availability.**

all a Blue Coast DSD64 download of Garrett Brennan's 'Alta Powder Day', a bluegrass number comprising acoustic guitar, slide guitar, harmonica and vocals and recorded in as 'back-to-basics' a manner as is possible. Such simplicity makes for a very natural sound, to which the SH did full justice with an intricately-detailed and open, yet intimate presentation.

Next to 'Slow Motion', the 1974 album from Welsh prog-rockers Man (FLAC, 2008 Esoteric remaster). There's a lot going on in tracks like 'Hard Way To Die' and 'Day And Night' and these multiple musical layers were all definable. The guitars, deliciously warm bass, tight percussion and keyboards swirling beneath could be picked out and positioned, yet at the same time they gelled together as a whole. The searing lead guitar of 'Day And Night' stood out in particular; any wonder that EL84s are so loved by axemen? Yet the delivery is bestowed with

Enjoyed Worldwide.



*"The Sigma SSP can be regarded as a superb stereo analog preamp, and all the rest of its bells and whistles as a gift."*

Kal Rubinson, Stereophile, USA

*"It combines the flexibility of a Swiss Army knife with the precision of a surgeon's tool in an easy-to-use package. There's simply not enough room here to even pretend to detail what you can do with this processor. It's just awesome."*

Theo Nicolakis, Audioholics.com, USA

*"But most impressive is the sound quality. This is real high-end at a price that must be considered reasonable. And the step up from the traditional home cinema receivers is nothing but huge."*

Ludwig Swanberg, HemmaBio, Sweden

*"Oh my, what a wonderful system Classé has provided with the Sigma range. It shows that audiophile sound is not the sole preserve of stereo and equally that it is not incompatible with reliable and convenient operation."*

Stephen Dawson, Audio Esoterica, Australia

*"This Sigma system is a huge achievement which everyone must absolutely discover."*

Adrien Rouah, Québec Audio & Video, Canada



appropriate pace, the rhythm taking on an almost organic sheen at times. Even with the sensitivity switch in its 'high' position, my PM3s delivered healthy listening levels with no trace of strain.

Most of these virtues are retained if you're using an analogue-connected source, although much will depend on the quality of this gear and the standards of the recordings you're playing. Electronic percussion also fared well and the bells also

**Thanks to the provision of two parallelled headphone sockets, the listening experience can be shared. Both sockets and switches are recessed to reduce the risk of damage.**



**Simplicity itself – an analogue input and a USB port connect to sources. No optical or coaxial S/PDIF inputs are provided.**

forming a part of 'Thrown' (by minimalist Icelandic duo Kiasmos) were rich in timbre.

What this track revealed above all, though, was the SH's ability to cope with what must rank among the meatiest basslines yet committed to record.

Time, then, to try music of a more delicate nature with Ligeti's 'Kammerkonzert' (Cerha/Wien Ensemble die reihe, Wergo, 1988), a complex work involving strings, woodwinds and keyboard instruments. This was delivered with the depth, texture and urgency it merited.

Finally Sibelius' rather more

accessible 'Second Symphony' (Bernstein/Vienna Philharmonic) demonstrated the benefits of headphone listening - an expansive soundstage and balanced tonality, freed from the deleterious effects of room acoustics and speaker colouration.

**CONCLUSION**

The SH is a welcome addition to the Unison range, as it brings Unison's valve based design approach to headphone listening, via USB from a computer, using a top quality ESS Sabre32 DAC chip. It was an engaging and musical experience I found.

**MEASURED PERFORMANCE**

Through its analogue line inputs the SH has low gain and modest output by current standards. The Low sensitivity headphone setting (meaning high gain) delivered 2V out maximum from 0.8V analogue in, a gain of 2.5 or 8dB.

Switching to High maximum output fell to 0.7V from 0.8V in, a gain (loss) of x0.9 or -1dB. The maximum output values are good enough to provide high volume, if below the 4V or so usually now made available. Low gain means at least 1V is needed into this input – a lot, but available from portable players and CD players. However, the SH appears to be purposed for computer connection via USB.

Frequency response covered the audio band, our analysis shows, extending from 5Hz to 23kHz (-1dB) at both gain settings. Noise was very low at -116dB but there was some distortion, measuring 0.4% at 1V out, primarily second harmonic.

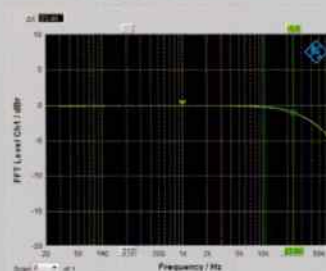
Bandwidth through the USB input was slightly lower than analogue input, frequency response reaching 16kHz,

unaltered by volume control setting. For a valve based amplifier, dynamic range was good at 102dB, equivalent to CD, distortion measuring 0.18% with 24bit – a bit high but mostly noise. Maximum sample rate accepted by this input was 384kHz from a MacBook Pro. A full level digital signal (0dB, 1FS) gave 2V / 0.7V output well below maximum volume setting.

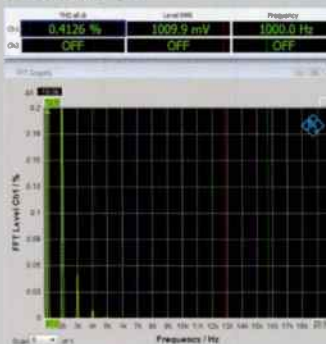
Output of the SH is sufficient for high volume from all headphones, even the least sensitive. I suspect Unison Research have kept level down for hearing safety. The analogue inputs need a high 1V for full output too. It appears that USB takes precedence and this input works well in all areas. **NK**

<b>Output (H/L)</b>	<b>2 / 0.7V</b>
<b>Frequency response</b>	<b>8Hz-16kHz</b>
<b>Separation</b>	<b>89dB</b>
<b>Noise</b>	<b>-116dB</b>
<b>Distortion (24bit)</b>	<b>0.18%</b>
<b>Gain (H/L)</b>	<b>8dB / -1dB</b>
<b>Dynamic Range (USB)</b>	<b>102dB</b>

**FREQUENCY RESPONSE**



**DISTORTION**



**UNISON RESEARCH SH DAC/HEADPHONE AMPLIFIER £1,250**



**EXCELLENT - extremely capable**

**VERDICT**

Old meets new - and combines for a great headphone listening experience.

**FOR**

- musically-engaging
- plenty of body and depth
- two headphone outputs

**AGAINST**

- no coaxial or optical digital inputs
- minor design issues

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# Simply the Best



## Spondor D7

Among the finest speakers I've heard at any price  
*Sam Tellig, Stereophile Nov 2014*

Spondor's approach is the most radical I've seen, going where no hi-fi manufacturer has gone before. D7 is extremely capable and very neutral, but most importantly it puts the music first  
*Hi-Fi + Dec 2013*

If you're after a great all-round, affordable, high end loudspeaker, here it is  
*Hi-Fi Choice issue 370 2014*

D7 has an unmistakeable touch of magic. Easy to drive, genuinely efficient, undemanding of placement, fine stereo, extended powerful bass, upbeat and well-balanced, build and finish first rate.

What more can one ask?  
*Hi-Fi Critic Sep 2013*

However it's been achieved, we can't help but marvel at the sound from the D7's. Spondor D7's set the standard for speakers at this price  
*What Hi-Fi Oct 2013*

Bass punch allied to tremendous mid band and treble insight makes for a winning combination  
*Hi-Fi World Jul 2014*



Spondor A5R

Spondor A6R



**Stereo speakers**  
Best floorstander £1200+  
Spondor A6R

Beautifully balanced sound  
fine build and terrific engineering  
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Spondor D1



**NEW**



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Outstanding  
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The A5 was always a great sounding loudspeaker. The new A5R takes it to another level. Outstanding. *Hi-Fi World Jan 16*

**SPENDOR**

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# Magnum Opus

The new Opus#1 portable high-resolution digital player is a worthy competitor to the likes of Astell&Kern and FiiO, says Noel Keywood.

**A**stell&Kern of Korea started it, FiiO of China have expanded it and others waded into it – the high-resolution portable player market, that is. And once you own such a player it is difficult not to use it, even rely on it – as I rely on my Astell&Kern AK 20 for carrying around music and driving the hi-fi, via a DAC.

Where then does the new Opus#1 portable hi-res player from 'thebit' (Korea) I am reviewing

here fit into the scheme of things, I wondered?

The Opus#1 costs £499, making it more than competitive with Astell&Kern's renowned AK100 MkII – now £700 – which is smaller, lighter and has Bluetooth. But FiiO have their very effective X3 (£150) and X5 (£250) players in contention too, so the Opus#1 has competition, that's for sure. And it is roughly on par with the FiiOs for weight and size.

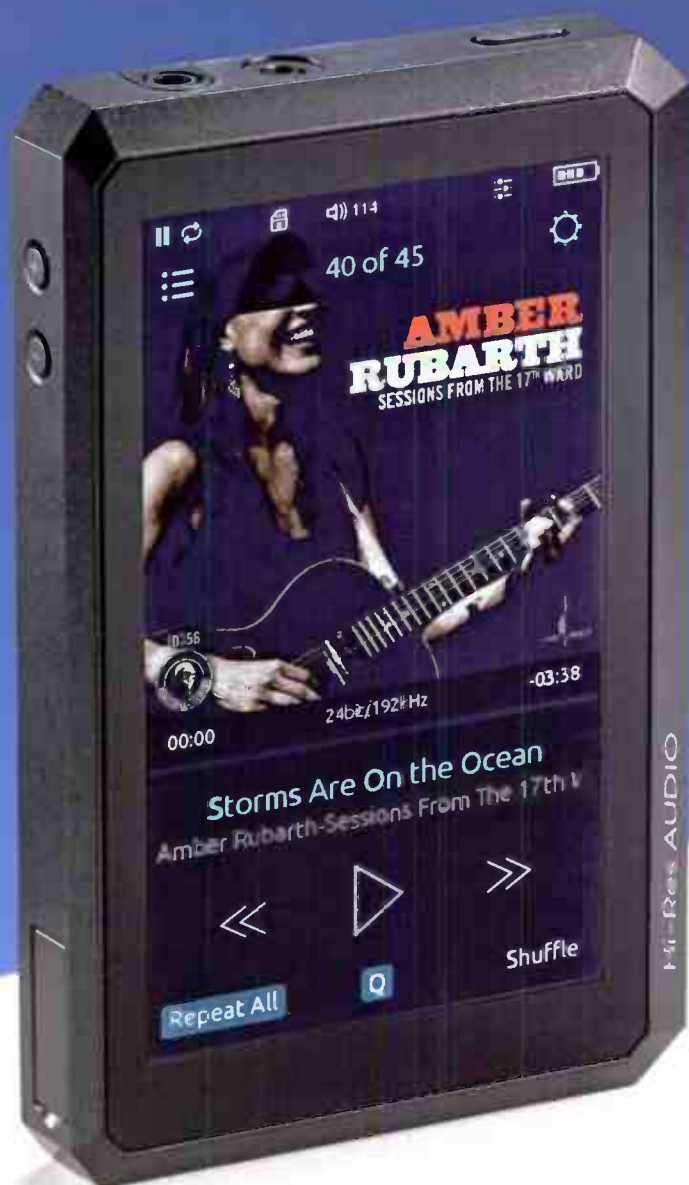
A weight of 193gms on our scales, and dimensions of 112mm

high x 73mm wide and 18mm deep allow the Opus#1 to fit a normal pocket, but only just – and it feels quite heavy in the hand, if solidly built.

Like Astell&Kern players, but unlike FiiOs, this little machine has an attractive 4in TFT touch screen of 480x800 pixel resolution that is both big and bright, occupying the whole front face of the player. I found it makes the Opus#1 look immediately attractive and it also makes it a tad easier to use than my AK120, whose screen is smaller. High resolution gives clean outlines, free from pixellation and here the Opus looks sleek.

The feature that first caught my attention however, is the presence of a balanced output. Aha! I thought – here we have audiophile specialisation, AK240 style. Yes, nestling alongside the conventional 3.5mm (3 pole) stereo headphone jack is a 2.5mm (4 pole) balanced stereo headphone jack. What this means in practice is that each earpiece is driven separately, fully balanced. There is no shared earth return as there is in a conventional 3 pole connection. It's an interesting way of doing things and it does improve sound quality I found when reviewing Astell&Kern's AK240 that has a similar arrangement – but it also raises awkward issues that I'll discuss later.

There is 32GB of internal memory plus two microSD card slots, each of which can address



128GB microSD cards. In all then, the Opus#1 can tote 288GB of storage space for music and if you reckon on 200MB per hi-res track that's 1440 tracks total – enough to last the longest commute. I tend to carry extra cards around so what the player carries onboard isn't of great importance.

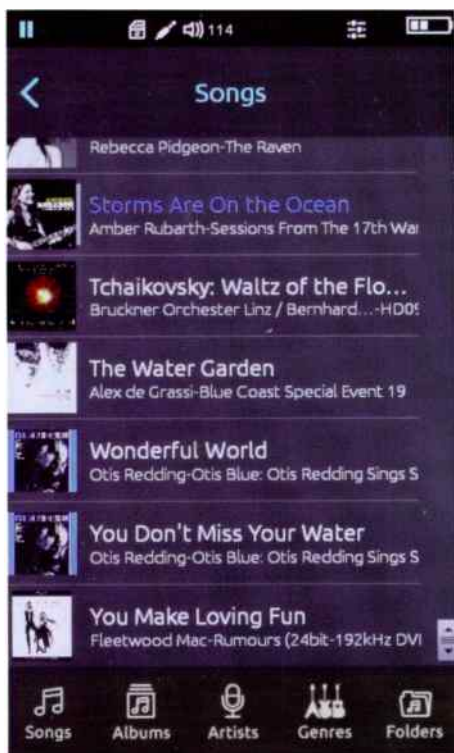
The hardware tally for this player is impressive. It uses an ARM



*The volume buttons (left) are small. A plastic cover protects its twin microSD card slot.*

Cortex A9 processor with 1GB of DDR3 memory, to cope with both the software instruction load and the high data rates demanded by 24/192 PCM as well as DSD. Start up time measured 25 seconds – not an age, but not fast either.

The OS is Android so plugging into a Mac the usual Android 'green man' loader appears, rather than a mass storage icon. The Opus will charge from a computer or USB power supply when switched off. It



*Track info and album artwork are easy to read on a fine resolution screen.*

will load from a computer when switched on, but it will not play; it will however play whilst connected to a USB power supply to avoid battery run-down.

Once up and running digital audio passes through two Cirrus Logic 4398 DACs (also used by the FiiO X3). 'thebit' don't identify their headphone drive chips, but they deliver a CD level signal of around 2V from both the normal headphone

output and the balanced output. That's enough for insensitive headphones, if still less than some

players, so this figure may well be bettered elsewhere but I don't think that is so important as the quality of the output amps, especially their dynamic range – and our measurements showed this was very high at 115dB. For a low current consumption, battery-powered player that is very good, rivaling mains powered hi-fi DACs, so 'thebit' have engineered this well.

If, like me, you are wondering just who are 'thebit' well, according to their website, they are a specialised Korean electronics manufacturer, boasting ex-Samsung engineers (like Astell&Kern) – you'll find them at [www.audio-opus.com](http://www.audio-opus.com).

With the substantial price tag and on-board processing power of this player, no surprise that it plays WAV and FLAC up to 24/192, but the spec curiously omits mention of DSD, even though this is mentioned elsewhere as compatible. My DSD64 and DSD128 .dff and .dsf test files played perfectly, so no problems here; the Opus handles all DSD. It handles APE and OGG, as well as Apple file formats.

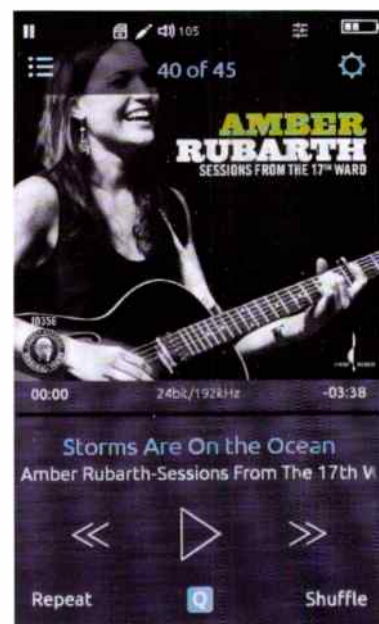
The on-line data is a little lacking and erratic and the downloadable Owner's manual little better; there's little mention of the balanced analogue output or the optical digital output within the 3.5mm headphone socket, as used by Astell&Kern, but not by FiiO who use an electrical digital (S/PDIF) output through an RCA phono style socket instead.

And on this FiiO have it: all DACs support 24/192 on their electrical input, but few work reliably at 24/192 via optical because their TOSLINK input receivers are inadequate (cheap?). It's something I suffer often with my AK120 – and funnily or ironically with an old but glorious



*The player's top face carries a conventional 3.5mm stereo headphone jack (left) and a 2.5mm 4-pole balanced output jack.*

analogue recording from the 1960s of Otis Redding albums transcribed to 24/192. I like to play this stuff to hear how the atmosphere of the studio in which Otis sang comes across but with many DACs it isn't possible; they fall silent. It is something to be borne

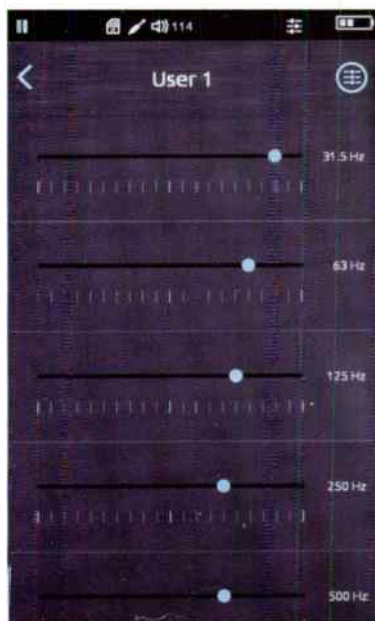


*The touch screen gives quick access to all music files (top left) and settings (gear wheel, top right).*

in mind with the Opus#1, since it outputs 24/192 via optical, even when playing DSD that it converts to 24/192 PCM.

Now to that 2.5mm 4 pole balanced output, something Astell&Kern also use in their AK240. Although it offers best sound quality you need headphones with separate earpiece leads that don't have a shared earth and you also need them





**There's an EQ function that can store User settings, to modify the sound balance.**

terminated in this miniature plug that is almost impossible to obtain in the UK, or an adaptor. I soldered up a cable for the AK240 and it was very difficult, because the plug cover is too small to accept anything but the thinnest cables and the solder contacts are so small a workbench magnifier, clamp and fine tipped soldering iron were needed.

And finally, the plugs are so delicate they break easily in use. In all then, a 2.5mm 4 pole is probably the worst connector I have ever come across, frustrating use of this player's balanced output socket. So it's a nice idea, but impractical.

**SOUND QUALITY**

I used the Opus#1 with Oppo PM1 and Philips Fidelio X1 headphones. I also connected it optically into a hi-fi comprising Audiolab M-DAC+ feeding Quad QMP monoblock power amplifiers driving Martin Logan Renaissance loudspeakers, although this bypasses its DAC of course, running it as a digital transport.

The overall impression of the player is one of smoothness and in this the Opus reminded more of FiiO players than Astell&Kern, which are snappier in their sound. There was a fine sense of space, evident with Bach's 'Concerto for Harpsichord Flute and Violin' (DSD64) where strings were well separated at left and right, the flute jumped out centre stage whilst the harpsichord wove a complex background. A constant nuisance here and elsewhere was the need to plough through a

warning notice at 120 volume as I took volume up and down. Using insensitive Oppos with low level classical raised this as an issue.

Tchaikovsky's 'Waltz of the Flowers', from 'Nutcracker' (24/96), put up strings as a full-bodied mass, as horns called out the main theme in my left ear, woodwinds lilting centre stage. There was plenty of space around the orchestra and the stage had believable depth to it. With Otis Redding singing 'I've Been Loving You Too Long' (24/192) the sense of studio space was again obvious in this old analogue recording (1965), the horns sounding big bodied and punchy in my right ear.

The Persuasions 'Angel of Harlem' (24/96) was similarly atmospheric, fulsome and easy going – a smooth listen and quietly impressive.

Fleetwood Mac's 'The Chain' had Mick Fleetwood's kick drum sounding full-bodied centre stage, with a nice sense of punch to it. Individual instruments were subtly yet cleanly

delineated; the whole came across as svelte in presentation.

The balanced output sounded more focussed and specific about instruments, picking them out in harder form. Little cymbal strikes jumped out more clearly and backing vocals came through with added force. There was a tad less muddle too, as if everything had been cleaned and polished to stand out more clearly.

**CONCLUSION**

The Opus#1 has massive processing power and can handle all audio files - including high data rate double DSD.

It also uploads the music library on the fly – no need to initiate an update after loading new music files - which is a bonus.

This player is easy to use and offers a lovely sound through its standard 3.5mm jack but its delicate 2.5mm four pole balanced output is difficult to use. A great player then, easy to use and very capable, but what a pity about the highest quality balanced output.

**MEASURED PERFORMANCE**

The Opus#1 delivers maximum analogue bandwidth from high resolution digital, stretching from 4Hz all the way up to 86kHz from a 192kHz sample rate digital signal – very wide. It plays 24/192 files and makes the most of them, in technical terms at least.

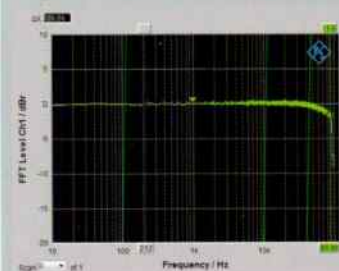
Maximum output from the 3.5mm stereo jack measured a high 2.2V,

the same as a CD player – and this is enough to go very loud with all headphones, even if it is a tad less than the 3V or more of some players. Maximum output from the 2.5mm balanced stereo jack was a little higher at 2.4V.

The dynamic range of this player measured a high 115dB (same as an AK120) through both the unbalanced and balanced headphone outputs – an excellent result, putting it up amongst the best from producing very little distortion or noise (from a -60dB test tone). Like an Astell&Kern, the optical S/PDIF digital output handles up to 24/192, but a lot of TOSLINK receivers still cannot handle this, a problem that all optical links face.

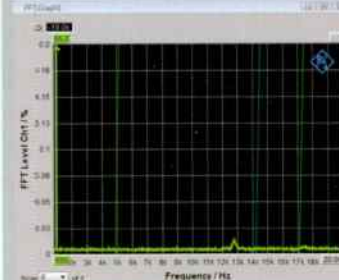
The Opus#1 measured well in all areas, delivering very high dynamic range in conjunction with conventional or balanced headphone drive. **NK**

**FREQUENCY RESPONSE**



**DISTORTION**

THD @ 100%	0.0411 %	Leveling	2.1813 mV	Response	99.724 Hz
CD	OFF	OFF	OFF	OFF	OFF



Frequency response (-1dB)	4Hz-86kHz
Distortion (24bit)	0.0006
0dB	0.04%
-60dB	0.04%
Separation (1kHz)	108dB
Noise (IEC A)	-113dB
Dynamic range	115dB
Output (unbal, bal)	2.2V, 2.4V

**OPUS#1 £449 HI-RES DAP (CASE £49.99)**



**EXCELLENT - extremely capable.**

**VERDICT**

A well built player with touch screen and easy access music file system. It has a smooth, full bodied sound, but the balanced output is difficult to exploit.

**FOR**

- ease of use
- full bodied sound
- clear file system

**AGAINST**

- balanced out socket
- a little bulky
- small volume buttons

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# Power play

**A new entry-level power cable from Scottish manufacturer Atlas makes a cost-effective upgrade for any system, says Jon Myles.**

**A**tlas has forged a strong reputation for its range of both digital and analogue hi-fi cables, the majority of which are designed and built at its headquarters in Kilmarnock, Scotland.

I was recently more than impressed with its top-line Ascent and Mavros Ultra digital interconnects while the Atlas Eos 4DD power cable is something of a benchmark product at around £200.

But there's no getting away from the fact that many people will balk at spending a couple of hundred pounds on a power lead no matter how good it is.

So Atlas has now introduced a new entry-level power cable in the shape of the Eos, that shares many of the same characteristics of the 4DD but comes in at just £125 for a 1 metre length (other lengths are available at extra cost).

Like the company's more expensive cables the Eos has been designed to counter the effects of RFI and EMI interference – a growing problem with the increasing number of Wi-fi networks, smart devices and switch-mode power supplies.

Proprietary low-resistance oxygen free copper (OFC) is used for the conductors with a PTFE dielectric and an anti-vibration filler. The conductors are then covered in a foil screening and the whole package sheathed in a thick black fabric sleeve.

Atlas says this construction effectively dumps airborne and electromagnetic disturbances to earth.

It also means the Eos is relatively thick and sturdy but it is flexible enough to make installation easy in

even the tightest of spaces.

## SOUND QUALITY

Plugged into a variety of components from amplifiers to CD players it's obvious the new Eos shares many of the attributes of the 4DD from which it is derived - namely a tightening up of the sound and lowering of the noise floor.

On a Naim CD5i playing Frank Black's 'Hang On To Your Ego' there was a more propulsive quality to the music - helped by an appreciably tighter low end. The bass lines on New Order's 'Bizarre Love Triangle' also seemed to have more punch, while the top end reached a little bit higher.

Moving the Eos onto a Creek Evolution 1000A amplifier the effect was even more pronounced. Whereas with a stock power cable the guitar notes on Nick Cave's 'The Mercy Seat' sounded somewhat blurred, they were now more distinct. Drums had greater snap to them and there was a sense that bass was going that little bit lower, laying a firmer foundation.

I can only attribute this to the cable removing some of the airborne and electromagnetic interference that can infect a system and smear the sound. It was most noticeable when I removed the Eos and plugged a standard cable back in. Suddenly the music became a little fuzzier and

indistinct - losing the overall clarity it had with the Eos in situ.

Admittedly, something like the Eos 4DD does bring even greater improvements (see Hi-Fi World September 2015) but it also costs £75 more.

As such the Atlas Eos proves a cost-effective upgrade for both source and power components - bringing definite sonic improvements to both at a realistic price.

## CONCLUSION

The Atlas Eos shares many of the qualities of the company's more expensive cables at a much more wallet-friendly price. Expect increased definition and a cleaner sound from whatever you plug it into.



**ATLAS EOS £125**  
(1 METRE LENGTH)



**OUTSTANDING** - amongst the best.

**VALUE** - keenly priced.

### VERDICT

An excellent mains cable that brings significant sonic improvements without breaking the bank

### FOR

- better definition
- extended frequencies
- clearer sound
- price

### AGAINST

- nothing at the price

Atlas Cables  
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LOUDSPEAKERS IN  
THIS MONTH'S GREAT  
GIVEAWAY WORTH  
£649!**

**H**ere's your chance to win the superb Dali Opticon 2 loudspeakers we reviewed last month. Read the review excerpt below and answer the questions.

"Dali's new Opticon 2 is a traditional small standmount measuring 351mm x 195mm x 297mm (H/W/D) with a single pair of speaker terminals at the back, above which sits a small reflex port.

Both the mid/bass and tweeter are in-house designed. The former utilises a mix of paper and wood

fibre that is said to ensure very low surface resonance while the latter is a large 28mm soft dome unit enclosed in a metallic housing.

It looks distinctive and rather different to the average standmount - a quality that is confirmed by a firm rap on the cabinets which are substantial and well-damped. Dali uses its own Danish-based cabinet manufacturer for these, so perhaps that's not too surprising. Our review sample came in a light walnut finish but black ash and white matt satin vinyl versions are also available.

The Opticon 2s are balanced for small and medium-sized rooms and

are best being placed around 35cm or 50cm from a rear wall for decent low-end response.

Then they become well balanced. Mainly because they combine a rich midrange with a nicely judged treble that is neither too sharp nor lacks anything in detail. Paired with a Creek Evolution 100 A integrated amplifier via Tellurium Q Silver Diamond cables the classical/modern fusion of David Chesky's 'Area 31' had presence and drama. The timpani parts especially rolled into the room with force."

For a chance to win this great prize, just answer the four easy questions at right. Send your entries on a postcard only, by 10th August 2016, to:

**August 2016 Competition,  
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## QUESTIONS

**[1] How many terminals are there?**

- [a] three pairs
- [b] multiple pairs
- [c] two pairs
- [d] a single pair

**[2] A firm rap with knuckles confirms?**

- [a] substantial cabinets
- [b] woodworm
- [c] bo weevils
- [d] sore knuckles

**[3] Finishes not available are?**

- [a] light walnut
- [b] white matt satin
- [c] black ash
- [d] volcanic ash

**[4] What had presence?**

- [a] the port
- [b] the terminals
- [c] Area 31
- [d] fixing screws

**entries will be accepted on a postcard only**

**MAY 2016 WINNER: MASS FIDELITY CORE WIRELESS LOUDSPEAKER  
Mr. Geoff Tucker of Poole, Dorset**



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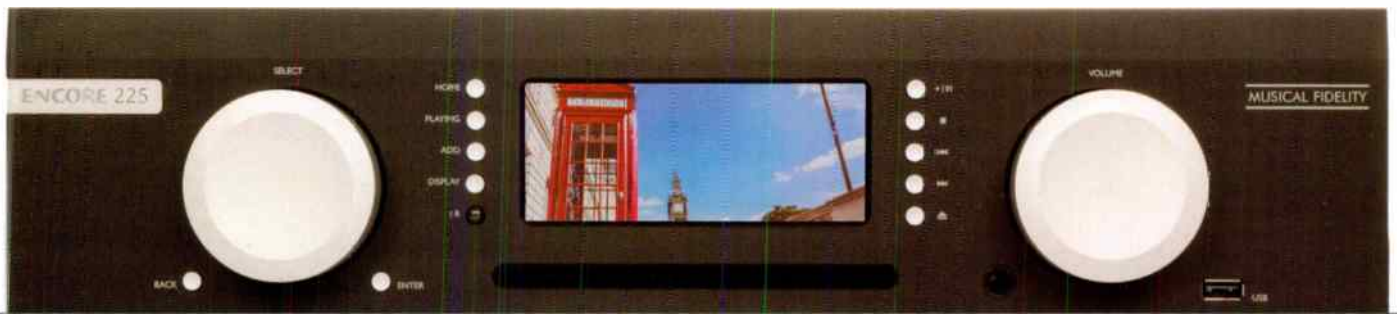
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then £133.30 per month  
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# Mail



Visit our website at [www.hi-fiworld.co.uk](http://www.hi-fiworld.co.uk) or send your emails to [letters@hi-fiworld.co.uk](mailto:letters@hi-fiworld.co.uk). Letter of the month wins a pair of QUAD S2 loudspeakers.

Answers by: NK - Noel Keywood; JM - Jon Myles; PR - Paul Rigby; MP - Martin Pipe.

## LETTER OF THE MONTH PRIZE



### QUAD S2 LOUDSPEAKERS

CHOICES OF COLOUR: **BLACK OR MAHOGANY**

For more advice see Letters from earlier issues at [www.hi-fiworld.co.uk/letters](http://www.hi-fiworld.co.uk/letters)

A pair of QUAD S2 loudspeakers are on their way to ZAPHINKAS, Letter of the Month winner in our July 2016 issue.

## Letter of the Month

### CURVE TALK

Having enjoyed Noel's Opinion piece "CD is no candidate for the rubbish bin – but the bell curve says otherwise" in the May 2016 issue and also the Letter of the Month in the same issue which poses the question about the benefits of upgrading a digital streamer to allow playback of digital media at double the bandwidth, I got to thinking that there were perhaps two important curves that we audiophiles need to consider – the other curve being the s-curve.

The s-curve describes the evolution of innovation in a technology area and plots increasing performance against time (or sometimes levels of investment against performance). The curve describes the development period of a technology, the inflection at the point of breakthrough followed by a rapid rise in performance until all the benefits of that technology have been exploited. In fast moving technologies like computing, competing technologies's-curves overlap. There is a lot of information on this topic on the web where I found an extract from a book (on nano chemistry by Lynn E Foster) which explains the idea concisely:- <http://flylib.com/books/en/2.453.1.46/1/>.

CDs are an evolution of the portable digital storage media



The propeller reached its limit on this aircraft, a racing Sea Fury, we are told – and this represents the top of an S curve, Greg Tzemis tells us. Photo courtesy of Sanders Aeronautics, USA - see [www.sandersaircraft.com](http://www.sandersaircraft.com) for more.

technologies which started with the floppy disk. This saw digital storage capacity rise from 10s of kBits on early floppy disks through to 1.44 MB of the 3" floppy to the 700 MB of the 52 x recording speed CDs which allow more than two sides of vinyl to fit on one cheaper to produce, cheaper to

transport, cheap to store medium. Then along came the DVD, and then Bluray... at the same time, the SD card has developed and become the new floppy disk and now digital storage is available "in the cloud" for not very much, allowing the move to High Resolution digital streaming, which brings us to the



question posed by Denis Haliday (96 kHz or 192 kHz?).

But we shouldn't forget the bell curve, which is more about the mass market for the most recent music medium as sold by the music industry. In the same way that youth abandoned the portable record player for the Walkman, the Walkman for the portable CD player and then moved on to the iPod and MP3s (where the ability to store a collection of music was valued over sound quality).

The audiophile is just a bit player in the music buying world (pun intended!). So as technology has miniaturised the portable player we are moving away from physical media, towards virtual media (even if we haven't quite figured out how to reference and store classical music easily). The whole world is wearing earphones and carrying their entire music collections on smart phones and sometimes audio media players.

I suspect the move away from a permanent record of the music which has defined the music industry since the 1920s has more to do with an attempt by the industry at finding the beginning of the next bell curve - it is not by accident that the ownership of a download is non-transferable.

Back onto s-curves. The professional recording industry is also evolving rapidly through various s-curves and performance is reducing the gap between master recordings and what is available to the public. The CD historically has a wide range of recording sources, some deriving from the era of 78s and suffering poor ADC techniques while some recordings are only available on CD - so there is work to be done to sort the wheat from the chaff. But there is a huge range of music available on CD and the best part of the downward slope of the bell curve is that prices are plummeting.

So (finally!) onto my point which is that as audiophiles we are all attacking different parts of the s-curve - some are early adopters and on the bleeding edge of technology on the latest s-curve, some are attacking the tail of the previous but two curves (new car vs vintage car.)

Sitting as it does, across the divide between physical media and virtual media, we audiophiles have two potential ways of getting the best from 16 bit 44.1 kHz (Redbook?) CD. We can explore the best CD player technology now at the height of the development curve, with a shrinking number of players coming onto the



**MSB of the USA make their own ladder convertor, for which they claim lower noise and higher dynamic range than all else. Is this the best way to play CD? We hope to find out.**

market - while taking advantage of the improvements in DAC technology - or we can explore the new media players (streamers) which are looking to match the recording industry at 96 kHz and beyond. Which we chose - or which is better is open to debate and may be influenced by the part of an s-curve we prefer instinctively to attack.

Having recently heard a stunning CD player where attention has been placed on a multitude of power supplies and improved clocking I can't help thinking that there is much to still extract from 16 bit 44.1 kHz digital recordings, especially as we move away from lasers and as portable HD digital players evolve into something more permanently connected to our systems.

creating a better non laser based tool to mine the wealth of material on CD heading towards the skip. Or is 102dB Dynamic Range the best CD can get? Either way we need to keep monitoring new digital equipment performance with 44.1kHz material as well as the higher bit rates.

Race you to the charity shop.

**Greg Tzemis**

Hi Greg - and thanks in particular for your reference to an S Curve that just happens to use development of the aircraft propeller as an example, and even alludes to the Reno (Nevada) air races that I dearly hope to visit very soon - because who doesn't want to see



**Or we can play music from the cloud with a streamer, says Greg Tzemis via the likes of Naim's networked products.**

The assumption is that what works for 192kHz will work at 44.1kHz - this may not be true and there may be benefit in focussing attention on

a racing Sea Fury that features in the curve! Bemused readers can find more on YouTube: type in Reno Sea Fury.

But surely the S curve as depicted is the first half of the bell curve and is similar? It depicts technological development, where propellers used in the example were inevitably going to reach their limit, as Stanley Hooker, head of Rolls Royce, noted in his book *Not Much of an Engineer*. The bell curve relates to sales rather than technologies and was used by Philips to predict the market life expectancy of items like the LP, cassette and CD.

CD is something Fred Flintstone used. I visited a dealer for a dem. only yesterday where they were going to put on CD, until I pulled an Astell&Kern AK120 player out of my pocket and asked them to play hi-res instead. The improvement in sound was obvious. British manufacturers commonly still use CD too, so Flintstone is still with us. But after hi-res I have learnt to detect CD's barrenness, its muddle and distortion and use it little now when reviewing product for this magazine. I could mistakenly think the distortion of CD was attributable to an amplifier under review.

What you have to bear in mind here is that CD produces 0.2% distortion at -60dB whilst a solid-state amplifier will be producing 0.01% and a decent valve amplifier 0.1%. Worse, that 0.2% figure is quantisation noise from 16bit, so it cannot be lessened by new technology. The 102dB dynamic range value of CD is close to its absolute limit (the new Audiolab M-DAC+ manages a few dB better).

Having said all that, I grudgingly agree with you that when done properly CD can still sound good. I've just been playing Dali demo CDs through the new Audiolab M-DAC+ into Martin Logan's new Renaissance electrostatics that featured in the July issue – and I have never heard anything quite like it. Breathtaking – even with CD and all its Flintstone faults! **NK**

### OPEN VISTA

*I decided to put pen to paper (so to speak) after reading the editorial in the July 2016 issue. You said open panel loudspeakers are worth hearing, especially Martin Logans. I could not agree more.*

*I have been listening to music since a nipper and being into hi-fi big time since I was a teenager some thirty five years ago. I was also in the mid to late 1980s a dyed in the wool flat earther.*

*Speakers I have owned in the past*



**Martin Logan Vista loudspeaker**  
**"I have never kept on to a piece of hi-fi equipment for so long" says Jonathan Diamond.**

*include Linn Kabers, Linn Isobariks, Rega ELAs, Jamo Concert 11s and so on. I have always been keen to change my hi-fi, however for the past ten years I have been listening to Martin Logan Vistas and they are just fantastic. Even though I seem to have changed everything else in my system, I have kept on to these speakers.*

*I am lucky enough to have a dedicated listening room. It is pretty small, only 15 by 8 feet and believe it or not, the Martin Logans sound fantastic in that room. When I have friends come over to listen to music, what they say is that everything sounds so clear and fills the room with music. This is one thing that I never got from box loudspeakers as they were never that clear and the imaging was nothing like my electrostatics.*

*Even though the room is very small and my listening is near field, I have managed to fettle things to make the best of what I can hear. When I went for these Martin Logans, I did not want an active bass unit but wanted the amplifiers to do the work. I then had solid state. I moved on to valve amps and I now have a pair of Icon Audio*

*monoblocks and the sound that I have is I would say the best ever.*

*Anyone who has not heard electrostatic speakers must really hear them. I think I have made the best of it because, as I say, the room is very small and the speakers need to be placed near to the rear wall, so I used my Icon Audio amps in triode mode rather than ultra-linear. This seems to prevent the bass unit of my hybrid speakers competing with the electrostatic panels.*

*Whether electrostatics are entirely accurate is maybe another matter. However when you go to a concert and you hear live music you tend to hear the music through solid state amplifiers and box speakers. One should then ask how accurate is this anyway? What I believe I am hearing through my Martin Logans is maybe a performance in a studio but having never been to a studio I am only guessing.*

*I think the big criticism of Martin Logans have been the integration between the bass unit and the electrostatic panel. Either I have got used to this in my room or I have managed to get things just right.*

*I have never kept on to a piece of*



hi-fi equipment for so long and I was thinking of changing them to the new version of the Vista which is the Martin Logan Theos. However my guess is that it is going to sound very much like my Vistas and bearing in mind that they look almost identical I have decided not to change them for the meantime. Therefore ten years of owning a piece of hi-fi equipment must be a record for me! I already have on order a Michelle Orbe so I still have this itch that needs to be regularly scratched – but not with my Martin Logans.

Will I ever go back to box loudspeakers: never! With these Martin Logans they can even rock and go as loud as I need. The only downside to them is that because they are so revealing you cannot hide poor quality recordings and CDs never sound anywhere near as good as vinyl.

So what is so great about Martin Logans? They sound open (rather than muffled), they are crystal clear (as sharp as a pin) and the music in an accurate way washes all over you rather than coming from an enclosed box. That is the difference!

**Jonathan Diamond**

Thanks for your experiences Jonathan. As you say it is integration of closed box bass to open electrostatic panel that is subjectively obvious in Martin Logans, something I have learnt to live with. Returning from T.H.E. Show Newport, USA, where I saw many open baffle woofers, I can't help wondering whether this way of producing bass might be a way to go. **NK**

### FULLY ARMED

Ever since David Price's great review of the TimeStep modified SL-1210 MkII in the August 2009 edition I have been curiously intrigued by this venerable deck. For 2 years from 2010, my beloved Orbe SE with SMEV and Ortofon 2M Black resided in all its original packaging, safe in storage during a particularly messy and prolonged house refurbishment. During this time away from vinyl, withdrawal symptoms compelled me to splash out on a very fine example of a Technics SL1210 MSG, second-hand, via a reputable dealer. The stock arm housed a 2M Black with little wear. Result.

Upon completion of the listening room, we ran both decks side by side but keen to see what the 1210 Grandmaster could do, we bought a TimeStep bearing and external PSU from the helpful Mr Cawley at Sound HiFi.



**Technics SL-1200GAE Direct Drive turntable. It looks like the less expensive SL-1210 Mk2, but is in fact entirely new in its motor technology and underlying physical construction.**

We also happened upon an ex-demo SMEV (yes, most households would be overjoyed with one and my wife and I rejoice every morning when we wake up to two) for a very reasonable asking price. After a service and rewire at the SME factory, which we were kindly shown around when we dropped off the arm and enjoyed a fascinating couple of hours amongst their mind blowing machines, we dropped this new acquisition into a TimeStep armboard on the SL1210 MSG. We also did the strobe disable mod and LED upgrade etc, plus removed all the surplus junk inside. Soldering seems like a great idea until your kitchen table is covered in bits of wire, you've burnt your thumb, scorched your wiring and dropped a tiny circlip on the floor and think you heard where it landed.

For some time we have been delighted with the Orbe SE and modded Technics choice. The Orbe has our original SMEV, bought from new, with a Benz Micro SL MC cartridge. The

Technics has the refurbished ex-demo SMEV, with Ortofon 2M black, both conveniently connected to an Icon Audio PS3 Mk1, which makes switching between them a doddle. Tori Amos, Ben Folds and Carol King spin on the Orbe whilst Talking Heads, OMD and Erasure seem to suit the SL1210 better.

We listen to vinyl all the time and love our two turntables but we cannot bring ourselves to spin plastic with visitors. The nerves get the better of us. Neighbours and friends have record collections which they enjoy but at the risk of sounding like vinyl snobs, you should see the state of some of their kit! Snapped and bent cantilevers, shot bearings, mangled platters, missing feet, it's a wonder they get any sound at all!

Non hi-fi types can rarely get their heads around arms costing more than a few months' worth of mortgage. People typically exclaim "And you don't even get a needle with that?"

For this reason we discussed getting yet another turntable, this time maybe a bashed up old SL1210, perhaps an



**The SME V pickup arm - "most households would be overjoyed with one; my wife and I wake up every morning to two" says James Watson.**



**A Mike New brass bodied upgrade bearing for the Technics SL-1210 Mk2. See our February 2015 issue.**

ex-DJ deck, that we could play tunes on during impromptu parties, without having palpitations every time one of our guests made a move towards the setup.

Only thing is, we don't really 'do' mediocrity. We snapped up another SL1210 alright, but this was previously cherished by a HFW reader and was already heavily modded, with Mike New bearing, TimeStep PSU, Inspire plinth and Isoone isolation feet. We now own three very decent turntables, all of which are precious.

Hang on, this was not supposed to happen! Having done a bit of cross-fertilisation we have an SL1210 MSG with Mike New bearing and solid copper arm board, plus TimeStep PSU. This sits aside a new (to us) SL1210 MkII with TimeStep PSU, bearing and armboard. Both currently support SME V arms, one carrying an MC and the other an MM. We are not sure the Inspire plinth adds (or subtracts) anything to the sound. Furthermore we cannot really hear much between the Mike New bearing and board, and the TimeStep bearing and board.

To be perfectly honest, we are not convinced we could hear much over the stock Technics bearing but one cannot fail to appreciate the engineering theory and quality in construction of both replacement options. We are pretty hooked now on the DD sound and that iconic Technics platter with strobe spots on the rim, spinning under quirky bright LED in a darkened room, is a sight we will never tire of.

The dilemma now is what to do with the dear old Orbe SE, currently in suspended animation due to lack of an arm. We have only ever ran an SME V on the Orbe but I remember reading another David Price review about a top end Origin Live Arm. I think it was the Conqueror. How do you think this matches the Orbe, compared to say a

V12 or Graham arm? It would be easier (and cheaper) to put a Series V back on the Orbe and look out for a Rega RB, perhaps OL modified, to put on our second SL1210. We have an Origin Live arm board for this.

Dave Cawley loves the SME309 and AT33EV combo for the SL1210, and we are keen to explore more MC options. Being the very proud parents of two Series V arms, it might seem a retrograde step to acquire a 309, purely to free up one of the big boys to go back on the Orbe, when we might be missing a more synergistic arm that would sit better with the more relaxed and laid back performance of the belt drive, given the gentler genres we tend to play on that table.

If you were lucky enough to have our little family of turntables, what arms and cartridges would be on your radar?

Always enjoy the magazine but it is slightly counter-intuitive to think your ever brilliant vinyl section 'feels' to have shrunk a little over the past few years when interest and enthusiasm in the format is still growing amongst a whole new generation. I guess they might not be the sort to read printed media.

Yours,  
**James & Sarah  
Watson  
London**

Hi James and Sarah. My reaction to your predicament – if that is the right word! – is that no arm, in its sound quality, especially suits a belt drive,

since compensation isn't possible for the slightly soft timing they typically exhibit. The only matching issue is that of weight – and since your Orbe has previously carried an SME V, its suspension is presumably adjusted to accept its weight.

Few arms sound as fast and tightly controlled as the SME V and since this is what you are used to I would suggest you simply stay with what you know. Also, SMEs are satisfying to use – and this matters to me. The Origin Live Conqueror and Rega RB variants are all superb sounding designs and work well too, but they won't make belt drive sound like Direct Drive.

I think you are barking up the wrong tree here. What you may like to consider for the future is a better Direct Drive, such as the new Technics SL-1200 GAE that is purposed more for hi-fi use than disco use. The old 1210 used an early motor of limited torque; to get fast start needed for disco work the platter had to be made very light, which isn't ideal for hi-fi.

Modern Direct Drive motors, now used everywhere from aircraft servos to washing machines, are a whole different ball game, around which an industry has developed. They are more powerful and can drive heavier platters, cope with larger bearings having more bearing drag – and what have you. Technics specifically state they use a modern hi-tech direct drive system able to develop greater start torque, driving



**Arcam's Miniblink – a Bluetooth receiver for the hi-fi. Bluetooth uses a unique compression algorithm to reduce data rate of CD and this limits quality, Jon Myles notes.**

a heavy three layer platter comprising brass top plate on an aluminium die casting, damped by a layer of deadening rubber on the underside. Similarly the plinth is much sturdier than before.

Only the arm has come under





**The real Audionote 4.1X CD player, not the 4.1X DAC we mistakenly published last month.**

critical gaze and here I know Dave Cawley of Timestep has been talking to Technics engineers about after-market improvements, including arm upgrade. This is the way to go I suggest. **NK**

### OUTGOING TIDE

Many thanks for your response to my letter (July 2016). It has started me thinking.

I do in fact use three systems:

- (1) an HTC M7 (phone) streaming a Spotify subscription to a Bose soundDock.
- (2) a World Audio Design preamp driving an Arcam Delta 290 power-amp to Mission 753 floorstanders.
- (3) an all-valve Audio Note system... and I was pondering the differences in the

WAD 300B PP mono-blocks and they too are a gem.

As for the difference between vinyl, CD and streaming... well I don't believe that they are mutually exclusive. I buy a lot of vinyl and CDs but also have a Spotify subscription and so have compared the sound and different technologies.

As a comparison I used "Kind of Blue" streamed from both the HTC (phone) and MacBook Pro over Bluetooth to an Arcam MiniBlink connected to a solid state amp, and the CD played on a Naim CD5, an Arcam FMJ CD33 and an AudioNote CD4.1x.

With streaming, try as I might, I couldn't really hear any difference between Tidal and Spotify hence I discontinued the Tidal subscription.

Spotify is, I felt, great as background but not something to listen to with the lights out.

Comparing the valve based AudioNote CD player with the two solid-state CD players (Naim & Arcam) was also interesting. Both the Naim & Arcam were very detailed. The soundstage was wide and three dimensional and there was great detail. These are the machines to use if you want to learn a song or a music part. This prompted an almost academic close-listening of the music and you could really hear what was going on.

The AudioNote (as NK said in July) is very different. It doesn't have the forensic level of detail that the good solid state boxes possess. My analogy here is that the two transistor based CD players were like a high-def TV almost a 4K box; you can see (in this case hear) every detail "better than life". But the AudioNote valve CD player was like being at the concert with all the foibles that come with a live event. With the solid state players I could concentrate and was really drawn to listen to exactly what each, perfectly placed, musician was doing. With the valve CD player I was drawn into the beauty of the music itself exactly as though at a concert and more often than not I drifted away into a music world. In short, very different technologies giving a different listening experience.

One minor point from the July edition: the picture of the AudioNote box on page 26 is in fact the AN DAC 4.1x and not the AN-CD 4.1x which is a one-box version of the AN Transport Two/II and AN DAC 2.1x.

Best regards,  
**Zap (zaphinkas)**



**The dBX 215S parametric equaliser has bands at 20, 40, 63, 100, 160 and 250Hz where gain can be boosted or cut by up to 12dB, to help tame room resonances. It costs just £200 or so. In John Simpson's 10ft square room the 63Hz band needs gain reduction.**

light of your comments last month.

I think that the World Designs three box pre-amp is an excellent piece of kit and tremendous value in terms of cost and the quality of output. It was also very straightforward to build and has incredibly low background noise for a valve amp. And it works very well driving the solid-state Arcam power amp and the fairly hungry Missions. I also have

This might be down to the MiniBlink of course and I would appreciate your guidance on the best Bluetooth receiver up to say £500 as an alternative to the MiniBlink.

With Kind of Blue played on a CD the sound was completely different and more detailed. An analogy might be that Spotify was like a black and white pencil sketch but the CD was a colour photo.

Ah, you spotted the deliberate mistake! Thanks for those observations Zap. I am sure readers will find them useful. Jon Myles is a streaming man and has something to say about your Tidal experience and Bluetooth. **NK**

Hi Zap. With regards to streaming, both Tidal and Spotify will sound

pretty similar via Bluetooth. The problem isn't with the services but with Bluetooth itself. While it is a handy means of wireless transmission it is still a compressed format - rather like MP3 although rather better.

Therefore, there is a limit to how good it can sound and with the Arcam MiniBlink you are getting to the higher end of this. But, as it is Bluetooth, there is still compression which is why Tidal and Spotify sound similar.

However, the two services do differ in terms of bit-rate. Spotify Premium will give you 320Kbps maximum while Tidal can offer 1411Kbps - which is the equivalent of CD quality. So if you want to hear the latter at its best Bluetooth will not do it - you will need a streamer from the likes of Linn, Naim, Chord etc. that can make the most of this capability.

Personally, I've been using Tidal for quite a while and am rather taken with it. But you need the relevant equipment to maximise its sound quality and Bluetooth doesn't do that.

**JM**

### HI-FI GARDEN

*Please help me before my hi-fi gets thrown in the garden. I have been relegated to a smaller room measuring about 3.5 by 3.5 metres. The bass is too deep and dominates any recording. The system (boring bit) consists of a Krell 505 Evolution CD player, a Krell KRC preamplifier, Krell 600 FPB power amplifier and Sonus Faber Olympica 1s. Interconnects are Audioquest balanced Columbias and I have tried many speaker cables including QED Genesis, MIT Terminator, Tellurium Q and some old but good Symo none of which make any significant difference.*

*The speakers are new positioned a full metre from the front wall. I really don't know what to do next. I am recently retired and can no longer afford expensive upgrades. Any ideas?*

**John Simpson**

Hi John - and I think you know what I have to tell you: the room is the problem. A 10ft square room is a hi-fi no-go area. You have a massive room resonance at 67Hz, that will make itself known if you either sit against a wall or place the speakers against a wall, or both - which is worst. In a 10ft square room, there isn't space to manoeuvre so you are rather stuck with this situation. You must not over excite the room, meaning you need

small stand mount loudspeakers and your Sonus Faber Olympica 1s are good enough I would have thought.

The only other route is to reduce bass output around 67Hz, meaning the use of a room tuning system (expensive), or a parametric equaliser. If you don't want to spend money, how about adding a dBX 512S (£120) equaliser between pre and power amps? This has a band at 63Hz that will tame your room peak quite well. There are plenty more equalisers available and a parametric equaliser is best, because it is tunable. You can try bass traps too - see Studiospares - that are usually made of acoustic foam and stand in corners, but I don't find them very effective and suspect they won't offer enough attenuation in a 10ft square room to eliminate the boom, but they may well help overall bass quality in conjunction with an equaliser.

Small rooms can be made to work, but it is a bit of a wrestling match. **NK**

*Plus including the battery power supply. The preamp is a Cambridge Audio Azur 840E to two bridged Myryad MA 240s power amps. Speakers are Wilmslow Audio Centrion kit speakers with Scan-speak ring-radiator treble units.*

*Connection throughout is balanced including the turntable to pre-amp. The power supply is also balanced with an isolation transformer after a PS Audio Power Plant which regulates the mains. The mains supply is further improved with various filters and Russ Andrews mains cables. All equipment is on isolation platforms and Michell isolation cones.*

*Your advice would be welcomed.*

**Peter Graves  
Stockton on Tees,  
Cleveland**

Go for the Low Output model (e.g. Hana SL) because they usually have better tracking ability, due to lower coil mass from fewer turns. Don't forget the excellent Denon DL-103R also, that has a lot of followers, and the better Audio Technicas, including



**Clearaudio Balance + phono stage used by Peter Graves has balanced inputs as well as outputs. The turntable must be re-wired to suit, but hum is eliminated.**

### BALANCED MC

*I am considering changing from a moving magnet cartridge, an Ortofon 2M Black, to a moving coil. The Hana SH or SL with the same Shibata stylus as the 2M Black at a relatively low cost are my first choice. Which would be the best, the high output or the low?*

*I am after a moving coil which does not have a rising treble as many do, nor a falling one. At a higher budget I am also looking at an Ortofon Cadenza Bronze or Black and the Transfiguration Axia. Or is the difference between the 2M Black and any moving coil so small as not to be worth making the change?*

*The turntable is a Michell Orbe SE and SMEV arm (I have a Michell arm mounting kit to fit which will make a difference), with a Clearaudio Balance*

the top AT OC-9 MLIII with its excellent stylus and superb treble. The Ortofon 2M Black is a step up in terms of "moving coil-ness", sounding more spacious and sophisticated.

The Ortofon 2M Black is a very, very good MM, but you will hear improved dimensionality from a good MC. You may not be quite so wowed by the difference between it and budget (circa £500) MCs though.

A balanced input phono stage like your Clearaudio Balance Plus is ideal for low output MCs, so you will get the best from what you buy. I am very impressed by this, since there is little awareness in the UK about running a turntable balanced, so eliminating hum and interference.

**NK**





Arcam's wonderful little irDAC gets an upgrade. Martin Pipe listens in to irDAC-II.

# It takes II...

**W**hat a difference two years makes! In 2014, we marvelled at the original irDAC (itself a development of the 2010-vintage rDAC), part of Arcam's 'RSeries' range of products pitched at tech-savvy listeners. Now we have irDAC-II.

Basically, the £400 irDAC was a converter that packed a lot into its deceptively-substantial little case – a flexible six inputs (including USBs, for superior PC audio and iPod playback), a remote control,

24-bit/192kHz sampling support, a TI/Burr-Brown PCM1796 DAC chip and audiophile-grade analogue components.

At the time, I described its performance as 'effortlessly musical' – and yes, the irDAC was very easy to live with. Very much a good all-rounder, then.

But much has happened since 2014. Numerous DACs have come our way, and in particular Chord has put a bomb under the market in the form of its Mojo and Hugo products – which also boast fine built-in headphone amplifiers.

Furthermore, the DAC market has had to accommodate rapid changes in music consumption. DSD support is now a must, USB connectivity enables your computer to act as a worthy source and woe betide the manufacturer who launches a DAC without integrated Bluetooth for streaming music from tablets and smartphones.

In the old irDAC Bluetooth and DSD playback were absent. Nor had provision been made for headphones; well, in 2014 a 'DAC was a DAC'...

The recent 2016 'reboot' of the

irDAC adds all these goodies – at the expense of the iPod USB port.

At £500 the new irDAC-II is a more expensive proposition; I was told that 'new replaces old' and so you'll need to pay that extra £100, even if you have no need of DSD, headphone drive or Bluetooth streaming.

Having said that, it's time to mention one of the other goodies. There's new DAC silicon under the bonnet – one of the ESS Sabre32 'wonderchips' (specifically, a ES9016K2M) that Noel raves about. Its 24-bit/384kHz abilities are supported here via USB.

But that's not all. There's little point in having a headphone amplifier without any means of adjusting volume, so the irDAC-II has a volume control. This variable output is available on a pair of phono sockets; concerned purists will appreciate that a separate (and simultaneous) 'fixed' output is offered too.



**The irDac-II's XMOS chip contains the control micro-processor, together with the asynchronous USB port that unlocks the potential of PC playback and DSD-over-PCM. It has a neat but complex interior, reflecting its many roles and technological capability.**

Other components include JRC 4556 high-current op-amps for the headphone output, a mixture of OPI652 and L49722 op-amps elsewhere on the analogue side of the DAC, a pair of muting relays, an XMOS microcontroller and asynchronous USB interface chip (Windows drivers – necessary for hi-res and DSD-over-PCM - from Arcam's website), a PCB-soldered Bluetooth module and a raised daughterboard containing the headphone socket and infra-red sensor. A short ribbon cable snakes off into the lid, the location of a third circuit board that contains the irDAC-II's top-mounted source indicators (optical I/2, coaxial I/2, USB and Bluetooth) together

with buttons to sequence through inputs, and raise or lower volume. The interior layout is neat and tidy. A good sign for reliability; I had the unit powered continuously for several weeks, with no trouble at all. It didn't get excessively warm, and during my time

with the irDAC-II I didn't experience a single playback 'glitch' or freeze-up. Thanks to its minimal design, it's also exceptionally easy to use; PC USB audio and Bluetooth spared me from head-scratching (although the LEDs can't confirm whether you're listening to DSD or PCM, never mind provide you with more in-depth information about your source). But one 'silly' was obvious. Given that its volume control is software-driven, why can't the irDAC-II 'remember' a different preset level for each input? That way, you won't get a sudden jump in volume after switching from one source to another. Hopefully,



**The handset will remotely-change volume and select sources. Via something called HID (Human Interface Device) control, it will also 'give you transport control of a PC or Mac USB source'. What a pity the instruction book doesn't provide more details.**

Arcam's talented software engineers can fix this with a firmware update that

owners can download and install (the irDAC-II supports these).

The manual hints at using the supplied remote – usually for DAC volume and source selection – to control music playback on other devices (smartphones, PC software etc). A potentially useful feature, but more explanation – along with a list of tried-and-tested products - is needed! In time, one hopes, Arcam will add such info to its online FAQ (Frequently Asked Questions) list.

**SOUND QUALITY**

Listening was via my Arcam A49 integrated amplifier, driving a pair of Quadral Aurum Wotan VIII floorstanders – and it has to be said that the modestly-priced irDAC-II did not disgrace itself in such distinguished company. I also tried the device with a much cheaper system based around an Onkyo A-9010 and Rogers GS6 speakers; its key virtues remained evident. Listening sources included a Samsung S4 Mini smartphone, Windows 7 PC and Cambridge CXN streamer. Most of the music played consisted of losslessly-compressed (FLAC) CD rips and hi-res content stored on a QNAP NAS box..

The first thing I noticed was how much detail is audible. Take Changes (CD-sourced FLAC) from the early '80s soul/funk band Imagination. In particular, the character of acoustic percussion like woodblocks emerged from the synthesised backing – and definition was excellent. The presentation certainly showed up the limitations of the era's sampled drums and cymbal crashes; music-production technology has itself undergone transformative 'changes' since then! The track's melodies



and vocals also fared well, as did the synth bass. This, and faster-paced dance tracks from a later era, revealed a gutsy and tight low-end that complements that of the A49. Yet it's not exaggerated; indeed the overall tonal balance of the irDAC-II can be best-described as neutral.

Those faster tracks didn't have quite the rhythmic 'snap' that I've heard with other DACs I've reviewed (albeit more

expensive ones, like the Chord Hugo TT). The supplied offboard PSU is a cheap 'wall-wart'; I wonder if a better one might help?

Stereo imaging was however superb. Radio 3 evening concerts, as received in 230kbps AAC form by the CXN,

proved to be most engaging, having an appropriate sense of scale and believable instrumental placement. That, and the detailing potential, make the irDAC-II a worthy contender for orchestral listening. Also demonstrating the unit's virtues to good effect (despite the more synthetic nature of the material) was Board of Canada's Palace Posy. Here, the stereo effect could be almost holographic in nature – especially through headphones (in this case, Oppo PM3s).

On which subject, there's no shortage of headphone drive available. Even with hard rock (Black Sabbath, Queens of the Stone Age) this unit never ran out of steam. At high levels, the delicacies weren't washed out. A listen to DSD tracks (Emily Palen's Light in the Fracture, Blue Coast) rewarded me with stunning sonics; an ability to

of aptX compression for your music's journey from smartphone to DAC. Although lossy, aptX is one of the better-sounding systems out there and so if your source device supports it you can expect to get the best from your portable music collections. I was surprised how good Bluetooth can sound, with none of the 'grittiness' of lesser implementations. The superb



*The irDAC-II has two optical and two electrical S/PDIF inputs, plus USB. The Bluetooth receiver has an aerial, seen here pointing skyward. The two analogue outputs (variable, as well as fixed) hint to another new feature – control over volume by remote control.*

recreate the performance space, together with the nuances and timbres of some fine solo violin. The caveat is that I had to configure my PC for DSD-over-PCM correctly (Foobar 2000 player), using past procedure. Unfortunately, Arcam has thus far not yet provided a setup guide. Even if I was listening to something that had been converted into PCM rather than a DSD stream, though, the results were far more than acceptable.

Bluetooth here takes advantage

resolving-power of the irDAC-II reveals some masking of subtleties, compared to the same track being played to another input from a compressed source – but the result is highly-enjoyable nevertheless

**CONCLUSION**

The irDAC-II is a versatile little DAC with plenty of features and an engaging performance. Its resolution and soundstaging prowess will appeal to classical enthusiasts with restricted budgets, but Rock rocks as well.

**MEASURED PERFORMANCE**

The irDAC-II remains simple but effective, returning an impressive 119dB dynamic range value from its Fixed unbalanced phono socket, with 24bit digital; there is no balanced XLR.

The Variable output, USB input and Headphone output all measured 117dB dynamic range because of intervening circuitry, but this is still a very good result.

Dynamic range with CD (i.e. a 44.1/16bit input) was 102dB and distortion at -60dB 0.22% – normal values.

Arcam's irDAC-II offers more dynamic range than most rivals, but it's not quite up with class leaders.

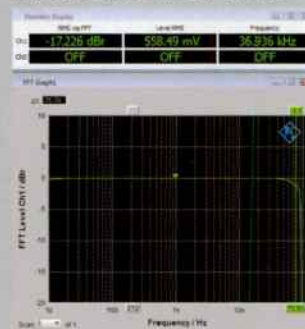
Frequency response reached 76kHz with 192kHz sample rate digital and was flat to 21kHz with CD, so the irDAC-II measures well in terms of bandwidth. USB supports up to 384kHz sample rate. Output measured 2.1V from the phono sockets and 4V from the headphone

socket. It's impressive that Arcam can tease such high dynamic range from phono; it usually takes balanced XLR to do this. Headphone output is very high at 4V, way beyond the 1-2V most deliver, so the irDAC-II will come over as very loud, but clean by having 117dB dynamic range here.

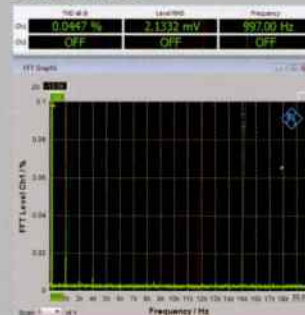
Arcam's irDAC-II is very slickly engineered to provide great results in a system where balanced working is not possible. It does it all – and very well at the price. **NK**

<b>Frequency response (-1dB)</b>	
<b>CD</b>	<b>10Hz-76kHz</b>
<b>Distortion (24bit)</b>	
<b>0dB</b>	<b>0.0002</b>
<b>-60dB</b>	<b>0.04%</b>
<b>Separation (1kHz)</b>	<b>106dB</b>
<b>Noise (IEC A)</b>	<b>-117dB</b>
<b>Dynamic range</b>	<b>119dB</b>
<b>Output (Phono/Hphone)</b>	<b>2.1 / 4V</b>

**FREQUENCY RESPONSE**



**DISTORTION**



**ARCAM irDAC-II £500**



**OUTSTANDING** - amongst the best.

**VALUE** - keenly priced

**VERDICT**  
A superbly capable DAC at a great price.

**FOR**  
- impressive sense of scale and detail  
- excellent connectivity  
- headphone amplifier and Bluetooth

**AGAINST**  
- new features should be better-documented  
- doesn't store different volume level for each input

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World Radio History

# It's Elemental



**Combine Leema's new Elements Pre-Amplifier/DAC with its matching power amplifiers for a potent combination, says Jon Myles.**

**L**eema first made its name almost two decades ago with the innovative Xen mini-monitor – a loudspeaker aimed at the professional market that quickly earned a devoted following among home hi-fi enthusiasts.

Nowadays, though, the Welsh company is probably best known for its series of electronic components which includes amplifiers, CD players, DACs and phonostages.

At the top of its range sit the likes of the £6000 Libra DAC and the £4000 Tucana II integrated amplifier. But the company also has an entry-level Elements series that features an integrated amplifier, CD player, power amplifier, phonostage and now the new pre-amplifier/DAC under review here.

These sit in half-width shoebox-style casings, similar to Cyrus – it helps save rack space and make

positioning easier if used as a one-make system.

They are also nothing if not well-specified despite their compact size. The Elements Pre-Amplifier features three analogue RCA inputs, as well as a set of balanced XLRs and a pre-out connection.

On the DAC side there's one SP/DIF co-axial, three optical and a single asynchronous USB connection available - all accepting file sizes up to 24bit/192kHz (see Measured Performance for further details). Other features include a headphone output, plus a 3.5mm jack input for portable devices.

The front fascia has a single rotary control for selecting inputs and volume and a clear liquid crystal display for system information. A fully-featured plastic remote is also supplied and as with all Leema equipment I've reviewed the standard of construction is exemplary with

a sturdy metal casing and a firm, responsive feel to all the controls. The only criticism I could make is that the remote control seems to have a fairly narrow operational range - meaning it has to be pointed straight at the unit to work reliably.

While the pre-amplifier can easily be used in any system, it has obviously been purpose-built to work best in all Leema system – and as such the company also supplied us with a pair of its matching £1395 apiece Leema Elements Stereo/Monoblock Power Amplifiers. Here things





get very interesting indeed.

Another half-width design – 88mm x 220mm x 340mm – it is an adaptable amplifier that can be configured in a number of ways via switches on its rear panel.

Used individually one unit can be set-up as a conventional stereo power amplifier giving a rated output of 55 Watts per channel into 8 Ohms and 92 Watts into 4 Ohms. Put two together, though, in monoblock mode and you get a healthy 210 Watts into an 8 Ohm load rising to 365 Watts into 4 Ohms.

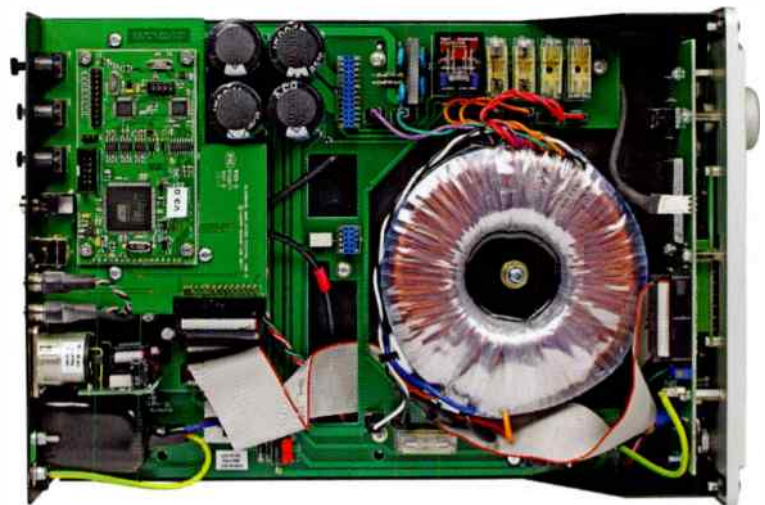
Unusually for a power amplifier, this Leema also has an on-board volume control - meaning it can be connected direct to the company's own Elements CD player or DAC. It also means stereo and monoblock units could be mixed in the same system without gain issues. For example you could bi-amp suitable speakers using three units – two in monoblock mode driving the bass drivers and one in stereo mode driving the tweeters.

Input connections include both unbalanced RCA and balanced XLRs

basic and short on illustrations and, unlike some manufacturers, Leema doesn't provide a more detailed guide on its website. The little recessed push buttons for switching between stereo/mono and RCA/XLR operation on the power amplifier are also fiddly to operate - requiring the insertion of a cocktail stick or similar to access. Both minor points but annoying nevertheless.

### SOUND QUALITY

With the exceptionally sweet sounding but power-hungry Magneplanar 20.7s on hand (see review elsewhere this issue) it seemed churlish not to give the

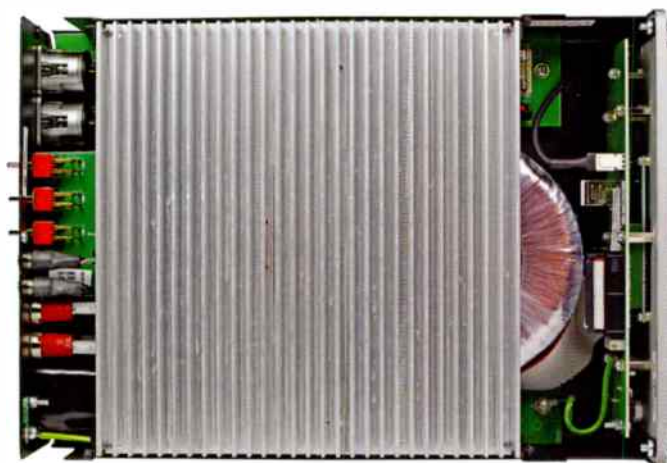


*Internally, the Elements Pre-Amplifier uses a toroidal transformer for the mains section, plus digital and analogue inputs.*

delve deep into the music. Bjork's voice shifts from quiet to strident in an instant on this track and the Elements trio wasn't phased by the transition, sounding sure-footed in its delivery which underpinned the drama of the transition.

The pre-amplifier tends towards the clean, clear and precise, pushing detail well to the fore. So on the 1980s production of Echo And The Bunnymen's 'Pictures On My Wall' there was a metallic edge to Will Sergeant's guitar work while the band's later (and better recorded) 'The Cutter' sounded altogether smoother and more refined.

The DAC section of the pre-amp has a similar balance - tending towards the accurate rather than trying to sugarcoat bright recordings. It will let you know when you are listening to highly-compressed recordings but conversely shines with higher-resolution tracks. Playing Arvo Pärt's 'Cantus In Memoriam of Benjamin Britten' (24/96), the decay at the end of the track receded into the distance with a smoothness that seemed to make it last longer than I've heard on similarly-priced DAC/



*A hefty heatsink testifies to the power of the Leema Elements Power Amplifier when used in monoblock mode.*

while the loudspeaker outputs accept banana plugs only - no spades or bare wires.

In addition - like the Elements Pre-Amplifier - it also incorporates the proprietary LIPS (Leema Intelligent Protocol System) protocol so units can be daisy-chained together for total system control if required.

All this flexibility means the combination takes a little time to set-up - and here I cannot help thinking more time could have been spent on the manuals. They are rather

Leema system a thorough work-out with them.

Using the Leema Pre-Amplifier with the two monoblocks connected via the balanced connections it was immediately clear that while these may be half-size units they possess a lot of dynamic slam and control.

Starting off with Bjork's 'Black Lake' with its big dynamic contrasts the combination projected a taut, powerful soundstage through the Magneplanars.

Most impressive was the way they allowed these big panels to



*Three switches on the rear of the Elements Power Amplifier allow for a variety of set-up modes, including stereo/monoblock mode.*



# Project

A U D I O S Y S T E M S

## RPM 3 Carbon



### Carbon Style

The award-winning RPM 3 Carbon turntable takes the same basic styling of our iconic RPM 1 Genie design, but adds advanced audiophile technologies to deliver a premium performance from a striking device.

The minimalist aesthetic, available in three high-gloss finishes, is accented by the thick vinyl-topped platter, which spins on a high-quality inverted bearing for super-smooth rotation.

The decoupled motor is powered by a built-in generator, for a consistent performance, and sits within a guide in the plinth for optimal belt tension.

The innovative 10" S-Shape tonearm is made of aluminium and carbon fibre, for unrivalled rigidity while retaining a low mass. The arm benefits from a new magnetic anti-skate system and is supplied as standard with an Ortofon 2M Silver cartridge.

**Available Now for £599.00 (UK SRP)**

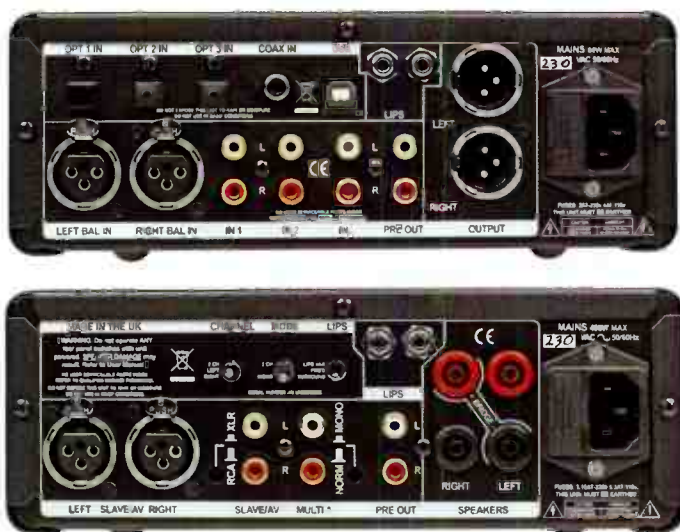


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The Leema Elements pre and power amplifiers have both RCA and balanced XLR connections - while the power amp (bottom) can be used as a standalone stereo unit or paired as a monoblock.

pre-amp combinations.

As an experiment I also switched out one of the power amplifiers - using a single unit in stereo mode. It was quickly obvious the Magneplanars weren't happy, bass disappearing and the soundstage shrinking - perhaps not surprising as the Maggies really need 100 Watts or

more.

However, switching to a pair of Dali Opticon 2 standmounts (see review Hi-Fi World July 2016) the essential qualities of the compact Elements components came to the forefront again. All instruments on Tommy Smith's atmospheric jazz piece 'Dialogue Of The Insects'

could be easily delineated and the distinctive saxophone lines were rich and tonally vibrant.

Switching to Joy Division's 'Love Will Tear Us Apart' the Elements pre/ power combination showed it could punch out a rhythm with a good, fulsome bass and excellent instrumental separation.

Herein lies the beauty of Leema's Elements range; it's engineered to grow with you as your circumstances demand. Choose the pre-amp/ DAC/stereo power configuration and you have healthily-specified digital combination for £2790. Then, if you look to upgrade to a more demanding pair of loudspeakers you can add another Elements power amplifier and go down the monoblock route - or even look to bi-amping. It's that sort of flexibility that makes this series of components a very tempting package.

**CONCLUSION**

The Leema Elements package offers a lot for the money. The pre-amplifier/ DAC is a smooth performer at the price with a good range of inputs and has obvious synergy with its matching power amplifier. However, stretch to two of the latter and use them in monoblock mode and the whole system really begins to sing.

**MEASURED PERFORMANCE**

The Pre-amp has a gain of x4 from unbalanced (RCA phono socket) Line-in to Line-out and a very similar x4.5 from XLR (balanced) in to Line-out. Balanced XLR in to out gave x9 gain. Output overload was 9V from Line and 18V from XLR. All these figures are normal enough and good.

The DAC suffered fairly high distortion of 0.4% at -60dB with 24bit digital, seen in our analysis, where 0.04% is possible and around 0.1% is worst case. As a result its dynamic range was a low 100dB with hi-res 24bit - worse than CD. Around 110dB is possible in a budget design, from inexpensive Wolfson or BurrBrown parts.

Frequency response reached 31kHz (-1dB) with 192kHz sample rate digital and was flat to 21kHz with CD, so the Leema preamp measures satisfactorily in terms of bandwidth and optical input supports 192kHz sample rate.

The power amplifier produced 60 Watts into 8 Ohms and 100 Watts into 4 Ohms, when used in stereo mode. Switched to bridged mono mode in managed 180 Watts and 196 Watts

respectively, so power increases greatly. Unfortunately, in both modes high frequency distortion measured a high 0.3%, the analyser showing the presence of strong high order crossover components. This suggests the sound will have a slight edge to it.

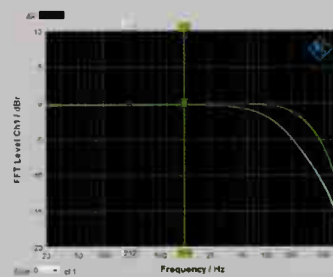
Frequency response was affected by output load (4 / 8 Ohm) suggesting an output stability network was affecting behaviour, and this had most impact in balanced-bridge mono mode working where output was -2dB down at 10kHz - enough to sound warm. See our analysis.

The Elements Preamp and Power Amplifier are very adaptable, with numerous inputs and outputs and all worked well at a basic level, but some distortion affected both the digital side and the analogue side; better figures are possible these days. NK

<b>Frequency response (-1dB)</b>	
Analogue in/out	2Hz-100kHz
Digital in	4Hz-31kHz
<b>Distortion (24bit)</b>	
0dB	0.0002
-60dB	0.4%
<b>Separation (1kHz)</b>	97dB

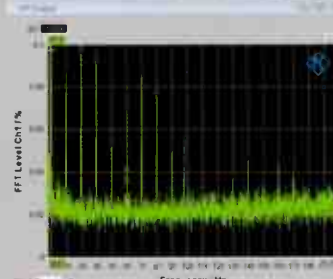
<b>Noise (IEC A)</b>	-98dB
<b>Dynamic range</b>	100dB
<b>Output (RCA/XLR)</b>	9/18V

**FREQUENCY RESPONSE**



**DISTORTION**

0dB	10.423 mV	997.00 Hz
OFF	OFF	OFF



**LEEMA ELEMENTS PRE-AMPLIFIER/ DAC £1395**



**OUTSTANDING - amongst the best.**

**VERDICT**

A clean, clear and detailed pre-amplifier with a good DAC section to boot. Great build quality only adds to the value.

**FOR**

- detail
- rhythmic ability
- build quality

**AGAINST**

- fiddly controls

**LEEMA ELEMENTS STEREO/ MONOBLOCK POWER AMPLIFIER £1395**



**OUTSTANDING - amongst the best**

**VERDICT**

Smooth sounding power amplifier which is good on its own but really shines when used as a pair in monoblock mode.

**FOR**

- flexibility
- build
- smooth sound

**AGAINST:**

- very basic instruction manual

Leema Acoustics  
+44 (0) 1938 559021  
www.leema-acoustics.com

# WORLD STANDARDS

Your guide to the best products we've heard that are currently on sale in the UK...

## TURNTABLES

**AVIO INGENIUM** £800  
Great bass response and upper midrange detail allied to clarity makes this a must-hear at its price-point.



**CLEARAUDIO INNOVATION** £6400  
Expensive, but offers great results from a finely honed and beautifully finished belt drive turntable, with servo control from the platter to keep a grip on tempo like few others. Can be fitted with a Clearaudio tangential arm, or any conventional design. Awesome.



**INSPIRE MONARCH** £4,350  
A rebuilt from the ground up Technics Direct Drive, having blistering pace and dynamics allied with smoothness, sophistication and purity of tone. A true reference.



**LINN LP12SE** £3,600  
The UK's most iconic turntable, the legendary Sondek goes from strength to strength. New Keel sub-chassis and Radical DC motor add precision and grip to one of the world's most musical disc spinners. Expensive though.

**MICHELL GYRO OEC** £1700  
Wonderful styling coupled with great build and finish make this turntable a delight for friends and family. It has an attractive clear acrylic dust cover, and you can mount just about any arm. A current design standard.



**PRO-JECT ESSENTIAL DIGITAL** £300  
A budget turntable that turns in a great analogue performance, but also has a hi-res digital output. Send 24/96 across your lounge via optical cable to a DAC and get great audio quality. Or record LP to your laptop.



**REGA RP3** £550  
The first of the super-quality Regas, little compromised by price and featuring Rega's outstanding RB303 tonearm, suitable for MM and MC cartridges. A standard at the price point.

**TIMESTEP EVO** £2100  
The famous Technics SL-1210 MkII Direct Drive but with improved plinth, isolation, main bearing and power supply, plus an SME arm (add £1500). DD convenience, rock steady pitch and fab sound at a great price. Our in-house reference.



## TONEARMS

**ORIGIN LIVE ENCOUNTER MK3C** £1,745  
Origin Live combines carbon fibre and ebony to marvellous effect in its new 12-inch arm. Creamy and rich in presentation, the Encounter delves deep into the mix for a satisfying listen.

**HAOCCOCK GH-242 EXPORT** £810  
Consummately musical, lyrical sounding tonearm, but needs the right turntable.

**ORIGIN LIVE ONYX** £450  
Easy, smooth, creamy nature that reminds you why you're listening to vinyl in the first place. Essential audition at the price.



**REGA RB303** £300  
A one piece tapered casting makes this arm's structure almost unrivalled. Great dynamics and superb imaging, for MM and MC. Reference quality for peanuts.

**SME 312S** £1,600  
Twelve inch magnesium alloy tapered arm tube plus SME V bearings. An insightful yet smooth and relaxed sound. Superlative build completes the package. Our Editor's steed.



**SME 309** £1500  
A one-piece tapered 9in arm finished like a camera and slick to use. Superlative SME quality and sound at affordable price.

**SME V** £3000  
Offers rapid fire timing and a sense of precision, plus rock solid dynamics. Top dollar for deep pockets.

## CARTRIDGES

**AUDIO TECHNICA AT-OC9 MLIII MC** £420  
A fine sounding MC with strong bass and super fine treble from a great stylus – yet inexpensive.



**AUDIO TECHNICA AT-F3/III MC** £150  
Great value entry level moving coil with detail and grip you just can't get from similarly priced moving magnets.

**BENZ MICRO ACE SL MC** £595  
Smooth, lucid and full-bodied, award-winning, hand-made cartridge from Switzerland.

**BENZ MICRO W000 SL MC** £945  
Highly finessed Swiss moving coil that plays music with riflebolt precision.

**OENON OL-103** £180  
A popular and much loved budget MC with big bass, smooth treble and deep sound stage. Fantastic value.





**LYRA TITAN I MC** £3,500  
Breathtaking speed and dynamics from LP, helped by diamond coated, boron rod cantilever.



**ORTOFON 2M MONO SE MM** £80  
A mono cartridge purposed for The Beatles in Mono microgroove LPs. Fitted with a top quality Shibata tip. Fab for the four.



**ORTOFON 2M BLACK MM** £400  
As good as it gets from MM. Fabulous detail and insight from a Shibata stylus, good bass and excellent tracking.

**ORTOFON CADENZA BRONZE MC** £1,400  
A mid-price MC with a slightly livelier presentation than the super smooth Cadenza Black. High-end sound at midband price – great value.



**ORTOFON CADENZA BLACK MC** £1,800  
Ultra smooth and dimensional moving coil with bass and punch aplenty. Lovely stylus.

**ORTOFON A95 MC** £3,750  
Fast and extremely detailed, this is an MC cartridge that sets standards.

**REGA CARBON MM** £35  
Budget price for a competent cartridge with a fairly unflappable nature. Ideal for beginners.



**GOLDRING 1012GX MM** £250  
A glorious sounding cartridge with solid bass and strong dynamic punch, plus excellent treble from its Fritz Geiger stylus. Fun and affordable.



**SHURE M97XE** £80  
Big warm sound, but great tracking and bullet proof stylus protection from damped guard. A survivor.

**VAN DEN HUL DDT-II SPECIAL MC** £995  
Long-established cartridge from Holland with an open and dynamic sound.

## PHONO PREAMPS

**CAMBRIDGE AUDIO 651P** £200  
Clean, concise sound from MM and MC cartridges at a very low price. A real bargain.

**ICON AUDIO PS3 MKII** £1,200  
All valve MM phono stage with MC transformer option, graced by big, spacious and relaxed sound.



**IFI IPHONO** £350  
Multi EQ phono stage from British manufacturer that punches well above its weight. Substantial bass and open midband.



**LEEMA ACOUSTICS ELEMENTS ULTRA** £1,199  
Smooth and detailed sound with the ability to accommodate most modern cartridges. Exceptional value for money.



**PRO-JECT TUBE BOX DS** £425  
Compact MM and MC phono stage with valve output circuit and a big sound.



**QUAD QC24P** £995  
MM and MC, oodles of gain, a volume control – and valves! Looks superb and sounds even better: smooth, atmospheric and big bass.

**TIMESTEP T-01MC** £995  
New, minimalist phono stage that sonically punches well above its weight.

## PREAMPLIFIERS

**ICON AUDIO LA-4 MKIII** £1,300  
Uses early 6SN7 triodes for liquid sound. Has plenty of gain and a remote control into the bargain.



**MF AUDIO CLASSIC SILVER** £4,500  
One of the best preamplifiers we've heard at any price, this transformer-coupled marvel does very little wrong. It's powerful, clean and open, yet delicate. Its sound is unmatched at or near the price.

**MING DA MD7-SE** £1,520  
A valve preamplifier with an open, effortless sound and a big soundstage. It has plenty of gain so will accept any source and drive any power amp. A real beauty.



## INTEGRATED AMPLIFIERS

**ARIAND PRO845SE** £1,499  
Pure single-ended valve magic. Low-powered but immediately gorgeous, easy-going yet forcefully dynamic at the same time.



**AUDIO RESEARCH VSI60** £3,500  
Power house sound with enormous pace and punch from traditional U.S. muscle master Audio Research. Breathtaking, but expensive.



**CAMBRIDGE AUDIO AZUR 651A** £350  
Dual-mono construction and meaty toroidal power supply combine to produce a solid and sharp sound with sonics far beyond its price point.

**CREEK EVOLUTION 100A** £1,500  
Superb build and smooth confident sound make this powerful amplifier a benchmark.



**CYRUS 8DAC** £1,400  
Trademark shoebox-sized Cyrus integrated now offering 88Watts per channel, plus DAC. Sveite delivery from a dainty case that fits in anywhere – and isn't Class D!

**EXPOSURE 1010** £495  
Entry-level integrated from Exposure has excellent upper mid-performance with an almost valve-like sound.



**ICON AUDIO STEREO 60 MKIII** £1,700  
Excellent tube integrated with plenty of power and an expansive soundstage, plus KT150 tube option and bias meter for easy adjustment.



**NAIM NAIT 5SI** £925  
Naim's fabled entry-level integrated amplifier is updated to si status. Demos Naim's superbly muscular sound at entry level.

**SUGOEN A21SE** £2,480  
Class A amp with fantastic sound quality producing hard, sculpted images, deep detail and tight bass. Just don't expect disco-like sound levels!



**POWER AMPLIFIERS**

**AUDIO RESEARCH VS175** £7,498  
Powerful, fast valve sound that makes everything else look weak at times. Needs careful matching but well worth the effort.

**AUDIO RESEARCH VS115** £5,000  
Oodles of power with enormous punch. Rafael Todes said it provided "shock and awe" while retaining incredible smoothness and texture.

**ICON AUDIO MB845 MKII** £5,500  
With 120W from big 845 valves right down to low frequencies, this power amplifier has massive dynamics and bass swing, yet is easy on the ear.



**ICON AUDIO MB81** £10,000  
Big Russian transmitter valves deliver 200W from these massive monoblock amplifiers. Frightening in every sense.

**MCINTOSH MC-152** £4,995  
Stunningly insightful sound with enormous bass punch from a uniquely designed transistor amp. Amazing audio, a league up, if expensive.



**QUAO ELITE QMP MONOBLOCKS** £2400 PR  
The proverbial iron fist in a velvet glove. Plenty of power but delivered with an assured and confident nature. Smooth on top and easy on the ear but can rock out when needed.

**QUAO II-EIGHTY MONOBLOCKS** £6,000 PR  
Powerful and expansive sound from modern design monoblocks that also look lovely. Superb – used by us as a reference.



**LOUDSPEAKER FLOORSTANDER**

**B&W 803 03** £12,500  
B&W's updated statement floorstanders deliver depth and definition with breathtaking speed and authority, aided by a diamond coated tweeter. Expensive – but enormously impressive.

**CASTLE AVON V** £1,600  
A big floorstander at a modest price that suits the average room. Refined ribbon treble and deep bass give it a great delivery.



**EMINENT TECHNOLOGY LFT-88** £2,500  
Excellent U.S. planar magnetic loudspeaker at bargain price. Utterly superb - a must hear.

**EPOS K2** £1,000  
A fun sound that is tidy all round and very engaging, with solid bass. Music as you hope it to be.

**FOCAL ARIA 926** £1,400  
Simple, clean, neutral sound – easy going but well engineered and affordable.

**MARTIN LOGAN SUMMIT X** £16,698  
Matches Martin Logan's XStat electrostatic panel to a powerful subwoofer to provide extended, powerful bass. Dramatic sonic purity. Awesome – all but unmatched.



**MARTIN LOGAN ELECTROMOTION** £2,500  
Martin Logan's budget baby XStat hybrid electrostatic. Fits into any lounge to give electrostatic levels of clarity and imaging.



**QUAORAL CHROMIUM STYLE 8** £1,700  
A supremely smooth yet open sounding loudspeaker. Clean and detailed treble from a fine ribbon tweeter. Accurate yet informative and enjoyable. Pure class.

**QUAORAL ORKAN VIII AKTIVS** £6,200  
Active loudspeaker with tight, powerful bass, perfect accuracy and detailed treble from a ribbon tweeter.



**Q ACOUSTICS 2050I** £480  
A large floorstander at a budget price. Offers high sensitivity and big sound and has very few flaws for the price.

**SPENNOOR SP100 R2** £6,495  
Retro looks but a sound that's hard to match. Spendor's 12" bass unit provides massive low-end grunt with a room-filling sound.



**SPENNOOR A3** £1,300  
Fine little floorstander with a smooth, natural midband and even tonal balance. Ideal for smaller rooms.

**TANNOY DEFINITION OC10 TI** £6,000  
Enormous power with great projection. Glorious subsonics too. Need little power to go very loud and have superb finish into the bargain.



**TANNOY KENSINGTON** £9,950  
Big but not overpowering, punchy modern sound from classic cabinetry. Need little power to go very loud and suit a traditional home, or castle.



**LOUDSPEAKERS STANDMOUNT**

**ACOUSTIC ENERGY NEO 1 V2** £225  
Civilised sounding speaker with fast and tuneful bass.

**ACOUSTIC ENERGY AE1 CLASSIC** £845  
Brilliantly successful remake of an iconic design; not flawless, but surely one of the most musical loudspeakers ever made.





**ELAC BS243** £1,000  
More transparent and spacious than they've a right to be at this price, these refined mid-price standmounters represent top value.



**EMINENT TECHNOLOGY LFT-16A** £1,200  
U.S. planar magnetic bookshelf loudspeaker with unrivalled mid-band and treble. Hear it before all else.

**WHARFEDALE DIAMOND 220** £200  
Builds on the success of previous Diamond ranges with better bass, more detail and a greater sense of scale.



**KEF LS50** £800  
Supremely musical mini-monitors which sound much bigger than they look.



**MARTIN LOGAN MOTION 35** £1,300  
Folded Air-Motion tweeter gives a taste of Martin Logan's electrostatic sound in a standmount. Different from the standard mini-monitor and all the better for it.



**PMC TWENTY.21** £1,575  
Transmission line loaded standmount with a big box sound from a compact cabinet. Punches well above its weight.



**Q ACOUSTICS 2020i** £165  
Great little bargain-priced stand-mounts with a friendly, fun yet surprisingly refined sound. Hard to better for a pair of starter loudspeakers.

**WHARFEDALE DENTON** £500  
A beguiling mixture of retro looks with modern, high-technology drive units. The Denton has an easy-going, big-hearted sound with a touch of trad warmth that should appeal to many.



## HEADPHONE AMPLIFIERS

**CREEK OBH11** £150  
Designed specifically for low to medium impedance (30 Ohm – 300 Ohm) headphones the little Creek has a marvelously well-judged sound.

**CHORD MOJO** £399  
Class leading portable DAC and headphone amp with ability beyond all else. Big, open spacious sound.



**EPIPHANY EHP-02** £99  
PP3 battery-powered portable gives great sound quality at an almost giveaway price. Happy with the output from an iPod or CD player, the little epiphany is a true bargain.



**ICON AUDIO HP8 MKII** £650  
The HP8 MKII valve-based headphone amplifier brings the spacious sound of valves to headphones. And it matches 'em all.



**FIDELITY AUDIO HPA 100** £350  
Great little headphone amplifier with a lively yet refined and open sound.

**MUSIC FIRST PHONE BOX** £276  
Brings a big stage, plenty of detail and rich, deep colours to the sonic spectrum.



**OPPO HA-2** £250  
Remarkable performance and sound from ESS Sabre32 DAC in a slim portable package.



## CD PLAYERS

**AUDIOLAB 8200CDQ** £949  
Inspired CD player and DAC with price-performance ratio like no other. Capable of matching designs costing much more.



**CANOR CD2+** £3,100  
Musically coherent and tuneful valve-driven CD player from Slovakia. Lovely liquid sound.



**CAMBRIDGE AUDIO AZUR 651C** £410  
Snappy modern presentation from this budget CD player. Cracking audiophile entry point for any digital fan.

**CHORD RED REFERENCE MKIII** £16,000  
A unique and massive engineering exercise that could well be the best CD player available. Chord's Pulse Array DAC technology produces a musical experience like few others. A true reference player.



**ESOTERIC K-03** £9,495  
Superb high-end silver disc spinner that is beyond criticism. Devoid of its own character but has a flawless presentation.



**EXPOSURE 101** £395  
Detailed player with fine sense of timing should be an automatic entry on any demo list at this price.

**ELECTROCOMPANIET EMP-1/S** £4,650  
Epic in scale, lavish in tone and exuberant in its musicality - this is a memorable SACD spinner. Quirky in operation and modest in finish, though.



**OPPO BDP-105D** £1200  
Universal player and DAC that makes CD and Blu-ray (+DVD) sound deep, spacious and full bodied. Reference quality that's affordable.



**REGA APOLLO-R** £550  
Rega comes up with a fine CD player again. Tremendous detail and an easy, unforced sound at all times. Few bells and whistles but made up for by its superb sonic ability.



**ROKSAN KANDY K2** £900  
A charmingly musical performer at the price - this is a surprisingly sophisticated CD player for the money.

**TUNERS**

**CAMBRIDGE AUDIO AZUR 651T** £299  
Value-packed AM/FM/DAB and DAB+ ready tuner. Precise and detailed with excellent resolution of spoken word.



**CREEK DESTINY 2** £550  
Creek's tuner expertise shines through in the Destiny 2. This AM/FM receiver is wonderfully three-dimensional and smooth.



**MAGNUM DYNALAB MD-90T** £1,900  
Exceptionally able, but commensurately priced, audiophile tuner that cannot fail to charm.



**DACS**

**AUDIOLAB M-DAC** £600  
Excellent sound from ESS Sabre32 DAC and impressive flexibility with a unique range of filter options make this a stand-out product. Low price is the icing on the cake.



**AUDIOLAB Q-DAC** £250  
Stripped-down version of Audiolab's M-DAC loses some features but retains much of the sound, making it a veritable bargain.

**ANTELOPE ZODIAC GOLD/VOLTIKUS** £3,095  
DAC/preamp/power supply combination majors on detail but has a remarkable un-digital sound. One of the best at its price.



**CHORD 2QUTE HD** £990  
Superb build quality and exceptional sound from this compact unit. Boasts the ability to handle DSD direct via USB and has an exceptional soundstage. One of the best DACs you can buy.



**DCS DEBUSSY** £8,000  
DCS's bespoke 'Ring DAC' circuit gives a beautifully-fluid, almost analogue sound that encourages long listening sessions. Not cheap but worth every penny.

**NORTHERN FIDELITY DAC** £650  
Packed full of features, including Bluetooth and USB, this ESS Sabre32 equipped DAC offers crisp, insightful sound at low price.



**METRUM OCTAVE** £729  
Unique two-box digital-to-analogue converter with great sound at a great price. Cuts upper treble, though.

**NAIM DAC** £2,400  
Superb high-end digital converter with a probing, punchy and forensically-detailed sound.



**TEAC UD-501** £699  
Feature-packed DAC with benefit of DSD playback. Superb sound means little to touch it at the price.



**RESONESSENCE INVICTA MIRUS** £4,499  
One of the most highly spec'd DACs available, with a smooth yet enthralling presentation. Few approach it.



**NETWORK PLAYERS**

**CHORD DSX100** £7,500  
Chord's proprietary DAC circuit shines in their top-of-the-range streamer. Hear-through clarity with a sound rich in detail, dynamics and soundstage.



**CAMBRIDGE AUDIO NP30** £399  
Budget offering from Cambridge offers a great introduction to network streaming.

**CYRUS STREAM X** £1,400  
Gorgeous sound quality even from compressed digital music. New control app makes everyday operation a doddle.



**ENTOTEM PLATO** £2999.00  
A network player with amplifier that does it all, including turn LP to hi-resolution digital, and add cover artwork from the 'net.



**NAIM NDX** £2,995  
Clean, incisive and very detailed sound with Naim's traditional pace and timing make this one of the best network music players around.

**NAIM ND5XS** £2,175  
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**NAIM NAC-N172 XS** £1,650  
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**QUAD PLATINUM DMP** £2,500  
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**ASTEEL&KERN AK100 MKII** £569  
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**FiiO X3** £150  
Fabulous value player with nice easy sound and full range of abilities. Small and light. For newbies.

**LOTOW PAW GOLD** £1,500  
Reference quality sound; it's like carrying your hi-fi in your pocket. Equivalently large too, but stunning headphone quality.



**NAIM HDX** £4,405  
Interesting one-box network-enabled hard-disk music system that gives superb sonics together with impressive ease of use.

**NAIM UNITILITE** £1,995  
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**PORTABLE SPEAKERS**

**BAYAN SOUNDBOOK** £149.99  
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**BLACK RHODIUM TWIST** £71/3M  
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**MAINS CABLES R US NO.27** £95  
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**CHORD SIGNATURE REFERENCE** £900  
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**TELLURIUM Q BLACK** 280/3M £800  
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**TELLURIUM Q SILVER DIAMOND** £804/M  
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**ONKYO ES-HF300** £180  
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**OPPO PM-1** £950  
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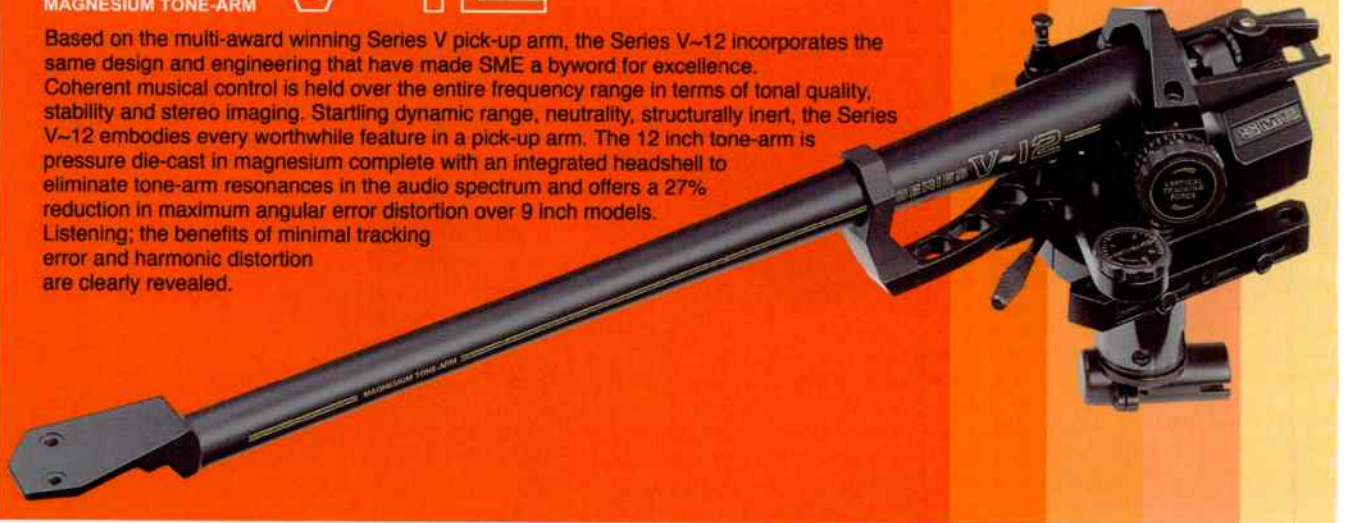
**SENNHEISER HD700** £599  
Tremendously fast with a strong, focussed, lower-frequency range and a firm bass punch.

**YAMAHA HPH-MT220** £150  
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# Summer sounds

Looking for a value-for-money portable Bluetooth 'speaker for summer listening? The Urbanista Melbourne may be right up your street, says Jon Myles.

**W**ith hot summer days approaching (hopefully) many music lovers will be looking at investing in a portable Bluetooth loudspeaker. After all, there's no better and more convenient way of combining sunshine and songs – whether it be out in the garden, down at the park or on the beach. But which to choose? There's no end of options available at the moment with prices ranging from around £40 to £200 and above.

At the lower end of the price range comes the Melbourne from Swedish audio company Urbanista. It'll set you back just £59 which might not at first indicate the highest of quality products.

But take it from the box and it is actually impressively built for the price. Small and light enough to slip into a pocket it measures 65mm x 130mm x 22mm (H/W/D) and weighs in at 180g.

Behind the front grille there's a 40mm full-range 'speaker while on the rear sits a 50mm passive bass radiator for extra low-end extension.

These are housed in a rounded, rubberised, water resistant casing that feels sturdy and also means the Melbourne sits firmly on any surface you stand it on without slip or slide.

Four buttons on the top control on/off, volume

and Bluetooth pairing although most people will probably control it from their mobile (iOS, Android and Windows are all supported). A micro-USB slot is used for charging the internal battery and play time is quoted at 6 hours – although this will be dependent on listening levels.

Also included in the box is a smart wrist strap which attaches to the side of the unit for easy carrying – not essential but a nice touch.

## SOUND QUALITY

An essential feature of any Bluetooth loudspeaker purposed for outdoor listening is decent volume levels. That might sound obvious but I've come across a number of models which, while having adequate sound quality, just won't go loud enough for use outside.

Fortunately, the Melbourne isn't one of them. Paired with an Apple iPhone 6 Plus the Urbanista had prodigious volume. Even better, this was mixed with a good degree of control.

On Echo & The Bunnymen's 'Pictures On My Wall' there was a solid nature to the drums and bass, accompanied by good guitar definition and separation from Ian McCulloch's

distinctive voice.

The same goes for Goldfrapp's 'Ride A White Horse' where the 80s-like electronic backing track had punch and power.

The rubberised case is refreshingly free from rattle or thrum even when you push the volume to its maximum.

Admittedly those two small 'speakers did struggle a little on big orchestral pieces, having a hard time conveying the grandeur of Mahler's 'No 4'. Having said that, playing a gentler piece such as Arvo Pärt's 'Tabula Rasa' there was excellent tonality to the piano and a good sense of atmosphere around the violins.

It was all pretty impressive for a portable loudspeaker that will set you back less than the cost of some interconnects!

## CONCLUSION

If you are looking for a value-for-money Bluetooth loudspeaker that combines easy portability with good sound then the Urbanista should be top of your list. Now, lie back and enjoy!



## URBANISTA MELBOURNE £59



**OUTSTANDING** - amongst the best.

**VALUE** - keenly priced

### VERDICT

As portable Bluetooth 'speakers go the Melbourne is a bit of a bargain with good build quality and great sound in a handy package.

### FOR

- goes loud
- natural sound quality
- water resistant

### AGAINST

- nothing at the price

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# T.H.E. Show, Newport, USA

Noel Keywood visits a top US audio show to see what America has to offer.

**R**umour had it. T.H.E. Show Newport in California was fast becoming the USA's premier audio show, rivaling the popular Rocky Mountain Audio Fair in Denver in Colorado.

Being in sunny California, just a little south of LA, I decided T.H.E. Show was worth a visit. So I ventured forth onto the sunny streets of Irvine, where highways are four lanes wide in either direction and the pavements deserted; you don't walk in LA. My hotel was one block away from the show – so I had to.

This show had every form of hi-fi under the sun and certain trends were evident. Since what happens there usually happens here a bit later, I was alert. Obvious were open panel loudspeakers of many sizes, shapes and descriptions. Most were simple in principle – conventional cone drivers:



on an open baffle with big bass units; box loudspeakers seem to be going out of fashion in the U.S. Perhaps we'll be experiencing this in Britain soon.

America can be relied upon to come up with the wonderful and wacky – and it did with the extraordinary high-fidelity cables room.

The first day I sat and heard an intense explanation – complete with

fascinating demonstrations – of the influence of magnetism upon electrical conduction. Drawn back on the second day I listened to the influence on music and was impressed. They hope to exhibit at the UK's Bristol Show – be prepared to hear more about this controversial idea.

T.H.E. Show was an interesting view of hi-fi from sunny LA. Here's a snapshot of what was there.



A brace of Audio Research tube power amplifiers driving Wilson Audio loudspeakers gave a wonderfully dynamic sound.



A fascinating loudspeaker from ESS, using Heil Air Motion transformers in a horn, four horizontally mounted, vertically stacked drivers with acoustic deflectors for midrange, plus three open baffle subwoofers in the base ([www.esslab-susa.com](http://www.esslab-susa.com)). Great bass was on offer.





*This handsome-looking turntable mounted in a solid wood plinth was a re-built Denon Direct Drive, I was told in the Madisound room. It is from Groove Master, their PBN DP3 based on a Denon DP3000.*

*Madisound ([www.madisoundspeakerstore.com](http://www.madisoundspeakerstore.com)) specialise in loudspeaker components and kits but also offer Icepower Class D power amplifier modules as well as an interesting USB connected measuring microphone - the UMK1 also in our report.*



*A Madisound UMK1 MiniDSP USB-connected measuring microphone, priced at just \$89. They say it can be used for accurate audio measurement in conjunction with PC or Mac computers or an iPad in conjunction with an app or software. Or it can be used for accurate audio recording. As measuring mikes can cost £1000, this is something of a bargain.*



*Woo Audio WA7 Fireflies tube headphone amps use two 6C45 tubes driving an output transformer. Input is via USB through a 24/384 DAC, purposed for computer connection. Woo specialise in tube equipped products. See [www.woaudio.com](http://www.woaudio.com).*



*Just announced by Meridian is their new MQA-ready Ultra DAC that I found on display at the show. See more at [www.meridian-audio.com](http://www.meridian-audio.com). MQA was much discussed at the show.*



*The most unusual and controversial exhibit at the show was this room featuring magnetic cables. If I get this right, all cables were magnetic and within the flexible cable runs were additional high-powered magnetic cylinders to add to the total magnetic force. Even more bizarre was the use of 'mains conditioners' into which up to six magnetic cylinders could be plugged to increase the total magnetic force. I got a personal demo and was taken aback to hear both bass strength and resolution as well as soundstage depth increase steadily as magnets were plugged in. There was much talk about the influence of magnetic fields and a fascinating demo of a cathode ray tube beam being deflected by a magnet to make the point that electrons are affected by a magnetic field (well known). Go to [www.highfidelitycables.com](http://www.highfidelitycables.com) to read more about this heavily patented and controversial approach to cabling.*

*The open baffle loudspeakers you can see at left and right were their own prototypes with folding wings to control rear radiation.*

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AC/B6

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AC/79





In the foyer I found this very nicely built tube preamp kit, the TU-8500 Elekit from Japan. It uses an R core mains transformer for low hum leakage, plug-in integrated circuits at the front end and ECC82 (12 AU7) output tubes. Go to <http://www.elekit.co.jp/en/product/TU-8500> for more details. Price roughly £315.



Here's an Enigma self-bias hybrid electrostatic loudspeaker, the Mythology M1. At top is their unique Soprano patented electrostatic super-tweeter that works, I was told, from 8kHz up to 40kHz. Below it lie a conventional fabric dome tweeter and mid/bass unit. See more at [www.enigmacoustics.com](http://www.enigmacoustics.com).



NFS (Not For Sale) Audio, a bunch of enthusiasts, lit their room with a psychedelic light show that I just had to investigate. Inside I found this floating record vertical turntable by Gramovox flanked by some luridly lit bottles.



A customised Ford L150 pickup truck – purposed for taking the kids to school in LA. It's America's answer to the Range Rover and – inevitably – bigger!



The Trio15 Voxativ open baffle loudspeakers from Pure Audio Project ([www.pureaudioproject.com](http://www.pureaudioproject.com)) have two 15in Eminence bass units either side of a Voxative AC-1.6 full-range driver from Germany ([www.voxativ.com](http://www.voxativ.com)), all mounted in solid Oak baffles supported by an aluminium frame. Price 5,500.



A Legacy Aeris loudspeaker with dual air motion tweeters, open baffle midrange unit, a 10in upper bass unit and two 12in deep-bass units driven by 500W Class D Icepower (B&O) amplifiers. Room correction is provided by an eight-band parametric equaliser. It sounded clear, open and very powerful in a demo.



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A Shelby AC Cobra, 1960s vintage. "At 2000lbs and with 450bhp from a 260 cu in (4.3litre) V8 Ford engine this one skitters around a bit" I was told. It was part of a vintage car line-up including classic Ferraris.



The new Questyle (China) QP1 hi-res portable player was superbly built. It uses a Cirrus Logic 4398 DAC. See [www.questyleaudio.com](http://www.questyleaudio.com).



From Silicon Valley comes the highly specced Sugarcube LP recording platform. It has a 24/192 resolution ADC from Japanese Asahi Kasei Microdevices (AKM) to turn analogue into digital and an ESS9018 DAC from ESS California – both high spec parts for top audio quality. The unit is internet connected to retrieve track and cover artwork info – note the small display window – and there's a real-time, adjustable click and pop remover. It records LP to USB storage in a wide variety of digital formats. And if all that was not enough, it can be controlled from a smartphone app and has a headphone output. See [www.sweetvinyl.com](http://www.sweetvinyl.com).



There were lectures and live shows in an outside pavilion. Singer/guitarist Lori Lieberman is seen here flanked by her band.



The MSB Select DACII featuring their own ladder converter, a type replaced by Delta-Sigma convertors. However, MSB claim their unique design has greater dynamic range than all current Delta-Sigma types. Go to [www.msbtech.com](http://www.msbtech.com) for more info. Price is an eye-watering \$90,000.



The Music Reference ESL-1 full range electrostatic which is built in California. It uses external Airspring resistance loaded woofers to provide fast bass that matches the speed of the electrostatic panel, Music Reference say. Music Reference can be found at [www.ramllabs-musicreference.com](http://www.ramllabs-musicreference.com), but the ESL-1 is new and not on the site yet.



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# Join The Q

**Q Acoustics new 3050 loudspeaker sets the standard for floorstanders under £500, says Jon Myles.**

model from almost a decade ago.

While the passage of time has inevitably seen a rise in price, the value-for-money ethos that underpins Q Acoustics remains in evidence. This is one substantial loudspeaker package for just £499 for the matt graphite and American walnut finishes, or £650 for gloss black or white, or a special grained vinyl leather effect finish.

Standing fully a metre tall and weighing almost 18kg a piece, the 3050 is a two-way reflex-loaded design using two 165mm bass/mid units allied to a 25mm soft dome tweeter. They are arranged in a d'Appolito configuration with the tweeter between the two main drivers, in a bid to give better time alignment.

The main drivers are made from a paper/Aramid composition, while the high-frequency unit is decoupled from the main cabinet by butyl rubber to isolate it from any minute cabinet vibrations.

The cabinet itself is constructed from 15mm MDF with a 20mm dual-layer top plate and a thick front baffle while internal bracing adds to rigidity and resonance control. A single steel outrigger plinth affixes to the rear for stability with two spikes screwing into the front of the cabinet for levelling.

Two pairs of 'speaker binding posts, sited below the large(ish) reflex port on the rear, allow bi-wiring.

All told it's a handsome, well-finished design with the cabinet's curved top and bottom adding a



**T**o say Q Acoustics caused something of a stir when it launched its first loudspeakers almost 10 years ago would be an understatement.

Here was a new brand producing quality-looking and sounding models at near bargain prices – with input from renowned loudspeaker designer Karl-Heinz Fink. Its 1050 floorstander cost just £330 but could easily stand comparison with loudspeakers from more established brands costing almost twice as much. No wonder both critics and buyers were

impressed and Q Acoustics soon gained a firm foothold in the market.

Since then the company – part of the Armour Home Electronics group which also includes the likes of QED and Myryad – has gone from strength to strength and now produces a complete range of bookshelf, floorstanding and AV loudspeakers, as well as for phones and tablets, laptops and computers.

Its latest hi-fi range is the 3000 series that includes two bookshelf loudspeakers, a sub-woofer, centre 'speaker and the 3050 floorstander, the spiritual successor to that 1050



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SOUND AND VISION



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VERDICT 





touch of class, distinguishing it from more boxy designs. Even the 'speaker grilles attach magnetically so there's no unsightly fixings of the baffle.

**SOUND QUALITY**

Q Acoustics' loudspeakers have earned a reputation for punching well above their weight and the 3050 doesn't deviate from that tradition.

Right from the start it sounded rather more sophisticated than its price would suggest - smooth yet possessed of plenty of punch and attack.

Hooked up to a Naim NAP 200DR power amplifier I first tested them out with the Allegri Quartet's new CD 'String Quartets by Alec Roth'. These pieces are tremendously rhythmic with the strings at times taking on almost percussive qualities - as though emulating drum or bass lines. Timing is everything here and the 3050s were spot on in this respect, letting the musicians weave around each other in perfect synchronicity.

Turning to something a little brasher with The Pixies 'Wave Of Mutilation' collection, the 3050s threw out a wide, expansive soundstage with a great sense of scale. The ringing guitar intro on 'Debaser' had bite without sounding edgy - and when the bass kicked in it was low and tuneful, devoid of boom or overhang. Instead the tune bounded forth in all its angry glory.

The mid/bass units were well integrated with the tweeter, crossing over smoothly with no sign of a suck-out. The latter unit deserves special praise: it was crisp and distinct, imbuing instruments with surrounding air and space; Rashied Ali's cymbals on John Coltrane's 'Interstellar Space' positively shimmered. Coltrane's improvised saxophone lines were also perfectly anchored between the 'speakers with good depth and height, so when I closed my eyes I could imagine the man himself standing there in the room.

The 3050s go loud with little difficulty (see Measured Performance for more details). The Naim kicks out a healthy 70 Watts per channel but the 3050s also produced room-filling sound on the end of a 40 Watt Onkyo A-901.

Push them right to their limits and the sound does compress a little, cabinet vibration starting to muddy the sound. But in truth this occurred way beyond realistic listening levels in

most rooms.

Not that you need to play them loud to appreciate their attributes - especially their ability to handle dynamic shifts in music, soft and loud passages on 'Wave Of Mutilation' changing in an instant, for example.

On high-energy music such as the KLF's 1990s dance anthem 'Last Train To Trancentral' the Q Acoustics had an immersive quality. This track seemingly runs at a fixed paced, but the 3050s brought out subtle changes of tempo without losing the excitement of the track.

Put all the above together and what you have is one impressive loudspeaker for just £500.

**CONCLUSION**

Q Acoustics have worked wonders with the 3050s. They have musical insight, verve and an even-handed nature that makes listening a real joy. You could double the price and not feel short-changed, they are that good.



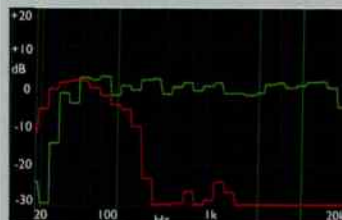
*The rear of the Q Acoustics 3050 has a steel outrigger for stability, including adjustable spikes for levelling. Twin loudspeaker binding posts also allow for bi-wiring. The cabinet has a solidity and overall quality that makes it stand out at the price.*

**MEASURED PERFORMANCE**

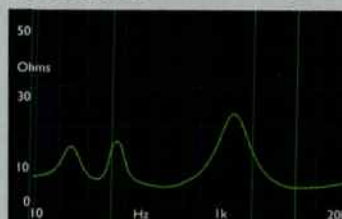
Frequency response of the 3050 was broadly flat, our analysis shows. All the same, there is an upper mid-range roll down that will soften the delivery very slightly, lower frequencies are raised overall to add fullness to the sound, and the tweeter has a plateau response that is just a tad above the midrange. This suggests good quality

**FREQUENCY RESPONSE**

Green - driver output  
Red - port output



**IMPEDANCE**



treble from a peak free tweeter, at a level that will be subjectively obvious but not overpowering. In all the 3050 strikes a very good balance, having accuracy, some mildness in its sound but a full bodied nature.

Bass extends down to a low 40Hz our analysis shows, the port (red trace) extending this down to 30Hz, so the 3050 is able to develop subsonics and will do so because in sound pressure level terms the port is +8dB up at 80Hz, where +6dB is a norm. With large port diameter the 3050's port produces high sound power - important for strong perceived bass in a room.

Sensitivity was very high, measuring 90dB sound pressure level from one nominal Watt of input (2.8V) via a measured impedance value of 6.6 Ohms - right on modern target of 6 Ohms. So the 3050 needs little power to go loud, and 20 Watts would do for high volume in a notionally standard room of 16ft x 12ft.

The Q Acoustics 3050 is a well balanced floorstander with strong but well controlled bass output. It has a mild balance, but is accurate all the same.

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**THE INDEPENDENTS**

**Just As Long: The Complete Wand Recordings 1972-74**  
**Kent**

**A**vocal group featuring Chuck Jackson, Maurice Jackson, Helen Curry, and Eric Thomas, this soul outfit loved to sing a love song but do it in a specially dramatic fashion – and they produced a range of top quality singles in the process.

Their first single for Wand, 'Just as Long as You Need Me', appeared in 1972, hit the No 8 spot on the charts and appears as track four on this fascinating compilation.

The group actually topped the charts in 1973 with 'Leaving Me', while 'Baby I've Been Missing You' made it to number four. Both of these tracks make an appearance here.

If you get to listen to these tracks, you'll notice the difference between their soul idiom and the pop direction which they tended to avoid. You can hear this pathway again on their final hit, 'Let This Be a Lesson to You', from 1974.

Their output was often smooth, easy – yet full of emotion. 'I Just Want To Be There', from an audiophile perspective has been well implemented by Kent. The default 'tone' from early other seventies masters tends to be an overly warm presentation with a roll off suite of treble and mids.

Not here: there's an incisive nature to the lead vocal and an overall sense of clarity over the broad soundstage that gives this album a more modern sensibility. Despite a slight harshness in the upper mids of some tracks (a result of the original sound sources, methinks), which can, as on 'Our Love Has Got To Come Together', result in slight sibilance, the overall sound quality is excellent.

Also look out for another recent Kent release, 'Mainstream Modern Soul 1969-1976', featuring twenty-four Philly-Style tracks from this New York label.



**LITTLE RIVER BAND**

**Sleeper Catcher/First Under Wire**  
**Lemon**

**A**ustralia has produced several notable music artists but how many of you remember this group? They were big in the seventies, mixing a country pop sound with a harmony-based presentation.

This CD package features two CDs and two complete albums. The 1978 release, 'Sleeper Catcher', was notable for including the band's biggest hit, 'Reminiscing', a No 3 placing that stayed in the Top 40 for 14 weeks. This track was notable for the soaring, swaying, romantic, clear tones of vocalist Glenn Shorrock who is the soul of this album, giving the band a bright and breezy outlook, while the pop-rock feel of the tracks 'Sanity's Side', 'Light of Day', and 'So Many Paths' add a cosy feel to the album.

'Sleeper Catcher' is joined here by 1979's 'First Under the Wire' – and so it should because both of these albums became Little River

Band's most successful releases. This album also included Shorrock as the lead singer. In 1983 the group featured John Farnham as a lead singer replacement, although Shorrock would return towards the end of the 80s. 'First Under the Wire' put out two Top Ten singles of the same variety, scoring with 'Lonesome Loser' and 'Cool Change'.

In audiophile terms, the mastering perfectly fits the time and the place, offering a smooth, warming yet still clear presentation with no hint of loudness, midrange blurring or bass bloom to disturb the easy going nature of the music. Instrumental separation is admirably portrayed too, giving more subtle secondary percussion plenty of time and space to project.

Other notable new releases on this label include Pat Travers' 1981 release, 'Radio Active', The Heavy Metal Kidz self-titled 1974 album and Rick Medlocke And Blackfoot's self-titled 1987 album.



Following in the recent release schedule of reissuing their albums in portrait-style book format 'box sets', this classic 1971 release was a mighty leap in terms of quality and evolution, coming as it did from the folk rock of 'Benefit'. The conceptual nature of 'Aqualung' (religious hypocrisy... how about that for a subject, eh?) proved to be a sophisticated step forward that appeared to miss out several expected steps along the way. The theme aside, though, the music itself was also worthy of high praise

'Locomotive Breath' was a rocking experience while the lyrical insight heard on the title track and 'Cross Eyed Mary' offered almost Dickensian literary leanings.

The mastering for this set has been completed by Steven Wilson. Many of you will be familiar with Wilson as the lead singer and core member of prog rock outfit,

Porcupine Tree. I must say that he's done a jolly good job with the discs here. Taking the title track of the album disc, for example, I was happy to hear a distinct distance between the lead vocal and the lead guitar while I never lost a subtle acoustic guitar track on the left channel that could easily have disappeared into noise when the soundstage was appreciably wide and epic in nature.

This edition is effusive in terms of extras. A four CD set, it offers the original album on one CD (with the Wilson remix) plus a second CD containing 'Associated 1970 & 1971 Recordings'. They include a flat transfer of the original EP, 'Life Is A Long Song', plus alternative and early versions of other tracks.

Two other DVDs feature a 5.1 surround sound version of the album plus extras, while the fourth DVD offers a 24bit/96kHz version of the flat transfer album version, an original 1974 quad mix and promo film. Phew!



## JETHRO TULL

**Aqualung: 40th Anniversary Adapted Edition**  
Chrysalis

Sahm was a talented guy who had a wide appreciation of music: as long as it broadly rotated around his home state of Texas. So, throw him a steel guitar or fiddle or mandolin and he'd return it to you with a slice of blues, country, rock & roll, Western swing, Cajun, polkas and a lot more.

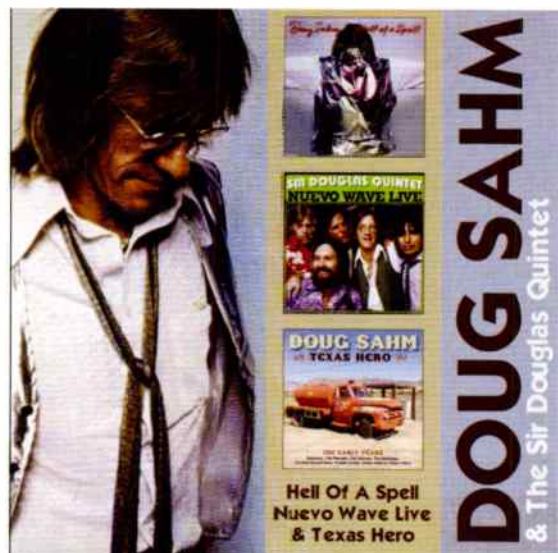
This 2CD package features three albums. Possibly the most fascinating of the three is the last in the list, 'Texas Hero - The Early Years' in which his work roams back to 1958 with The Pharaohs, but also includes The Markeys (1961), The Dell-Kings (1960), Freddy Fender, Ernest Tubb and T Bone Walker in 1961.

His first real band outing was as a response to the sixties British Invasion as part of the Sir Douglas Quintet, which was reformed in the early eighties. 'Nuevo Wave Live' is a reissue of their 1983 live set 'Live Texas Tornado', including

plenty of Texan-type whooping audience members and band boogie that roams, stylistically – but the group are certainly 'on song' as it where.

The best I've saved till last: 1980's 'Hell of a Spell'. This Texas blues/rhythm & blues album mix is devoted to one of Sahm's heroes, Guitar Slim. With a range of great originals and excellent covers, Sahm whelps out the blues but provides a superb array of musical abilities that provides a great exhibition of his talents. Arguably, his best album.

Also look out for other titles in the RetroWorld series including ex-Band member, Rick Danko and 'My Father's Place 1977', recorded in Roselyn, NY, 15 December 1977; Paul Butterfield's 'Live New York 1970', a two CD set plus both men combining on a third CD set called 'Live From the Blue Note, Boulder Co. 1979', including Blondie Chaplin.



## DOUG SAHM

**Hell of a Spell/Nuevo Wave Live/ Texas Hero**  
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# "What a bizarre concoction of old analogue and modern digital; I could never have imagined hi-fi would get to this"



Noel Keywood

**F**or a different view, go to America. It isn't one we're all going to agree with and share, but so what – it is stimulating. And the awkwardly named 'T.H.E. Show Newport' that I've just returned from was all of that. It wasn't the greatest hi-fi show by any means – Germany's High End show earns that distinction – but it was fascinating all the same, offering a different view, at times a more advanced view of where hi-fi is going.

The LP is back and nowhere is this more apparent than in the U.S. Bigger is better and talk in the lift was of record collections in the tens of thousands. How many? An LP in its cover weighs 250gms, so 10,000 will weigh 2.7 tons – more than a Range Rover. We're talking here of houses able to support such a load – and the space too. I sense some braggadocio, but all the same you can see what the LP has become, or is becoming in the USA.

As a treasured historical source of music it has massive value and that is only going to increase I believe. If you have an early Beatles EP, as I do, or the first Track issue of Hendrix's Electric Ladyland, that sits behind me in my own collection, then think £500 apiece I was told by Rockaway records. LPs now have a value way beyond anything I could have imagined when scraping pennies together (well, 30 bob) as a student to buy 'Help'.

To hear what you have bought at such enormous expense, you need the latest America can offer – and it came in the form of the Sugarcube 'Hi-res all-in-one vinyl digital recording platform' at this show. Straight out of Silicon Valley this technological tour-de-force sends LP to digital in a wink, cutting out all those nasty ticks and pops

on the way. Like the Entotem Plato we reviewed in our November 2015 issue, it is able to recognise the music played from an LP and retrieve track listing and cover artwork from the company's own on-line database that catalogues LPs rather than CDs. Gracenote move over.

By this point I was perplexed! Inside Sugarcube sat the best analogue-to-digital and digital-to-analogue convertors available, to preserve LP quality. And of course it utilises a powerful Digital Signal Processor (DSP) to crunch all the information in real time.

You've got to have an App for control because somewhere a smartphone must get in on the act, so it has this too. What a bizarre concoction of old analogue and modern digital; I could never have imagined hi-fi would get to this. But at the same time it was exciting to hear what was coming over the horizon in LP replay and see the way LP could be integrated into today's digital world.

Sugarcube relied upon the understanding and certainty of modern electronic circuits. Less certain in working principle were the many open baffle loudspeakers I saw at this show. Why conventional drive units were being enthusiastically mounted on open baffles I could not easily find out. I asked a few people demo'ing open baffle speakers how they got around the problems and answers were vague, shall I say.

However, from my own experience in loudspeaker manufacture I know there are some compelling reasons to be rid of boxes, the biggest being cost. Loudspeaker cabinets are difficult and expensive to make; they cost a fortune – think £80 apiece in quantity. Compare that to a top DAC chip like the ESS 9018 that comes in

at around £30 and you can see how a simple wooden box eclipses the cost of a technologically sophisticated silicon chip.

Open baffles are in essence flat sheets of wood with holes for the drive units, easy to manufacture and low in weight, so cheap to transport. Perfect. Except that at low bass frequencies the sound from the back cancels the sound from the front and you end up with no bass. This is why boxes, or infinite baffles, were used in the first place, long ago – to stop the rear wave getting out.

There are other ways to tackle the problem, one being to electronically compensate for the natural cancellation, as in the Celestion SL-6000 open baffle subwoofer I once used with Quad ESL-63 electrostatic loudspeakers, but as you might guess this raises another set of issues to frustrate success, one of which is the need for external equalisation.

What characterises the new wave of open baffle designs are big bass units, 12in to 15in in diameter and I suspect the sheer power of their output is used to balance out the cancellation process, resulting in a reasonably balanced subjective result.

Whatever, open baffle loudspeakers not only cost less to manufacture but they sound good too, because there's no box to add a boxy sound – it's as simple as that. Boxiness, or cabinet thrum as I call it, is the return of energy back out through the 'speaker cone, a phenomenon overlooked by so many designers. Making a better, stiffer cabinet is no cure; getting rid of the cabinet works.

I suspect we will be seeing more of open baffle loudspeakers in the UK soon, since what happens in America tends to reach Britain's shores a little later. It's a different view – often an interesting one. ●

# THE VINYL REVOLUTION



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"what I do not hear is the sheer guts, drive and insight"



Paul Rigby

It might come as a bit of shock to some of you, but I'm a journalist. There's a traditional association with the job that assumes that journalists are in love with words and books and associated ephemera but, really, that's not always so. I have known plenty who prefer a pint to Poe and a Tarka Dahl to Roald and see the trade as a short cut to a tan. So, I'm a bit old fashioned, I suppose

Surrounded by ten, seven foot high book shelves of unread books (some, double stacked) plus the other shelves of the completed works, of course, words and the knowledge that they imbue are not only important to me but, as a generally soft hearted, easy going, laid back individual, are one of the few things that rouse my passions when they are misused in a malevolent manner. When that mode combines with my other love, music, then my ire is awakened.

There have been many examples, of course, that are non-musical in tone. For example: it's not 'soccer', it's 'football'; it's not '24/7' it's 'all day, every day'; I'm a cricket fan so why should I want to 'touch base?'; it's a shopping 'trolley' not 'cart'; similarly, it's a shopping 'centre' not 'mall' (I don't even know how to pronounce that word...mall, moll, what?), you have a 'fringe' on your forehead not 'bangs'; it's 'alternative' not 'alternate'; you don't 'hike' a price you 'raise' it; you don't 'reach out' you 'ask' someone; it's not 'Where's it at?', it's 'Where is it?'; TVs cater for 'Series' not 'Seasons' and, for some reason, I hate the word 'movie', I much prefer 'film'. And there's plenty more where that lot came from.

That the majority of erroneous

word use stems from America (still the world's dominant and aggressive culture, ask any French official, struggling to maintain a diversity quota) is intriguing when you consider that one particular lexical mutation actually originated in America and was then screwed up by other Americans later on. It's not even a word, it's a term, reduced to the snappy abbreviation of R&B.

Rhythm & Blues, stemmed from the 1940s and hit its initial height during the fifties. It offered a rock-based rhythm with a jazz and/or blues beat. Protagonists included everyone from Ike Turner and Fats Domino and many more relatively obscure acts such as Little Willie John and The 5 Royales. In the UK, early variants of The Who, Rolling Stones and Animals were all collected under the label, partly because they sang older R&B covers. The genre is remembered for its energy, its passion, flying sweat and spittle from frantic harmonica playing, roaring guitars and vocal deliveries. R&B, in full mid-performance, offered a sort of adrenalin-based mania.

So why are the collected works of Beyonce, R Kelly, Usher and, give me strength, Maria Carey, now described as R&B? It's not so. No, really, it just isn't. All of these people plus many others like them do not sing R&B. What they sing isn't even soul or funk. What they sing is soul-lite or soul-pop with obvious cross-genre additions such as the brief infusions of hip pop and dance music to tweak here and there.

Noted music expert, Bill Dahl, writing the liner notes for the Ace CD ([www.acerrecords.co.uk](http://www.acerrecords.co.uk)) release, Ike Turner & His Kings of Rhythm's 'Ike's Instrumentals' refers to Turner's

pro prowess on the Stratocaster guitar, "His savage licks, liberally laced with whammy-bar hammering so audacious that it's a minor miracle he didn't snap all six strings every time he yanked on the thin metal rod protruding from his Fender solid body, rate with the most hair-raising blues guitar developments of the 1950s and the early 60s." Now, seriously could you ever apply that to Whitney Houston, Little Mix or Jamelia?

Fats Domino's 'The Early Imperial Singles 1950-1952', features 'Every Night About This Time', a vastly under-rated track that featured his soon to be trademarked hammering piano line that sounds like the action sequence from the St. Valentine's Day Massacre, such is its repeating ferocity. I see a lot of posturing from the likes of Fifth Harmony and Drake but I don't hear ferocity.

Finally, while I hear a lot of computer processing behind many contemporary R&B voices, what I do not hear is the sheer guts, drive and insight from a man like Little Willie John, one of the greatest singers of all time. He offered a host of classic proto-soul gems, grabbing a R&B song and ringing out the emotion like a water-filled sponge. If Sam Cooke was a cook, then Little Willie John was a chef. You can hear more on Little Willie John's 'Nineteen Sixty Six: The Dave Axelrod & HB Barnum Sessions' on the Kent label.

Mangling the R&B label onto 'soul-lite' smacks of re-writing history and marketing spin. It might be 'just words' to some but, to me, words have meaning and power. The only 'spin' I want to see is on my turntable. ●

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“All great artists take information, ideas and insight from others and then interpret it through their own eyes”



Jon Myles

It's often said there's rarely anything essentially new in music anymore – simply a rehash of what's gone before in one form or another.

After all, there's only a finite number of notes, chords and melodies available and since man is estimated to have been making music for at least 40,000 years you'd have thought all the available combinations of those elements would have been explored by now.

How many times, for example, have you listened to a song or piece of music and immediately started searching your memory banks to recall what other artist it reminded you of?

I vividly recall playing The Jesus and Mary Chain's cacophonous debut album 'Psychocandy' and at first thinking it was like nothing I had ever heard before. Until I listened a bit more and was hit by a nagging feeling that it sounded a bit like...yes, The Beach Boys!

OK, not the howling feedback and booming bass lines, but the vocal melody lines were straight from the California surf songbook school of writing. In fact you could call it an unholy amalgam of The Stooges/The Velvet Underground and Brian Wilson. Yes, fusing these disparate idioms together was undoubtedly new, but the heritage and influences were clear to hear.

Then there's Heavy Metal pioneers Led Zeppelin who made no secret of the fact that their early albums were heavily influenced by Blues greats such as Muddy Waters, Skip James and Howlin' Wolf.

It's ironic, then, that Zeppelin's main songwriters Jimmy Page and Robert Plant should have recently been embroiled in accusations of plagiarism over a song that I also thought sounded like nothing that

had gone before when I first heard it – namely the classic 'Stairway To Heaven'.

The trustees of guitarist Randy Wolfe's estate, though, thought otherwise – claiming the opening guitar chords were lifted from the song 'Taurus' which he wrote when he was with the band Spirit and frequently played while on tour with Zeppelin in America in the late 1970s. Jimmy Page has dismissed the claims as rubbish, saying he had never heard 'Taurus' before the accusations surfaced and the case is now currently churning through the California courts.

Not that this sort of thing is anything new. Zeppelin themselves have previously faced plagiarism allegations over songs like 'Babe, I'm Gonna Leave You' and 'Whole Lotta Love', while legal cases involving accusations of copyright infringement have been an increasing feature of the music business over the years – mainly because there can be a great deal of money in them.

Marvin Gaye's family filed a lawsuit against Pharrell Williams and Robin Thicke in 2013 claiming that their multi-million selling song 'Blurred Lines' copied the Soul legend's 1977 single 'Got To Give It Up'. Two years later the family were awarded £4.8 million in damages with Thicke and Williams' lawyer Howard E King dubbing the ruling "A horrible precedent for music and creativity".

Then there's the case of Sam Smith and Tom Petty And The Heartbreakers. Smith was accused of lifting elements of the group's 1989 track 'I Won't Back Down' for his international hit single 'Stay With Me'. Petty and his fellow co-writer Jeff Lynne (yes, he of ELO fame) were eventually awarded 12.5 per cent of royalties from the song.

In fact you can trace the trend all the way back to the 1960s, when Johnny Cash was forced to pay an estimated \$75000 for using lyrics and melody from Gordon Jenkins' 1953 track Crescent City Blues as the basis for his famous 1955 track Folsom Prison Blues.

Even ex-Beatles have not been immune – despite themselves having probably had more of their melodies appropriated as the basis of other bands' songs than any other group in history. Despite that, George Harrison was found guilty of "subconscious plagiarism" of Ronnie Mack's 'He's So Fine' for his hit 'My Sweet Lord' and ordered to pay \$1.5 million of the song's earnings in damages.

Of course there are many other examples of similarities between songs that never end up in court. I can list no end of songs whose chord structures or melodies instantly remind me of another track – even to the point that I'm certain they must have been lifted.

But there's a fine line between plagiarism and influence. The music of Oasis, for instance, has unmistakable overtones of The Beatles and Noel Gallagher has never denied they were a formative influence on his songwriting. But you'd be hard-pressed to find one of his tracks that sounds exactly the same as a Fab Four tune.

The Jam, also, have a heavy Beatles influence running through much of their work. Just listen to 'Start' and 'Taxman' back-to-back to see what I mean.

In the end, all great artists in whatever medium take information, ideas and insight from others every minute of the waking day and then interpret it through their own eyes. It isn't a re-hash so much as part of the artistic process. ●

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Paul Miller, Hi-Fi News, March 2015

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# I was rewarded with a wonderfully-open sound from cassettes



Martin Pipe

I recently spent an enjoyable day at the annual Dunstable Downs Radio Club bootsale (<http://www.ddrcbootsale.org/>). We've all been to car bootsales – but this one is entirely devoted to electronic items! For one late-Spring day, an entire field of Luton's Stockwood Park – accessible via junction 10 of the M1 – is given over to those buying and selling amateur radio gear, computers, recording and broadcast equipment, components, TVs and video, decommissioned industrial electronics, vintage and ex-military wireless, test instruments galore and consumer electronics. Naturally, hi-fi features among the latter.

This show was a bit like an open-air Audiojumble, in fact, with bargains and lots of enjoyable banter to be had! There are also pleasant distractions – food vans, live radio demonstrations, and the OB van of the British Amateur Television Club (BATC).

You can certainly fill your car with goodies, if you're not careful.. Among those I acquired was a silent-8mm cartridge projector accompanied by a selection of short educational films, a Nakamichi 582 cassette deck, a professional Panasonic S-VHS player (with integral digital timebase-corrector, essential for jitter-free visuals), a large crate of vintage wireless magazines and a pair of ADAT machines. The Nak, which dates back to the late 1970s, is a 3-head machine. This specimen may have been rather tatty, but its heads are in very good condition. It was revived by the application of new drive belts, cleaning, a replacement dual op-amp and liberal application of the appropriate fluids – Servisol spray

to the pots and switch contacts, and phosphoric acid/Kurust to corroded areas of the chassis.

There was no playback audio, and all because the front-panel 'stop' lamp bulb was open circuit...bizarre! I placed a 1 kilohm resistor across it, and sound was restored. A number of these soldered-in bulbs (function indicators and illumination for the meters – good old-fashioned moving-coil types here) have failed; in time, I'll replace them with appropriately-coloured LEDs and series resistors. Another bulb is buried in the mechanics; this, in conjunction with a perforated disc coupled to the take-up reel and a phototransistor, forms the basis of a fault/tape-end 'shut-off' sensor. It would be sensible to replace this, again with solid-state illumination – I've done this in the past with a subsequent model known as the ZX7.

The ZX7, and other Naks of this (and later) vintage are prone to capacitor failures – the orange-coloured mylar or polyester film types that are found in the bias oscillator and rec/play amplifiers. Amongst other symptoms are distorted recordings and weak sound in one or both channels. Thankfully, the 582 doesn't employ these particular caps. However, it would be sensible to renew the electrolytics – especially those in the power supply. They are, after all, approaching 40 years old! The cheap RC4558 dual op-amps are also worth replacing in the pursuit of improved sound; obvious contenders are NE5532s – affordable, and a popular choice in pro audio gear and hi-fi components alike.

Worth the effort? I was rewarded with a wonderfully-open sound from cassettes, both pre- and self-recorded.

None of the top-end dullness traditionally associated with cassettes here; Naks excel at this sort of thing, thanks in no small part to their proprietary heads. A drive system based around two massive flywheels ensured that pitch instability wasn't a problem, either. Incredible, for a machine of its age! I'm nevertheless tempted to add a 'play trim' circuit, of the sort found in some Yamaha and NAD cassette decks. This tweaks the high-frequency response before the Dolby circuit, restoring a little 'bite' to mediocre tapes without adding objectionable amounts of hiss. The 582 has an output level control; as this isn't needed I could bypass it, thereby making the output 'fixed', and redeploy the dual pot to a new role. That way, I won't have to drill ugly holes. Hi-fi tweakery – it's great fun...

What, then, is the ADAT mentioned earlier? If you've guessed Digital Audio Tape, you'd be partially correct. Instead of the tiny cassette and 4mm tape of the better-known DAT I featured a while back in *Olde Worlde* though, ADAT is built around half-inch S-VHS cassettes of the sort one would play on the Panasonic deck I also acquired at the DDRC bootsale.

My two machines were inexpensive, but they wouldn't start because every electrolytic capacitor on the low-voltage side of the power supply had lost much of its value; remember that they would have been used for many hours at a time. Implications there for hi-fi enthusiasts who keep their gear powered up permanently! Even then, I had to combine both machines into one that worked and I plan to feature it in a historical documentary I'm making about domestic video. ●

# "The Best Tonearm I've heard" HI FI WORLD



## Conqueror MK3C Tonearm Review Comments

Perfect 10 award "The most addictive product I've heard"  
AUDIO 10 (USA)

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IMAGE HI FI (Germany)

"The biggest improvement I've made in 25 years of listening to music and lots of exchanges of hi-fi stuff! ...breathtaking, big new level! It's like coming to Nirvana".  
OWNER COMMENT- FERDINAND ROEHRIG

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Most wanted component award STEREO TIMES (USA)

Best sound at the show award KLANGBILDER (Vienna)

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- WDPRe3 Transformer coupled single ended valve pre-amplifier. Low output impedance. Multi-inputs utilizing relay switching. Requires WDPSU3 power supply
- WDPSU3 High performance choke power supply
- WDHD3S Transformer coupled single ended valve headphone amplifier. Multiple settings for headphone impedance matching.



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# Turning Japanese

**Martin Pipe examines the mid-70s hi-fi landscape – and the effect that Pioneer's budget PL-12D turntable had on it.**

**D**espite frequently-dire economics, strikes, unstable oil-prices and an upcoming European referendum (hmmm...) the 1970s was arguably the golden age of mass-market hi-fi. Compared to the present era, there were few recreational activities available to the man in the street. Serious music listening at home, gatefold sleeves to hand, was thus more important.

Fuelling this idea was the fact that the decade – certainly its first half – was also the golden age of the impeccably-crafted popular-music forms best poised to take advantage of improving standards of domestic reproduction; one thinks of albums

like Dark Side of the Moon, Tubular Bells, Pretzel Logic, Goodbye Yellow Brick Road, Ziggy Stardust, Selling England By The Pound, Bridge Over Troubled Water, Physical Graffiti...

The classic status of these records is today such that I don't even need to mention the



**How to survive a trip to the hi-fi shop.**

*In the 1970s, hi-fi was big business. The photo appears to have been taken outside a branch of Laskys, a major retailer of the period.*

artists responsible. In those days, the purchasing ambitions of many young men ran to a decent car, a decent house...and a decent hi-fi, albeit not necessarily in that order.

This being the recession-dogged 1970s, though, ambitions had to meet bank balances. Just as the would-be Aston-Martin owner had to make do with British Leyland's finest, those who longed after Technics superdecks, McIntosh muscle amps and JBL monitors had to accept much more modest equipment. And thanks to the '70s hi-fi boom there was a considerable amount of 'affordable' bargain-basement gear, much of it from long-disappeared marques (anyone for Federal, Audiomatic, Solarvox, Albany House,

Prinzsound, Keletron or Eagle?). Some were tied into discount retailers like Dixons, Laskys and Comet. Oh, and then there was Amstrad.

These brands usually brought you the amps (seldom more than 15 watts per channel) and speakers of appropriate capability (that said, Amstrad was also to sell its now-legendary TP-12D 'table alongside a couple of cassette decks). That left the front-end; these low-end systems were typically built around an entry-level deck like the Garrard SP25, the six versions of which spanned the rim-driven late 1960s to the belt-driven early 1980s. This deck, built into a cheap plinth by the retailer, was often accompanied by a Goldring G800 cartridge.

Shop carefully, and a complete record-playing system (sometimes with stereo FM radio) could be yours for less than £100 (including the new 8% VAT) in 1973; possibly less if you built some of the gear from kits

advertised in the hi-fi press (Heathkit, Sinclair 'Radionics', Powertran, Jermyn...).

In 1973 £100 was a lot of money; remember that the average weekly wage was £41 back then. And component hi-fi was considered a specialist luxury at a time when the warm-sounding radiograms found in average homes were gradually being replaced by cassette/radio/turntable combos known as 'music centres' (which, a decade later, would in turn be ousted by 'rack systems'). Budget 'pick and choose' systems could sound better than these but they

centre.

What to do? Save up a little more money and Go East, young man! At this time most of the real budget stuff, contrary to expectations, was actually made in the UK (in the '70s, for example, Amstrad only had its aforementioned cassette decks made in Japan).

The 1970s was after all the heyday of gear from Japan, primarily Pioneer, Sansui, Akai, JVC, Kenwood/Trio, Sony, Yamaha, Aiwa, Toshiba, Sharp and Hitachi. And during those boom years, the sheer variety of equipment they offered was

into the prosperous US, Canadian, Australasian, Western European and Middle-Eastern markets as well as the UK.

And that brings us to Pioneer, the firm that was to become one of global hi-fi's bigger names. In the '70s, Pioneer was renowned for its tuners, amps, receivers and – in the UK – one turntable in particular. This was no esoteric quartz-locked high-tech marvel with a stratospheric price tag, but a budget deck in the lower echelons of its extensive range, the PL-12D.

The PL-12D is a basic belt-driven deck that cost £50 in 1973 and was marketed between 1973 and 1977. It undoubtedly made a significant contribution to Pioneer's healthy profits – and domination of the audio industry.

The story begins, though, with the PL-12AC – the PL-12D's predecessor. Sold in the earliest years of the '70s, it established a winning basic design. A substantial 4-pole synchronous motor with pulley 'steps' corresponding to 33 and 45rpm coupled by flat belt to a 12in. aluminium platter, an inexpensive pressed-steel deckplate isolated from the faux-woodgrain plinth via a quartet of springs with inner foam dampers and an arm with an SME-type headshell fitting, for ease of changing cartridges. All this in an easy-to-use package containing everything you needed, except the cartridge.

Pioneer supplied the 45rpm single adaptor, headshell, smoked-plastic cover, platter mat, a 'sub' counterweight (to accommodate heavier cartridges) and even a lubricator.

The speed-change mechanism was fundamentally-similar to that of the more expensive Thorens TD150/160. A simple user control was coupled to a sub-platter lever with 'fingers' that shifted the belt onto the pulley step appropriate to the desired playing speed. And as with Thorens decks with integrated arms, another control occupying the opposite side of the front panel was provided for raising and lowering the pickup. The PL-12AC was reasonably-successful, but it didn't set the audio world on fire.

But then in early 1973 came the PL-12D. Changes relative to its predecessor were not major. There were relatively-insignificant modifications, such as the design of the cover hinge, but a more notable

## THE PRICE OF PIONEER EQUIPMENT MAKES OTHER STEREO SYSTEMS SEEM CHEAP

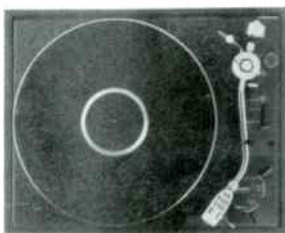


PL61 A professional turntable, powered by a non-friction brushless DC Servo Hallmotor. Less electric or mechanical noise. Complete with plinth and cover. Price, excluding tax £173.33.

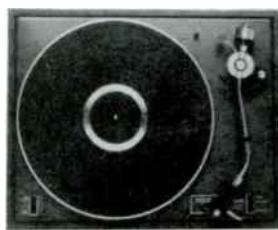
### Turntables.



C4500 A compact system with high performance belt-drive stereo turntable and low-distortion amplifier. Complete with cover. Price, excluding tax £109.28.



PLA45 A fully automatic, belt-drive stereo turntable featuring two precision motors and excellent disc tracing capability. Complete with plinth and cover. Price, excluding tax £91.45.



PL12D A very moderately priced belt-drive turntable with easy operating controls. Complete with plinth and cover. Price, excluding tax £50.88.

**Featured in a four-page advertisement, this is the 1973 range of Pioneer turntables. Many were of the opinion that the entry-level PL-12D sounded better than the other two turntables (a belt-drive automatic player, and a fairly-early direct-drive).**

**The C4500 'compact system' was basically a PL-12D and a modest low-power amp in one unit; just add speakers and you were good to go!**

didn't get close to 1973's 'real' hi-fi.

So what about critical music lovers with that objective in mind? They wanted more than 'rock-bottom' separates, and – as individuals who wanted their prized LPs to sound their best – they flatly rejected a Ferguson or Fidelity music

enormous. Manufacturers' catalogues ran to tens of glossily-photographed colour pages, lavishly detailing and spec'ing out microphones to speakers – and everything in between.

Hi-fi was becoming global and Japanese firms were selling





**When the PL-12AC gave way to the PL-12D, a new addition was this 'stylus overhang' checker – a unique feature to this day. The cartridge would be shifted along the headshell slots until the tip of the stylus lined up with the embossed arc. A simple but effective alignment guide.**

development was Pioneer's switch from a J-shaped arm to a statically-balanced S-shaped one capable of tracking weights as low as 0.75g. And to help you set up your cartridge in it, the deckplate included an 'overhang checker' – a raised lump of plastic embossed with an arc that should correspond to the trace of your stylus.

But what really established the PL-12D in the hearts of audiophiles was its sound quality. It could outperform the more expensive models of the Pioneer range and some preferred its innate musicality to the technical lure of the affordable Direct-Drive units that were beginning to appear.

With a suitable cartridge (something like a Shure M75ED, Ortofon FF15E or Audio-Technica AT12) the PL-12D had an expansive soundstage, depth and sheer musical engagement.

Compared to its idler-driven UK rivals, notably Britain's budget favourite, the SP25 from Garrard, Pioneer's PL-12D was rumble and wow free – and it also happened to have a great arm. It was seen as a budget 'transcription turntable', rather than a budget slogger like the SP25.

It was usual to couple this hi-fi bargain with a Sansui amp or Pioneer receiver and British speakers from the likes of Goodmans, Celestion or Wharfedale. Sometimes, a British receiver (a Goodmans One-Ten, Leak 2000 or Armstrong 625 – with a phono-to-DIN adaptor to match the

connectivity) was specified instead.

Such a system was exceptionally-reliable if well looked after and gave considerable pleasure to owners for many years. Indeed, I recently came across a PL-12D/Pioneer SX-525/Wharfedale Linton 2 set-up – and it was still working! The Japanese evidently knew a thing or two about reliability back then.

Tweaks claimed to improve the sound included removal of the tonearm's lateral-balance weight, experimenting with different headshells, new mats, removing the lid, placement on sturdy tables or shelves and even changing the captive audio cables.

When time came to upgrades of a more substantial nature, though, these modest systems (the purchase cost of which usually totalled £150 – £200) often 'trickled down' to younger members of

the family, who were beginning to discover music for themselves.

Pioneer's PL-12Ds sold by the million and there was a slightly refined Mark II version. Other manufacturers attempted to emulate the success of this iconic Pioneer; among the better-known of the mid-1970s were the Trio KD1033 and the Sansui SR222. All had the same design fundamentals; if it ain't broke, don't fix it! If only Pioneer had borne this in mind.

The PL-12 line came to an end with the 1977 launch of the PL-112. This was made, looked and sounded very differently to its illustrious predecessor. Its deckplate was a plastic moulding, and the arm (again, S-shaped with SME headshell fitting) was mounted on a sprung subchassis. Technically, it was better – the measurements proved it – but the newer deck lacked the musical 'sparkle' that made the PL-12D so special.

We were by this time heading for the 1980s and a new design – the Dual CS505 – from Germany rather than Japan was poised to steal the budget turntable crown.

**Next month: How does the PL-12D fare today?**

**PIONEER** **PL-12D**

A value-packed professionally-finished stereo turntable with sensitive S-shaped tonearm, belt-drive and easy operating controls.



With this well-made stereo turntable, Pioneer proves once again that quality and practicality are synonymous. The budget-priced PL 12D gives you more for your stereo investment than you'd ever expect. A fine synchronous motor that helps cut out audible wow and flutter. An extremely steady belt-drive. An anti-skating control to lessen distortion. A cueing device with simultaneous movement with the start lever. And a beautifully-balanced S-shaped tonearm with plug-in type lightweight head-shell! For the man about to make his first investment into stereo components, the PL-12D becomes more than a budget investment but a truly professional turntable that will serve him well for many years of quality sound reproduction.

**PIONEER**

**Here's the flyer that Pioneer used as part of the 1973 PL-12D launch campaign. Leaflets like this were offered to prospective customers at trade shows and hi-fi shops.**

We do not sell these products. It is for your information only.

# WORLD CLASSICS

Here is our list of the great and good from audio's glorious past, products that have earned their place in hi-fi history. You'll also see some oddities which aren't classic as such, but are great used buys. The year of introduction is given, alongside the original UK launch price.

## TURNTABLES

**EAT FORTE** 2009 £12,500  
Lavishly finished two box, two motor turntable with gorgeous Ikeda 407 tonearm bundled. Exceptionally stable and unfussy performer with a relaxed but highly enjoyable gait.



**FUNK FIRM VECTOR II** 2009 £860  
Innovative engineering gives a nimble, pacey and musical sound that's one of the best at the price.

**REGA P2** 2008 £300  
Excellent value for money engineering, easy set up and fine sound.

**MCINTOSH MT10** 2008 £8,995  
Big, expensive, controversially styled and glows more than some might consider necessary, but an astonishingly good performer.

**REGA P3-24** 2008 £405  
Seminal affordable audiophile deck with fine bundled tonearm. Tweakable, and really sings with optional £150 outboard power supply.

**ACOUSTIC SOLID ONE** 2007 £4,050  
Huge turntable, both in terms of sheer mass and sonic dynamics. Fit up to three arms and enjoy, just don't damage your back moving it...

**AVID VOLVERE SEQUEL** 2007 £4,600  
Stylish high end vinyl spinner with industrial strength build quality and a sound to match. Sound is edge-of-the-seat stuff.

**MICHELL GYRODEC SE** 2005 £1,115  
Design icon with superlative build. Sound is beautifully smooth, effortless and exceptionally expansive.

**MARANTZ TT-15S1** 2005 £1,299  
Cracking all in one deck/arm/cartridge combination, this must surely be the best sound/plug and play package at this price point.

**MICHELL TECNODEC** 2003 £579  
Superb introduction to Michell turntables - on a budget. Top quality build and elegant design mean it's still the class of the mid-price field.



**MICHELL ORBE** 1995 £2,500  
The top Michell disc spinner remains a superbly capable all rounder with powerful, spacious sound that's delicate and beguiling.

**SME MODEL 10A** 1995 £4,700  
Exquisitely engineered deck and SME V tonearm combo that's an extremely accomplished performer with classical music.

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

**TECHNICS SL-P1200** 1987 £800  
CD version of the Technics SL-1200 turntable. Massively built to withstand the rigours of 'pr' use and laden with facilities - a great eighties icon.

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

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

**MICHELL GYRODEC** 1981 £599  
Thanks to its stunning visuals, this bold design wasn't accorded the respect it deserved. Clean, solid and architectural sound.

**TOWNSHEND ROCK** 1979 £ N/A  
Novel machine has extremely clean and fluid sound. Substantially modified through the years, and capable of superb results even today.

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



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

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

**TRIO LO-7D** 1978 £600  
The best 'all-in-one' turntable package ever made. Clean, powerful and three-dimensional sound, ultimately limited by the tonearm.

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

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

**PIONEER PL12D** 1973 £36  
When vinyl was the leading source, this bought new standards of noise performance and stability to the class, plus a low friction S-shaped tonearm. Later PL112D was off the pace compared to rivals.



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

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

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

**GOLDRING LENCO GL75** 1970 £15.6S  
Simple, well engineered motor unit with soft, sweet sound and reasonable tonearm. Good spares and servicing support even today.

**GARRARD 301/401** 1953 £19  
Tremendously strong and articulate with only a veiled treble to let it down.





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

**TONEARMS**

**REGA RB251** 2009 £136  
Capable way past its price point, the new 3-point mount version of the classic RB250 serves up a taut and detailed sound. A little lean for some tastes, but responds well to rewiring and counter-weight modification.

**HELIUS OMEGA** 2008 £1,595  
Stylish and solid lump of arm with fabulous build quality, that turns in a dynamic and weighty performance.

**AUDIO ORIGAMI PU7** 2007 £1,300  
The classic Syrinx PU3 updated to spectacular effect. Hand made to order, with any mass, length and colour you care for. Fit, finish and sound truly impressive.



**GRAHAM PHANTOM** 2006 £3,160  
Sonically stunning arm with magnificent bass dexterity and soundstaging. Build quality up to SME standards, which is really saying something!

**TRI-PLANAR PRECISION** 2006 £3,600  
Immaculate build, exquisite design and one of the most naturally musical and lucid sounds around.

**MICHELL TECNOARM A** 2003 £442  
Clever reworking of the Rega theme, using blasting, drilling and rewiring!

**SME 309** 1989 £767  
Mid-price SME comes complete with cost-cut aluminium armtube and detachable headshell. Tight, neutral sound with good tonality, but lacks the IV's pace and precision.

**NAIM ARO** 1987 £1,425  
Charismatic unipivot is poor at frequency extremes but sublime in the midband; truly emotive and insightful.

**SME SERIES V** 1987 £2,390  
Vice-like bass with incredible weight, ultra clear midband and treble astound, although some don't like its matter of factness!

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



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

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

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

**LINN ITTOK LVII** 1978 £253  
Japanese design to Linn specs made for a muscular, rhythmic sound with real dynamics. The final LVIII version worth seeking out.

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

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

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

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

**PHONO STAGES**

**CREEK OBH-8 SE** 1996 £180  
Punchy, rhythmic character with oodles of detail makes this a great budget audiophile classic. Partner with a Goldring G1042 for an unbeatable budget combination.

**MICHELL ISO** 1988 £ N/A  
This Tom Evans-designed black box started the trend for high performance offboard phono stages. Charismatic, musical and punchy - if lacking in finesse.



**LINN LINNK** 1984 £149  
Naim-designed MC phono stage built to partner the original Naim NAIT - yes, really! Fine sound, although off the pace these days.

**INTEGRATED AMPLIFIERS**

**NAIM NAIT XS** 2009 £1,250  
With much of the sound of the Supemait at half the price, this is powerful, articulate and smooth beyond class expectations.

**MUSICAL FIDELITY PRIMO** 2009 £7,900  
Seriously expensive, but one listen explains why. Wonderfully exuberant sound that can only come from a top quality tube design.

**SUGDEN A21A S2** 2008 £1,469  
Crystalline clarity, dizzying speed and forensic detailing. Power limited so needs sensitive speakers.

**CREEK OBH-22** 2008 £350  
Brilliant value budget passive, with remote control, mute and input switching, plus an easy, a neutral sound.

**CAMBRIDGE 840A V2** 2007 £750  
Version 2 addresses version 1's weaknesses to turn in a mightily accomplished performance, offering power, finesse and detail.

**SUGDEN IA4** 2007 £3,650  
Goodly amount of Class A power, icy clarity and a breathtakingly fast, musical sound make this one of the very best super-integrateds.

**NUFORCE P-9** 2007 £2,200  
Impressive two box preamp with superb resolution and an engaging sound.

**MELODY PURE BLACK 101D** 2007 £3,295  
The clarity and openness of valves plus firm grip and fine detail make this a preamplifier masterclass.

**AUDIOLAB 8000S** 2006 £400  
In another life, this sold for three times the price, making it a stand-out bargain now. Very clean, powerful and tidy sound.

**MCINTOSH MA6800** 1995 £3735  
Effortlessly sweet, strong and powerful with semi-nal styling to match.

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

**EXPOSURE VII/VIII** 1985 £625  
Seminal pre-power, offering most of what Naim amps did with just that little bit extra smoothness. Lean, punchy and musical.



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

**VTL MINIMAL/50W MONOBLOCK** 1985 £1,300  
Rugged, professional build and finish allied to a lively and punchy sound (albeit with limited power) make them an excellent used buy.

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

**MISSION CYRUS 2** 1984 £299  
Classic 1980s minimalism combines arresting styling with clean, open, lively sound. Further upgradeable with PSX power supply.



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

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

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

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

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

**ROGERS A75** 1978 £220  
Lots of sensible facilities, a goodly power output and nice sound in one box. The later A75II and A100 versions offered improved sonics and were seriously sweet.

**A&R A60** 1977 £115  
Sweet and musical feature-packed integrated; the Audiolab 8000A remains a classic.



**SUGDEN C51/P51** 1976 £130  
Soft sounding early Sugden combo with a plethora of facilities and filters. A sweet and endearing performer but lacking in power and poor load driving ability.

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

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

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

## POWER AMPLIFIERS

**ELECTROCOMPANET NEMO** 2009 £4,995 (EACH)

Norwegian power station as cool as a glacier tonally, yet impresses with sheer physicality and fleetness of foot. 600W per channel.

**NUFORCE REFERENCE 9SE V2** 2006 £1,750  
Brilliant value for money monoblocks with massive power and super-clean, three dimensional sound.

**QUAD II-80** 2005 £6,000 PER PAIR

Quad's best ever power amplifier. Dramatic performer with silky but dark tonality, blistering dynamics, serious power and compellingly musical sound.



**QUAD 909** 2001 £900  
Current-dumper has a smooth and expansive character with enough wallop to drive most loads. Not the most musical, but superb value all the same.

**NAIM NAP 500** 2000 £17,950  
Flagship amplifier will drive just about any speaker with ease. Factor in the company's trademark pace, rhythm and timing and it all adds up to one effortlessly musical package.

**MARANTZ MODEL 9** 1997 £8000  
Authentic reproduction monoblocks still more than cut the sonic mustard. Highly expensive and highly sought after.

**MICHELL ALECTO** 1997 £1969  
Crisp, clean and beautifully controlled with gorgeous styling. Partnered with the £1650 Orca this sounds delicious!



**MUSICAL FIDELITY XA200** 1996 £1000  
200W of sweet smooth transistor stomp in a grooved tube! Under-rated oddity.

**PIONEER M-73** 1988 £1,200  
Monster stomp from this seminal Japanese power amplifier, complete with switchable Class A and Class B operation. Clean, open and assured sounding, albeit a tad behind the pace on high speed dance music. Rosewood side cheeks and black brushed aluminium completes the experience.

**KRELL KMA100 II** 1987 £5,750  
Monoblock version of the giant KSA-100 is one of the seminal 80s transistor power amplifiers. Massive wallop allied to clean and open Class A sound makes this one of the best amplifiers of its type.

**RADFORD STA25 RENAISSANCE** 1986 £977  
This reworking of Radford's original late sixties design was possessed of a wonderfully rich, old school valve sound with enough power (25W) and lots of subtlety.

**QUAD 405** 1978 £115  
The first of the current dumpers is a capable design with smooth, effortless power and a decently musical sound. 606 and 707 continue the theme with greater detail and incision.

**HH ELECTRONICS TPA-50D AMPLIFIERS** 1973 £110  
Simple design with easily available components, solid build quality and fine sound make for a surprisingly overlooked bargain

**LECSON AP1** 1973 £ N/A  
Madcap cylindrical styling alluded to its 'tower of power' pretensions, but it wasn't. Poor build, but decently clean sounding when working.

**QUAD 303** 1968 £55  
Bullet proof build, but woolly sound. Off the pace, but endearing nonetheless. Some pipe smoking slipper wearers swear by them!

**LEAK STEREO 20** 1958 £31  
Excellent workaday classic valve amplifier with decent power and drive. Surprisingly modern sounding if rebuilt sympathetically. Irrepressibly musical and fluid.



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

**QUAD II** 1952 £22  
The all-time classic valve amplifier, with a deliciously fluid and lyrical voice. In other respects though, it sounds hopelessly dated. Low power and hard to partner properly



**LEAK POINT ONE, TL10, TL12.1, TL12 PLUS** 1949 £28  
Early classics that are getting expensive. Overhauling is de rigeur before use, using original parts if possible. Surprisingly crisp and musical. Deeply impressive in fine fettle.

## PRE AMPLIFIERS

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



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

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

**AUDIO RESEARCH SP-8** 1982 £1,400  
Beautifully designed and built high end tube pre-amplifier with deliciously sweet and smooth sound. Not the last word in incision or grip.

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

**NAIM NAC 32.5** 1978 £ N/A  
Classic high end pre. Brilliantly fast and incisive sound that's a joy with vinyl! but a tad forward for digital.

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

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



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



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

**LOUDSPEAKERS**

**WHARFEDALE DIAMONO 10.3** 2010 £290  
Great small standmounters for audiophiles on a budget; dry punchy sound with impressive sound-staging at the price.



**YAMAHA SOAVO 1.1** 2009 £3,000  
Musical, transparent with impressive dynamics and cohesion. Excellent build and finish.

**USHER BE-10** 2009 £10,500  
Clever high end moving coil design with immense speed and dizzying clarity allied to epic punch. Needs the best ancillaries to fly, though...



**SPENDOR A5** 2009 £1,695  
Multi-talented floorstanders with generous scale and punch and Spendor's classic mid-range detail. Deliver a sound that thoroughly engages whatever you care to play.

**MONITOR AUDIO PL100** 2008 £2,300  
The flagship 'Platinum' series standmounter has a lovely warm and delicate sound with superlative treble.



**MARTIN LOGAN SOURCE** 2008 £1,600  
Brilliant entry level electrostatics, giving a taste of loudspeaker esoterica for the price of most moving coil boxes. Tremendous clarity, evenness and delicacy, although not the world's most powerful sound.

**PMC OB11** 2008 £2,950  
Cleverly updated floorstanders give scale and solidity in slim and well finished package.

**ISOPHON GALILEO** 2007 £2,100  
Big standmounters that really grip the music and offer quite startling dynamics and grip.

**ONE THING AUDIO ESL57** 2007 £1,450  
One Thing Audio's modifications keep the good old ESL57 at the very top of the game.

**MOWGAN AUDIO MABON** 2007 £3,995  
Massively capable loudspeakers that offer dynamics, scale and clarity in an elegantly simple package. Wide range of finishes, too.

**B&O BEOLAB 9** 2007 £5,000  
Technically impressive and visually striking loudspeakers with sound quality that more than matches their looks.



**ISOPHON CASSIANO** 2007 £12,900  
Drive units featuring exotic materials allied to superlative build quality result in an immensely capable loudspeaker. Not an easy load to drive, however.

**B&W 686** 2007 £299  
Baby standmounters offer a sophisticated and mature performance that belies both their dimensions and price tag.

**QUAO ESL-2905** 2006 £5,995  
The old 989 with all the bugs taken out, this gives a brilliantly neutral and open sound like only a top electrostatic can; still not a natural rock loudspeaker, though.

**B&W 8010** 2006 £10,500  
In many respects, the ultimate studio monitor; dazzling clarity and speed with commanding scale and dynamics.



**REVOLVER CYGNIS** 2006 £5,999  
Revolver pull out all the stops and show what they can do with this magnificent flagship loudspeaker. A superb monitor that is like a mini B&W 8010 in many ways.

**USHER BE-718** 2007 £1,600  
Beryllium tweeters work superbly, allied to a fast and punchy bass driver. The result is subtle, smooth and emotive.

**USHER S-520** 2006 £350  
Astorishingly capable budget standmounters that offer detail and dynamics well beyond their price and dimensions.

**ACOUSTIC ENERGY AE1 CLASSIC** 2006 £845  
Brilliantly successful remake of an iconic design; not flawless, but surely one of the most musical loudspeakers ever made.



**MISSION X-SPACE** 1999 £499  
The first mass production sub and sat system using NXT panels is a sure-fire future classic - not flawless, but a tantalisingly unboxy sound nevertheless!

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

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



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

**HEYBROOK HB1** 1982 £130  
Peter Comeau-designed standmounters with an amazingly lyrical yet decently refined sound. Good enough to partner with very high end ancillaries, yet great with budget kit too. A classic



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

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

**ACOUSTIC RESEARCH AR18S** 1978 £125  
Yank designed, British built loudspeaker became a budget staple for many rock fans, thanks to the great speed from the paper drivers, although finesse was most definitely not their forte...

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



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

**KEF R105** 1977 £785  
Three way Bextrene-based floorstander gave a truly wideband listen and massive (500W) power handling. A very neutral, spacious and polite sounding design, but rhythmically well off the pace.

**SPENDOR BC1** 1976 £240  
Celestion HF1300 tweeter meets bespoke Spendor Bextrene mid-bass unit. The result is a beautifully warm yet focussed sound. A little bass bloom necessitates careful low-stand mounting.



**IMF TLS80** 1976 £550  
Warm and powerful 1970s behemoth with transmission loading and a mixture of KEF and Celestion drive units. Impressively physical wideband sound but rhythms not a forte.

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

**BBC LS3/5A** 1972 £88  
Extremely low colouration design is amazing in some respects – articulation, stage depth, clarity – and useless in others (both frequency extremes). Came in wide variety of guises from various manufacturers building it under licence.

**LEAK SANDWICH** 1961 £39 EACH  
Warm sounding infinite baffle that, with a reasonably powerful amplifier can sound quite satisfying.

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

## SYSTEMS

**MERIDIAN SOOLOOS 2.1** 2010 £6,990  
Crisp styling, bright, colourful touchscreen, plus excellent search facilities. This is one hard disk music system with a difference. Best partnered to Meridian active loudspeakers.



**NAIM UNITIQUTE** 2010 £995  
Great little half width one-box system with truly impressive sound allied to a wealth of source options.

**ARCAM SOLO MINI** 2008 £650  
Half the size and two-thirds the price of a full-sized Solo, the Mini gives very little away in terms of performance to its bigger brother.

**MERIDIAN F80** 2007 £1,500  
Fantastically built and versatile DVD/CD/DAB/FM/AM unit, designed in conjunction with Ferrari. Ignore nay-sayers who sneer that it isn't a 'proper' hi-fi product. Just listen.

**SHANLING MC-30** 2007 £650  
Quite possibly the cutest all-in-one around with fine performance from the CD player, tuner and MP3 player input. Very low power, though.



**AURA NOTE PREMIER** 2007 £1,500  
Lovely shiny CD/tuner/amplifier with fine sound quality and dynamic abilities.



**MARANTZ 'LEGEND'** 2007 £22,000  
The combination of SA-7S1 disc player, SC-7S2 preamp and MA-9S2 monoblocks delivers jaw-dropping performance.

**ARCAM SOLO NEO** 2006 £1,100  
Excellent all-in-one system, with a warm, smooth and balanced sound to match the features and style.

**PEACHTREE AUDIO IDECCO** £1,000  
Excellent sounding iPod dock, impressive DAC and fine amplifier section make this an excellent one box style system.



## TUNERS

**ARCAM FMJ T32** 2009 £600  
Excellent hybrid FM/DAB+ tuner with a smooth, engaging sound. Factor in its fine build and it's a super value package.



**MAGNUM DYNALAB MD-100T** 2006 £1,895  
One of the best ways to hear FM that we know; superbly open and musical sound in a quirky but characterful package.

**MYRYAD MXT4000** 2005 £1,000  
Sumptuous sound and top-notch build quality make for a tempting AM/FM package. Warm and richly detailed on good-quality music broadcasts.

**NAIM NAT03** 1993 £595  
The warm, atmospheric sound is further proof of Naim's proficiency with tuners.

**CREEK CAS3140** 1985 £199  
Excellent detail, separation and dynamics - brilliantly musical at the price. T40 continued the theme...

**QUAD FM4** 1983 £240  
Supreme ergonomics allied to a pleasingly lyrical sound with plenty of sweetness and detail made this one of the best tuners around upon its launch.



**NAD 4040** 1979 £79  
Tremendously smooth and natural sound allied to low prices and good availability make this budget analogue esoterica.

**MARANTZ ST-8** 1978 £353  
Marantz's finest radio moment. Warm, organic sound plus an oscilloscope for checking the signal strength and multipath.

**YAMAHA CT7000** 1977 £444  
Combines sleek ergonomics, high sensitivity and an explicit, detailed sound.

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



**ROGERS T75** 1977 £125  
Superb mid-price British audiophile design, complete with understated black fascia. Smooth and sweet with fine dimensionality.

**SANSUI TU-9900** 1976 £300  
A flagship Japanese tuner. It boasts superlative RF performance and an extremely smooth and lucid sound.



**TECHNICS ST-8080** 1976 £180  
Superb FM stage makes for a clean and smooth listen.

**REVOX B760** 1975 £520  
The Revox offers superlative measured performance although the sound isn't quite as staggering as the numbers. Fine nonetheless, and surely the most durable tuner here?

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

**LEAK TROUGHLINE** 1956 £25  
Series I an interesting ornament but limited to 88-100MHz only. II and III are arguably the best-sounding tuners ever. Adaptation for stereo easy via phono multiplex socket. Deliciously lucid with true dimensionality.



## HEADPHONE AMPLIFIERS

**GRAHAM SLEE NOVO** 2009 £255

Dynamic headphone amplifier with a great sense of timing. Crisp, clear treble and warm midrange gives an involving sound.



**MUSICAL FIDELITY X-CAN VB** 2008 £350

Open and explicitly detailed sound plus serious bass wallop. A great partner for most mid-to-high end headphones.

## CD PLAYER/RECORDERS

**MUSICAL FIDELITY TRIVISTA** 2002 £4000

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

**MARANTZ SA-1** 2000 £5,000

The greatest argument for SACD. This sublime Ken Ishiwata design is utterly musically convincing with both CD and SACD, beating most audiophile CD spinners hands down.



**SONY MDS-JE555ES** 2000 £900

The best sounding MD deck ever, thanks to awesome build and heroic ATRAC-DSP Type R coding.

**PIONEER PDR-555RW** 1999 £480

For a moment, this was the CD recorder to have. Clean and detailed.

**MARANTZ DR-17** 1999 £1100

Probably the best sounding CD recorder made; built like a brick with a true audiophile sound and HDCD compatibility.



**CAMBRIDGE AUDIO CD4SE** 1998 £200

A touch soft in the treble and tonally light, but outstanding in every other respect.

**SONY TCD-B DATMAN** 1996 £599

Super clean sound makes this an amazing portable, but fragile.

**LINN KARIK III** 1995 £1775

The final Karik was a gem. Superb transport gives a brilliantly tight, grippy dynamic sound, albeit tonally dry.

**NAIM CDS** 1990 £ N/A

Classic Philips 16x4 chipset with serious attention to power supplies equals grin-inducing sonics.

**MARANTZ CD73** 1983 £700

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



**MERIDIAN 207** 1988 £995

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

**SONY CDP-R1/OAS-R1** 1987 £3,000

Sony's first two boxer was right first time. Tonally lean, but probably the most detailed and architectural sounding machine of the eighties.

**CAMBRIDGE AUDIO CD1** 1986 £1500

Inspired Stan Curtis redesign of Philips CD104, complete with switchable digital filter. Lean but tight and musical performer.



**MERIDIAN MCD** 1984 £600

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

**SONY CDP-701ES** 1984 £890

Sony's first bespoke audiophile machine used a 16x2 DAC to provide a clinically incisive sound; supreme build quality allied to the pure unadulterated luxury of a paperback-sized remote control.

**YAMAHA CD-X1** 1983 £340

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

**SONY CDP-101** 1982 £800

The first Japanese CD spinner was powerful and involving. Brilliant transport more than compensated for 16x2 DAC, and you even got remote control!



## ANALOGUE RECORDERS

**AIWA XD-009** 1989 £600

Aiwa's Nak beater didn't, but it wasn't half bad nonetheless. Massive spec even included a 16x4 DAC!

**NAKAMICHI CR-7E** 1987 £800

The very best sounding Nakamichi ever - but lacks the visual drama of a Dragon.



**SONY WM-D6C** 1985 £290

Single capstan transport on a par with a Swiss watch, single rec/replay head better than most Naks. Result: sublime.

**PIONEER CTF-950** 1978 £400

Not up to modern standards sonically, but a great symbol of the cassette deck art nonetheless.

**YAMAHA TC-800GL** 1977 £179

Early classic with ski-slope styling. Middling sonics by modern standards, but cool nonetheless!

**SONY TC-377** 1972 £N/A

A competitor to the Akai 4000D open reel machine, the Sony offered better sound quality and is still no slouch by modern standards

**REVOX A77** 1968 £145

The first domestic open reel that the pros used at home. Superbly made, but sonically off the pace these days.

## COMPACT DISC TRANSPORTS

**ESOTERIC P0** 1997 £8,000

The best CD drive bar none. Brilliantly incisive, ridiculously over engineered.

**TEAC VRDS-T1** 1994 £600

Warm and expansive sound made this a mid price hit. Well built, with a slick mech.

**KENWOOD 9010** 1986 £600

The first discrete Jap transport was beautifully done and responds well to re-clocking.

## DACs

**DCS ELGAR** 1997 £8500

Extremely open and natural performer, albeit extremely pricey - superb.

**DPA LITTLE BIT 3** 1996 £299

Rich, clean, rhythmic and punchy sound transforms budget CD players.

**CAMBRIDGE AUDIO DAC MAGIC** 1995 £99

Good value upgrade for budget CD players with extensive facilities and detailed sonics.

**PINK TRIANGLE DACAPO** 1993 £ N/A

Exquisite; the warmest and most lyrical 16bit digital audio we have ever heard.

**QED DIGIT** 1991 £90

Budget bitstream performer with tweaks aplenty. Positron PSU upgrade makes it smooth, but now past it.

## CABLES

**MISSING LINK CRYO REFERENCE 2008**  
£495/0.5M

High end' interconnects, with deliciously smooth, open and subtle sound without a hint of edge.

**TECHLINK WIRES XS** 2007 £20

Highly accomplished interconnects at an absurdly low price. Stunning value for money.

**VDH ULTIMATE THE FIRST** 2004 £250

Carbon interconnects that help you forget the electronics and concentrate on the music. Miraculous transparency. Tight and tuneful bass mixed with air and space.



**WIREWORLD OASIS 5** 2003 £99/M

Excellent mid-price design with a very neutral, silky and self-effacing sound. Superb value for money.

**TCI CONSTRICTOR 13A-6 BLOCK** 2003 £120

Top quality 'affordable' mains outlet block, with fine build and good sonics. Well worth the extra over standard high street specials, which sound coarse and two-dimensional by comparison.

# vinyl section

## contents

AUGUST 2016

[www.hi-fiworld.co.uk](http://www.hi-fiworld.co.uk)

### GOLDRING 1012GX AND 1042 CARTRIDGES 87

Noel Keywood reviews a pair of favourite Moving Magnet cartridges from Goldring. And talks about arm set-up.

### AUDIO DESK SYSTEME VINYL CLEANER PRO ULTRASONIC 91

Paul Rigby is impressed by the use of ultrasonic sound to clean LPs. It seems appropriate!



### AT THE MOVIES

From Music on Vinyl imprint, all individually numbered and limited in numbers, is 1985 reissue, 'Rocky IV'. Pressed on transparent vinyl, it features the vocal talents of James Brown, Gladys Knight and Survivor.

Of more recent vintage is 'The 5th Wave' by Henry Jackman. Pressed on coloured vinyl it includes a poster and arrives in a gatefold sleeve.

As is 'Brooklyn', scored by Michael Brook, also pressed on coloured vinyl but with a four-page booklet.



# news

**FT**

...or 'Featuring' is a new album project from former Soup Dragons and High Fidelity front man, Sean Dickson who is releasing an electronica album. He has collaborated with an array of musicians and vocalists from David McAlmont to Yoko Ono. To begin, he has released a series of three limited edition 12" singles from the album featuring Fred Schneider from the B-52s, Bootsy Collins and Dave Ball.



### RECORD STORE DAY

One or two selections have crossed my desk since that day including 'Spiders' from Space, the 1996 release originally on Gut but reissued here via Demon as a picture disc.

Also from Demon is the Matthew Sweet & Susanna Hoffs record trio of cover songs called 'Under The Covers' volumes one to three pressed on blue, yellow and purple vinyl respectively.

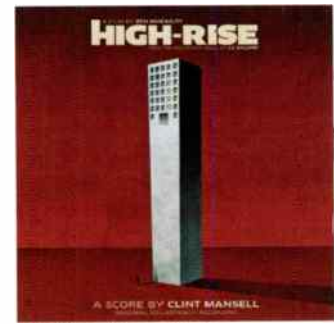
Finally, from Music on Vinyl, is the 7" single of the song 'Hocus Pocus' from the Dutch prog outfit, Focus. This time, the 'U.S. Version'.



## HIGH RISE (+ COLLECTABLE OFFER!)

From the film, based upon the cult novel by J.G. Ballard, this is Clint Mansell's Original Soundtrack Recording. Music fans will know Mansell as the former Pop Will Eat Itself frontman but is recently remembered as a collaborator with Darren Aronofsky on scores for: 'Requiem for a Dream', 'Black Swan', 'The Fountain' and 'Noah'.

OST collectors should be aware that this LP will be available as a black vinyl pressing but it was also supposed to be a limited-edition, 'flame-coloured', vinyl edition for Record Store Day. This variant was withdrawn due to a pressing fault, resulting in pitted vinyl, that may affect sound quality. Of the 1,500 ordered, 500 were actually pressed and can be bought on a 'no return' basis, if you wish. Click on <https://silvascreenmusic.greedbag.com/buy/ninth-gate-flame-vinyl...> but be quick!



## DEMON

While we're chatting about Demon, the company has a couple of additional interesting releases on offer.

Firstly, Fun Lovin' Criminals' 'Come Find Yourself' has been released as a Deluxe Edition which, to you and me, means the album on vinyl, a 12" picture disc of an alternative instrumental edition of the album, a 4-track 10" EP, three CDs including the original 1996 UK CD tracklisting, alternative mixes and BBC sessions, a DVD of five promo videos, TV appearances, the original 1996 EPK and a more recent 2015 interview with both Huey and Fast plus new liner notes.

Also available is the basic vinyl reissue of McAlmont & Butler's 'The Sound of...' as a 180gm release on coloured vinyl. It has been remastered from the original master tapes by Bernard Butler.



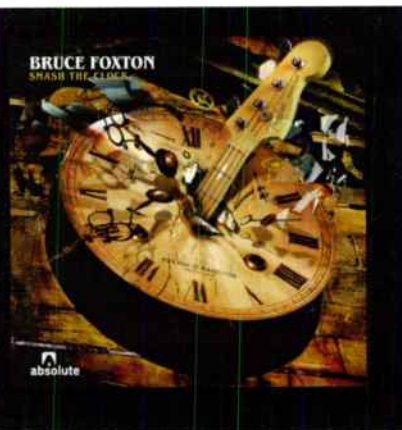
## EDEN AHBEZ

'Wild Boy - The Lost Songs of Eden Ahbez' from Bear Family is a collection of songs written and mainly sung by himself. Ahbez was a unique, pre-rock character, famed for writing 'Nature Boy', which became a big and rather unexpected hit for Nat 'King' Cole (and later covered by Frank Sinatra and Sarah Vaughan). His 1960 release, 'Eden's Island' was one of the most exotic and weirdest releases in that weird decade. These 14 rare and unreleased cuts feature appearances from Nat 'King' Cole, Eartha Kitt, Paul Horn and The Ray Anthony Orchestra that presage his solo debut but carry the story on after that time too. Strap yourself in for a psychedelic journey and a half.



## JAM...NOT

The problem I have with ex-Jam man, Bruce Foxton, is that, in his head, he isn't. He teamed up with Weller-esque sounding, From The Jam frontman, Russell Hastings, which makes Foxton's solo work (this included) a parody, a cash-in from old Jam fans instead of Foxton searching within and giving us his art from his soul on his terms. For Jam-lite, call his latest LP 'Smash The Clock' (Basstone; [www.basstone-records.com](http://www.basstone-records.com) or via Facebook).



## ...AND FINALLY

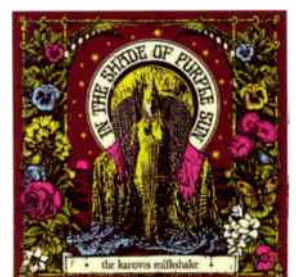
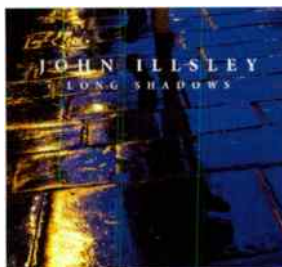
Santana IV (Thirty Tigers; [www.thirtytigers.com](http://www.thirtytigers.com)) marks the reunion of nearly all of the members of its greatest line-up from 1971-1972. It's taken two years to make but it's worth it.

'Hypercocean' from Niagra (Monotreme; [www.monotremerecords.com](http://www.monotremerecords.com)) offers electro-pop grooves stealing late 80s/early 90s rave beats underneath low key vocals. Derivatively underwhelming.

New from Aussie-born, Sarah Blasko is 'Eternal Return' (EMI), a suite of brainy pop songs with added husky voice textures.

From ex-Dire Straits Man, John Illsley comes 'Long Shadows' (Creek Touring). Offering a distinct Dire Straits' feel. This is old man's tired rock (in a really good way, though).

Finally, 'In The Shade of the Purple Sun', from The Karovas Milkshake (a Russian psychedelic/freakbeat group) are not British and not from the sixties. But they should be.









# Golden greats

**Noel Keywood listens in to Goldring's new budget 1012GX and 1042 moving magnet cartridges – and declares them both winners.**

**L**ong ago I lived happily with a Goldring 1042, like many people I suspect. It's a classic beginners 'top MM' offering a great sound for not a lot of money – and is still going today. Price? £285.

Beneath it lie the 1022GX (£275), 1012GX (£245) and the budget 1006 (£195), all available today without apparent change. How do they meet up to modern standards, I wondered, now that the vinyl revival is under way and a flood of new MMs are appearing? To find out we got in a 1012GX and a top 1042 to take another look at these budget specials.

I don't remember what system I was using with the 1042 but it

was likely a Quad 33/303 amplifier driving Leak 2060 loudspeakers, a combo I ran happily for years. I mention this for one reason: the world moves on and today's hi-fi is more revealing of what is going on at the front end. How would these old warhorses fare, I wondered, under the forensic insight of a modern system? And also against our reference MM, Ortofon's 2M Black with its Shibata stylus?

The system in which I used the Goldrings for this review comprised a Timestep Evo turntable with SME309 arm, Icon Audio PS3 valve phonostage feeding Quad QMP Monoblock amplifiers direct and driving Martin Logan Renaissance hybrid electrostatic loudspeakers – a far cry from my Leak 2060s!

Goldring have done little to alter any part of their 1000 Series moving magnet cartridges. They are still assembled in Bury St Edmunds, UK, and delivered in a nondescript cardboard box within which lies a plastic casket housing the device, held by plastic spring clips. Pull it out and beneath lie a pair of

stainless steel, hex-head fixing screws, nuts, a small spanner and a hex key. There's no brush nor a stylus force balance. But the bits you get are high quality all the same.

Tucked in alongside the plastic casket is an instruction sheet that covers all models and declares

nominal playing weight as 1.75gms, with a range of 1.5-2gms acceptable. Long ago, however, I settled on 1.8gms for these cartridges – and that's what I used for this review. Weighing 6.3gms – fairly light – the 1000 Series Goldrings suit any and every arm, since all will balance out with a 6-10gm cartridges.

The declared difference between all four cartridges is the stylus fitted. The budget 1006 uses a simple elliptical stylus, the 1012GX a Gyger II, the 1022GX a Gyger I and the 1042 a Gyger S. However, our measurements show the 1042 has 10% less output than the 1012GX, suggesting it has a slightly smaller and lighter magnet to improve high-frequency tracking – not declared in the specs. In any case, the different stylus profiles mainly improve detail retrieval and high-frequency resolution; otherwise these cartridges differ little, explaining why their prices aren't a mile apart.

They all use a black Pocan body and stylus carrier, both of which are rigid. The push-fit removable stylus assembly is stabilised by a small shaft that helps key it in. Because the body is the same you can buy a 1006 and upgrade it by buying a new stylus assembly if you wish. Or you can simply get a new, better assembly as a replacement if a stylus gets bent.

Fitting cartridge to arm is no



**You don't get a fancy box with the Goldrings, just this simple cardboard case, printed in black only, that clearly identifies the model inside.**

problem, unless you are used to more expensive MCs with tapped screw holes, avoiding nuts and the fiddle of holding them still. The Goldrings have simple through holes and you need to be a bit dextrous to hold each nut in place whilst trying to locate and engage the screw. Then it's just a case of pushing the small electrical connectors onto the colour coded rear connection pins. After which comes the process of set-up that, with LP, is always "interesting".

These days you'll find reams of info on set-up on the internet, with every geometric analysis or arm shape – and resultant distortion – available. There are a few things to bear in mind here if you are a beginner. Firstly, is that the LP is a fairly approximate replay device within which quite wide variation exists, so take a view when reading some of the more laboured expositions where exceptional accuracy is insisted upon. It may have been the experience of the author, but it may not relate to your own equipment and is unlikely to be either relevant or useful. This is especially the case with arm

alignment to minimise geometric error and distortion, where for example cartridge alignment in the headshell is actually more critical: a slight misalignment can double distortion, theory and measurement show.

This apart, every LP you play will be different due to varying lathe and cutter alignments, and lacquer spring back. So set up sensibly, but don't worry about pernickety detail. In particular, don't use the lowest tracking force; as a rule of thumb I use the highest tracking force and work downward – and with the Goldrings 1.8gms VTF is about the lowest to go. I've added a short guide to set-up in a box out here, based on my own experiences, backed by measurement.

### SOUND QUALITY

I have heard both these cartridges before and knew what to expect. However, our new samples measured a little flatter than before and I wonder whether Goldring may have slightly tweaked them. Both were even in tonal balance and quite obviously "not warm", shall I say.

You don't get the old warm, cuddly 'sound of the seventies' from these units, nor any hint of it. Both are now dry and up-front in their delivery, throwing out a lot of detail as a result – and this was always one area where the 1000 Series challenged all else and they still do. Few modern MM cartridges are so accurate and as a result so forceful in high-frequency delivery.

As a result softly delivered vocals such as those of Kate Bush on the LP 'Aerial' came across clearly, la Bush being pushed forward a bit in the mix. And where I think of Mark Knopfler's 'Brothers in Arms' LP as dynamically strong but also laidback, both Goldrings brought a clarity and sharpness of timing to the whole affair; they are now very tight and specific in their timing; vinyl warmth steps back a few paces and a new clarity steps forward by the same amount.

As before I was more impressed by the less expensive 1012GX than the 1042. It has more force to its delivery than the 1042, with tighter and better defined bass that fairly had the Renaissance bass bins jumping, even though their 500 Watts amps were turned down a bit.

But at times the Gyger I stylus of the 1012GX could harden up



**A black Pocan body with push-in stylus assembly is used. A conventional tubular aluminium cantilever is used.**

and spit a little with transients from strummed guitar strings and cymbal strikes, where that of the 1042 was unphased, just gliding through.

Of the two cartridges, the 1012GX is the one for Rock whilst the softer delivery of the 1042 better suits classical. The Gyger S stylus delivers finely delineated treble and this went down well with Marianne Thorsen playing Mozart violin concertos, backed by the Trondheim Soloists on a 200gm LP from 2L of Norway. Her violin had a gorgeously organic presence, quite unlike digital, whilst the backing orchestra was arrayed behind her on a stage with a good reproduction of depth. But when I span Alison Goldfrapp's 12in, 45rpm single 'Ride A White Horse' the 1012GX brought attention to the deep bass that underpins this track, giving it vast power. Few loudspeakers can move the settees in our large (6000cu ft) listening room but Martin Logan's did when faced with the 1012GX. Here was punch, passion and power.

But this has always been the case with Goldrings as they deliver even tonality and well-defined bass, explaining why they have endeared themselves to legions of listeners across the decades of their existence.

### CONCLUSION

It was nice to meet these cartridges again. Both offer a great set of results under test and they deliver it in use too, with a modern sound that is engagingly forceful and lively. Neither is laidback – quite the opposite. Think fast, modern and punchy.

You don't pay a lot and you have that great MM convenience of being able to swop the stylus if you bend it. In all then, the 1012GX and 1042 remain great, affordable cartridges well suited to today's vinyl market.

**No fancy stainless steel or wooden case here, but those fixing screws and nuts are stainless steel, because it is non-magnetic. The hexagonal case is tough plastic and the cartridge simply clips in – and out.**





**SETUP**

Before anything give a few moments thought to cartridge fitment, to avoid damaging the stylus in an accident – easy at this stage. The Goldring use lugs, through which passes a stainless steel, hex-head bolt. Holding the nut in place whilst screwing in the bolt from above, in a fixed headshell arm like a Rega, is a fiddle and at this point the cartridge can fall. To avoid damage, remove the stylus and replace when the body has been bolted in place, or keep the stylus guard on and secure with a bit of tape, otherwise it will likely fly off in a long fall to the floor. You may want to put a few dusters or such like under the arm to catch a wayward cartridge, or fixing nut. Plan for a disaster – then it will be avoided!

I insert one bolt loosely first, so the cartridge body can swing out to allow the cartridge pins to be more easily accessed when connecting up. Use snipe nose pliers to hold the tags (Maplins) and don't push too hard or they will bend and snap. Ease open with a jewellers screw-driver if too tight.

The cartridge body must be correctly aligned in the headshell so it sits straight along the central front-back axis. Ensure it is not twisted as angular error considerably increases distortion. One headshell side will be a reference face, the one that is a tangent to the groove at the inner groove (63mm from centre). Fix initially at mid-point in the longitudinal fixing holes that most arms have (SMEs excepted).

Then the arm has to be balanced with the stylus guard removed – and again care is needed to avoid it flying out of the hand. Set tracking force with the arm's mechanism, often a calibrated counterweight, or preferably an electronic stylus gauge. Keep bias side force at zero, at this point.

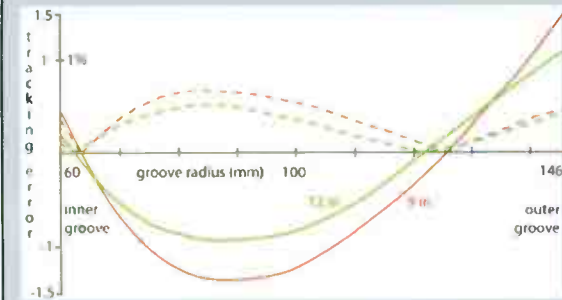
Now you must slide the cartridge forward or backward in the headshell's elongated fixing holes until it is at a tangent to the groove at a position 63mm from the centre of the centre spindle (not the edge of the centre spindle) when sitting on the LP – an alignment protractor is used for this. Once set you should find the arm is also at a tangent to the groove 121mm out – check that this is so, within 1mm or thereabouts.

If the cartridge has been moved much, the tracking force will need to be re-set – then bias force can be applied, by whatever mechanism the arm has for this.

Basic set up is now complete and the arm can be used at this point, but in some arms a few more tweaks are possible. Nowadays most have height adjustment – a simple clamp screw in the collar holding the arm pillar. Adjust so the arm lies parallel to the LP surface when playing.

Some headshells can be rotated left or right around their central axis (azimuth adjustment): set so the cartridge sits perfectly upright.

And that is it. Just remember that cartridges first wear in – then wear out. They sound best after 10 hours or so, when the stylus attains a polish and the cantilever hinge settles, but after a year or two expect the sound to slowly dull and become lacklustre - time for a new stylus!



**TRACKING ERROR AND DISTORTION**

The solid lines angular tracking error in degrees, of a 9in arm (red) and 12in arm (green). The broken lines show the distortion that results from this error – less than 1%.

Note there are two angular zeros, at 63mm and 121mm from centre, where the cartridge is (should be) at a tangent to the groove. Most cartridge alignment protractors reflect this geometry.

**MEASURED PERFORMANCE**

Both cartridges were set to 1.8gms downforce in our SME309 arm. The 1012GX tracked very well, right up with the best modern rivals, clearing all 300Hz test tracks on CBS STR-112, including the highest lateral level torture track of 90µm peak amplitude. It just clung on in the highest 1kHz cut on B&K QR2010, managing 25cms/sec velocity, if with a little mistrack on one channel – a very good result. The 1042, surprisingly, wasn't so sure footed, barely managing 90µm at 300Hz and tracking marginally at 20cms/sec. – still a good result. Differences may be due to sample variation.

Lower output of 3.5mV from the 1042 against 4mV from the 1012GX suggests a smaller magnet, since the bodies (signal coils) are the same between these cartridges; a smaller magnet gives better high frequency tracking through lower effective tip mass.

That the coils and stylus assemblies are similar is evident in the impressive frequency response traces of these cartridges – both almost ruler flat (JVC TRS-1007 test disc). They will sound

tonally even but quite forward and detailed against traditional MMs with a falling upper mid, and even many modern MCs that are now balanced for a warmer sound.

Tracing loss on inner grooves (red trace) was – surprisingly – almost zero, so the sound balance will not alter from start to finish of an LP.

Distortion from the 1042 measured 0.7% against 1% for the 1012GX; the stylus of the 1042 traces the groove a little better, as expected. Vertical tracking angle of both was around 26 degrees, and this is lower error than rivals that hover around 30 degrees (22degrees is ideal).

Both cartridges measured well, the 1012GX especially so, although the 1042 has superior high frequency performance. **NK**

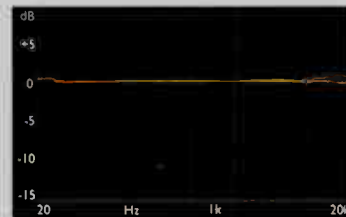
<b>Tracking force</b>	<b>1.8gms</b>
<b>Weight</b>	<b>6.3gms</b>
<b>Vertical tracking angle</b>	<b>26degrees</b>
<b>Frequency response</b>	<b>20Hz - 20kHz</b>
<b>Channel separation</b>	<b>24dB</b>
<b>Tracking ability (300Hz)</b>	

<b>lateral</b>	<b>90µm</b>
<b>vertical</b>	<b>45µm</b>
<b>lateral (1kHz)</b>	<b>20cms/sec.</b>
<b>Distortion (45µm)</b>	
<b>lateral</b>	<b>1%</b>
<b>vertical</b>	<b>2%</b>
<b>Output (3.5cms/sec rms)</b>	<b>3.5/4mV</b>

**FREQUENCY RESPONSE 1012**



**FREQUENCY RESPONSE 1042**



**GOLDRING**  
1012GX £245  
1042 £285



**OUTSTANDING - amongst the best.**

**VERDICT**

Up to date performance from simple, yet affordable MM cartridges, well suited to the modern world.

**FOR**

- suit all arms
- accurate sound balance
- excellent tracking

**AGAINST**

- no tapped fixing holes
- simple packaging

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In fact, the Axiom Audio EP500 works so well that my wife and I both stood mouths open (not kidding! as it shook the rafters and window glass in our house. Amazing! Love that palpable, tight bass.... Thank you again for the awesome prize!

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# Audio Desk Go Ultrasonic

Ultrasonics is an increasingly popular method of cleaning vinyl records. Paul Rigby reviews the Audio Desk Systeme Vinyl Cleaner Pro Ultrasonic.



— whereupon the record rotates (I found that the record sometimes needed a quick press or anti-clockwise tweak in order for the internal rollers to 'catch' the disc.) If you look down into the cavity, you will see it automatically fill with the supplied and pre-added liquid. As the record begins to rotate, four micro-fibre rollers (which need to be replaced after 500-1,000 LP cleans at £49 for four) move onto the surface of the disc and rotate. The rollers spread the liquid over the record.

Once done, the ultrasonic action begins producing compression waves that produce millions of tiny bubbles that compress and break up, forcing liquid into the grooves. The agitation effect displaces gunk, grease, muck and other contaminants. The liquid is afterward drained through a washable filter and a fan dries the LP (12"-only records need apply: you cannot use 10" or 7" discs here). If there's any liquid still on the disc, you

record cleaner, designed by Rainer Gläss, so I had to grab one for review.

In use, the cleaner holds the vinyl record vertically within a vat of cleaning liquid. The machine uses ultrasonics or, more specifically, cavitation, used in jewellery cleaning to remove dirt from tiny indentations and holes within delicate valuables. In this machine, however, you slip a record into a slot that securely holds it and press the start button



**You need to periodically buy new cleaning liquid and brushes but the filter block sponge can be washed and reused.**

first got to know Audio Desk via its CD Sound Improver, which I reviewed many moons ago and, was so impressed with the performance, I actually bought the thing for my own use. The company has now produced an ultrasonic-based vinyl

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**The four rotary brushes spread liquid over the vinyl record during ultrasonic cleaning.**

can repeat the drying process.

The typical six-minute cycle is not a silent one, especially during drying (which can be intrusive over multiple cleans) but there is not a great deal of excessive noise here. We're not talking screaming vacuum cleaner-like levels.

Around 100 discs can be cleaned via one batch of cleaning liquid, whereupon a drain outlet at the rear enables evacuation of the same, you can then rinse the machine with warm water and add new liquid at £12 per bottle of concentrate (two bottles are provided, initially).

## SOUND QUALITY

I chose the original fifties recording of 'The Four Freshman Again!' and the track 'Baltimore Oriole': a ballad featuring a solo voice, slow strumming guitar, upright bass and occasional backing vocal. Apart from a few very minor ticks here and there, this was a pretty immaculate record, in basic terms, yet one clean with the Audio Desk revealed a wealth of new information. A veil was removed from the soundstage, exposing a host of new details including a subtle throat swallow from the lead vocal, a more precise and focused vocal presentation, more air around the guitar and bass and a removal of the upper midrange forwardness during backing vocal crescendos.

Listening to the original 1969 Motown master of Joe Harnell's

instrumental piano version of Stevie Wonder's 'My Cherie Amour', complete with full orchestra backing including strings, the Audio Desk treatment gave the piano more dynamic range while adding an open and expansive presentation to this central instrument. The backing orchestra was also made more complex. A saxophone could be clearly heard for the first time, strings 'swept' instead of 'barked', whilst percussion contained complex cymbal and rimshot work, no longer sounding like the shutting of a car door. Finally, tambourines had a new brassy sound to their strikes.

More importantly was a head-to-head with my prized Loricraft PRC-3SE record cleaning machine in conjunction with L'Art du Son, the best cleaning liquid I have found on the market, thus far. I cleaned The Police's 'Ghost in the Machine' LP with this liquid, twice on the Loricraft, listened extensively to the LP and then cleaned again with the Audio Desk. While the Loricraft stripped away a significant veil to reveal new sonic details the Audio Desk removed an additional layer to improve sound quality still further. The soundstage was stretched left and right and filled with more detail, within vocals especially but also the synth backing. Percussion was richer



**Audio Desk supply a range of replacement parts for the record cleaning machine.**

and more characterful while any small hints of blooming and edgy forwardness on the vocal crescendos were removed and treble-infused cymbals sounded brassier. The Audio Desk, let's not forget, is about £1,000 more than the Loricraft yet the latter still retains a revered cleaning technology process and I previously didn't believe that ultrasonic technology was capable of such sonic improvements...at any price. Frankly, I was stunned.

## CONCLUSION

A well built, easy to use record cleaning machine with the added benefit of simultaneous, double sided cleaning and an automatic wet/dry system. What makes this design truly audiophile, though, is the ultrasonic addition and the top notch liquid cleaner.



**That green 'button' on the upper surface is, in fact, a bubble level. It's important to keep the Audio Desk level during use.**

**AUDIO DESK  
SYSTEME VINYL  
CLEANER PRO  
ULTRASONIC  
£2,295**



**OUTSTANDING - amongst  
the best.**

### VERDICT

'Wash and go' for your vinyl? Basically, yes. An effective, single button press, cleaner that dramatically improves the overall sound quality of your records.

### FOR

- superlative cleaning abilities
- sonic improvements
- automatic
- both vinyl sides cleaned
- build quality

### AGAINST:

- limited to Audio Desk's own fluid
- roller replacement costs
- for 12" records only

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**ATC SMC11** speakers cherry wood finish Serial No.2305/06 approx. 10 yrs old, face, tops and sides unmarked, but 4 spike marks on the base of the speakers. They are in excellent condition and being sold with a pair of silver Partington Droughtnought super speaker stands, again unmarked. No boxes, so collection only - I will demo set up. £500. Contact Phil 01384 411914 Halesowen West Midlands

**GARRARD 401** with Rega RB300 and Goldring 1042, £1200. Power supply for Class A amps i.e. JLH 1969/1996, £300. Call 0207 499 8729.

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**PAIR OF LOWTHER Bicolor** 2000 speaker cabinets in black. Good condition. Offers. Details: Tel: 01522 682 926

## CLASSIC CONTACTS

When a classic goes 'poof' your troubles have just started, but there may be a good ending. Replacing failing parts can improve the sound, so here is a short listing of all these companies who specialise in getting a classic up and running again after its deposited a small ring of soot on your ceiling!

**GT AUDIO** (Graham Tricker, Bucks) Classic tuners, radios and amplifiers restored, repaired. Tel: 01895 833099 Mob: 07960 962579 www.gtaudio.com

**TECHNICAL AND GENERAL** (East Sussex) Turntable parts - wide range of spares and accessories, plus arms and cartridges. Tel: 01892 654534

**CARTRIDGE MAN** (Len Gregory, London) Specialist cartridge re-tipping service and repairs. High quality special cartridges. Tel: 020 8688 6565 Email: thecartridgeman@talktalk.net www.thecartridgeman.com

**Dr MARTIN BASTIN** (Shropshire) Garrard 301/401 restoration, renovation and service. Special plinths; rumble cures, etc. Tel: 01584 823446

**CLASSIC NAKAMICHI** (Paul Wilkins, Worthing, West Sussex) Restore, Repair & Service Nakamichi Cassette Decks. Tel: 01903 695695 Email: paul@bowersandwilkins.co.uk www.bowersandwilkins.co.uk

**ARKLESS ELECTRONICS** (Northumberland) Specialist in repairs, restoration and modifications to all amplifiers, valve or solid state, ancient and modern. Tel.: 01670 530674 Email: info@arklesselectronics.com www.arklesselectronics.com

**CLASSIQUE SOUNDS** (Paul Greenfield, Leicester) ESL-57s restored, rebuilt, fully renovated or improved. Leak, Quad valves amps etc. Tel: 0845 123 5137/ Mob: 0116 2835821 Email: classique\_sounds@yahoo.co.uk www.flashbacksales.co.uk/classique

**ATV AUDIO** (Henry Dulat, Surrey) Repairs, restorations and upgrades to valve and transistor amps and all analogue audio including Revox. Tel: 01372 456921 Mobile: 07730 134973

**REVOX** (Brian Reeves, Cheshire) Revox tape recorder spares, service and repair. Accessories also available. Tel: 0161 499 2349 Email: brian@revoxservice.co.uk www.revox.freeuk.com

**ONE THING** (Coventry) Specialist in electrostatic panel manufacture and repair. Can refurbish ESL 57s and 63s as well as Leak Troughlines and Quad IIs. Email: one.thing@ntlworld.com www.onethingaudio.com

**EXPERT STYLUS COMPANY** (Wyndham Hodgson, Surrey) Stylus replacement service for all types of cartridge. Including precise profiling for 78s. Tel: 01372 276604 Email: w.hodgson@btclick.com

**OCTAVE AUDIO WOODWORKING** (Bristol) Unit 2, 16 Midland Street, St Phillips, Bristol. Tel: 0117 925 6015 www.octave-aw.co.uk

**WEMBLEY LOUDSPEAKER** (Paul MacCallam, London) Comprehensive loudspeaker servicing. Tel: 020 8 743 4567 Email: paul@wembleyloudspeaker.co.uk www.wembleyloudspeaker.com

**LORICRAFT AUDIO** (Terry O'Sullivan, Bucks) Garrard 301/401 and their own 501 repair, spares and service.: Tel: 01488 72267 www.garrard501.com

**QUAD ELECTROACOUSTICS (Cambs)** Quad's service department, able to repair almost all Quad products, from the very first. (Also Audiolab, Mission & Wharfedale). Tel: 0845 4580011 www.quad-hifi.co.uk

**SOWTER TRANSFORMERS** (Brian Sowter, Ipswich) Large range of audio transformers for valve amps, cartridges, line drive, interstage plus all associated services. Tel: 01473 252794 www.sowter.co.uk

**LOCKWOOD AUDIO** (London) Tannoy loudspeaker parts, restoration and repair. Also Epos and TDL loudspeakers. Tel: 020 8 864 8008 www.lockwoodaudio.co.uk

**CONVERT VINYL/78/DVD/LASERDISC/TAPE/VIDEO/CD TO DIGITAL FILES** (Martin Pipe, Southend-on-Sea) Migrate music and film to today's servers and players. Obsolete formats a speciality. Also repairs. Tel: 07802 200660 Email: tekktalk@virginmedia.com www.tekktalk.co.uk

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## ADVERTISERS INDEX

2nd Hand Hi-Fi	86
Absolute Sounds	OBC
Audio Consultants	56
Audiolab	IBC
B&W	6
Basically Sound	92
Billy Vee	90
Black Rhodium	50,72
Classe	16
Decent Audio	52,53
EnjoyTheMusic.Com	90
Focal	58
Henley Designs	22,42,60,70
Ian Harrison	92
Icon Audio	24
Jordan Acoustics	26,27
Music First	68
Nu Nu Distribution	66
Origin Live	74
Peak Hi-Fi	90
SCV Distribution	72
SME	50
Sound Cinergy	92
Sound Hi-Fi	68
Sounds Fowndations	62
South Wales Hi-Fi	92
Spendor	18
Tellurium Q	12
The Chord Company	IFC
The Right Note	92
Vinyl Adventure	92
World Designs	74

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7	8
9	10
11	12
13	14
15	16
17	18
19	20
21	22
23	24
25	26
27	28
29	30

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# LABI SIFFRE

## CRYING LAUGHING LOVING LYING DEMON



The term “real music” is as meaningless, though politically, dishonestly, pejoratively useful to the dumb-asses you refer to.

**H**e’s a songwriter and a musician but also a revered poet and the creator of the inspirational song ‘(Something Inside) So Strong’ as well as the very sweet outing, ‘It Must Be Love’ that was covered and taken to No 1 in the UK charts by the pop/ska outfit, Madness. His song ‘I Got The...’ was sampled and provided the basis for a number of well-known hip-hop tracks such as Eminem’s breakthrough hit single, ‘My Name Is’.

“I was influenced by people like Miles Davis, Thelonious Monk, Charlie Mingus, John Coltrane, Duke Ellington, Billie Holiday, Sarah Vaughan, Little Richard, Muddy Waters, John Lennon, Randy Newman and Harry Nielson. These people were writing something that I thought was worth saying. And the inspiration in it was the encouragement that somebody was going the way you would like to go,” said Siffre.

Until this welcome reissue sequence from UK record label, Demon, the mainstream label industry had ignored Siffre for much too long. As an inspirational artist, though, Siffre retains the power of influence and does so in some surprising areas. Respected electronica/film soundtrack man, Matthew Herbert commented that, “I can’t name a single musician in this country that has so perfectly mastered the craft of songwriting as Labi Siffre. One of the most intense concerts I ever went to was on his ‘Last Songs’ tour. Just him and an acoustic guitar. Stripped of all music’s usual excesses, these songs with their uncomfortably direct lyrics skewered me to my chair with their emotional, visceral, elegant, bespoke punch. You can see why a music industry, so enamoured with surfaces, would scurry from this intensity; it just structurally can’t cope with such authentic, genuine, justified rage or political potency.”

This 1972 outing, his third album release and an LP Siffre described as, “...the one where it all came together...singing some of my best songs” features the original version of ‘It Must Be Love’ which reached No 14 for Siffre. Also featured is ‘My Song’, as sampled by Kanye West for ‘I Wonder’, and the No 11 hit title song, also covered by Rod Stewart and Olivia Newton-John.

This is an album of simple but powerful songs. On ‘Saved’, for example, he is just a

voice. And maybe a little reverb. But that’s it. No piano, no guitar, no percussion. Telling us of a slave-based history he talks of an uncertain future.

My Song is Siffre plus piano, initially (orchestration arrives later) but the piece offers a delicacy in terms of melody while, again, laying the song gently in front of us and allowing the simplicity to dominate.

The famous title track builds and layers from its nimble acoustic guitar entreaties. It’s almost basic in terms of structure but grows in complexity in terms of its arrangement as time moves on. There remains an efficiency and restriction of effort on this track. Siffre gives enough to tell the story but you are never overblown with unwanted production twaddle or meandering ideas.

In response to a question that referenced complaints from some music ‘fans’ who said that there were no ‘real’ music out there anymore, Siffre responded with, “The term ‘real music’ is as meaningless, though politically, dishonestly, pejoratively useful to the dumb-asses you refer to, as is ‘real men’ or ‘real Americans’”. I’m optimistic that there will always be artists, in every artistic discipline, intent on producing insightful work, work of vulnerability (a major strength), politically engaged work, emotionally revealing work, pioneering work, works of courageous exploration, profound work. Those artists, though they are many, will always be a minority.”

He could very well have been referring to himself. He wasn’t, of course, but he should have.

This album is available in two physical formats. As a vinyl version, it has been pressed on grey, 180gm vinyl and is contained within a gatefold sleeve and, for CD, it is contained within a digipak and includes eight bonus tracks (including the hit ‘Watch Me’ and a b-side making its first appearance on CD). Look out too for other Siffre reissues from Demon including the debut, self-titled album from 1970 (including ‘Make My Day’ and ‘A Little More Line’, the second LP; ‘The Singer and the Song’ from 1971 (including ‘Thank Your Lucky Star’ and ‘Bless The Telephone’) plus the 1973 release, ‘For The Children’ (including Children of Children’ and Let’s Pretend). **PR**





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