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WHAT HI+FI?

**VARDS 2017** 

WHAT HIPER AWARDS 2017

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"the difference will be immediately evident, such is the transparency of the interconnects and loudspeaker leads."

Chord Signature Range Hi-Fi World Dec 2015

"It's rare that something truly different comes along in the world of loud-speaker cables – but Chord's new Sarum T is just that."

Chord Sarum T Speaker Cable Hi-Fi World Dec 2017

Sarum T

Sarum T

Sarum

# welcome

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#### verdicts

****	OUTSTANDING
***	EXCELLENT
ଡ଼ଡ଼ଡ଼	GOOD
ØØ	MEDIOCRE
8	POOR
£	VALUE

#### **ELECTRONIC MAGAZINE**

Go to our website www.hi-fiworld.co.uk to buy an electronic version of this magazine, individual issues, back issues or a subscription.



arge loudspeakers - in the past dubbed "broom cupboards". And that's pretty much what some of them were; I speak from experience, having lived with Leak 2075s and 3090s. Intrusive and even ugly such loudspeakers may be - that's their only drawback. Surprisingly, the bigger a loudspeaker gets the less power it needs to go loud. Just a few Watts of power through a 'broom cupboard' of yore was enough to shake

a house. Hundreds of Watts as we're given today are not needed. That makes broom cupboards environmentally friendly! Better still they

gave a sound with real muscle behind it, room shaking lows being part of the picture.

Big is good then - but of course it isn't to most people's eyes. It means less available floor space and an eyesore in the lounge. Hardly surprising then that stylists have come up with no end of shapes and finishes to overcome this problem. Focal have brought French flair to their new Kanta N<sup>O</sup>2 loudspeaker that we review on pll in this issue. It too needs just a few Watts to go very loud, in the tradition of "a good big 'un".

So why do today's hi-fi amplifiers all boast at least 100 Watts output? It's not as if a lot of us are able to play loud without disturbing the local neighbourhood, which in my case provokes a visit by the council's noise squad. That's what reader Aaron Proctor asks too – see Letters p32. He uses just 2.6mW (thousandths of a Watt). Believe it or not, 5 Watts would do for most of us - as he suggests. Much of the size, weight and expense of modern amplifiers is determined solely by a perceived need for high power - most of it unused. Going low power solves everything - smaller electricity bills, cleaner conscience (!), less technological intrusion and potentially better sound quality.

Run silent, run deep. That's what Cambridge Audio's Duo phono stage does. It's silent - no hiss - yet deep in its portrayal of music from LP, subtly mining information others cannot. Find out more on p87.

Loud and silent talk of dynamic range - and real life experience. We look at both extremes in this issue. I hope you enjoy it.

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

#### Noel Keywood Editor

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

Loudspeakers are measured using a calibrated Bruel

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 HEFiWorld reviews

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most advanced in the world



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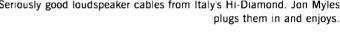
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"...you have managed to surpass them [Silver Diamonds] in a truly grand way."



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#### NEWS

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#### **OPPO NO MORE**

Oppo has revealed it is to stop production of its award-winning universal disc players as well as its planar magnetic headphones.

In a surprise announcement the company said it will be shutting down its Oppo Digital division – meaning the likes of the highly-regarded Oppo UDP-203 and UDP-205 will no longer be available once current stocks are sold.

However, the company said it will still honour warranties and repairs for existing users as well as providing software updates – although this will be done via a third-party provider who has yet to be confirmed.

It is believed the China-based brand wants to concentrate resources on its lucrative mobile phone division which contributes to most of its profits.

Nigel Rich, Managing Director of Oppo Digital UK, said, "We can be very proud of our achievements over the past few years. Along with market leading products, we have provided first-rate customer service and support from our offices here in Norwich. I am very proud of our staff and very sad that we will now be closing our doors for good. I would like to take this opportunity to thank our European distributors,



retailers and, of course most importantly, the people that have purchased Oppo products in Europe.We will continue to support products in and out of warranty and we have made provisions to continue this high level of service".

Cambridge Audio – who's CXUHD player shares technology from Oppo – issued a statement saying existing customers will still be served by firmware updates when required. But how long Oppo continues to offer updates remains to be seen.



ND 555 - 500 SERIES

NDX 2 - CLASSIC SERIES

ND5 XS 2 - XS SERIES

### **NEW NAIM STREAMERS**

Hi-Fi World travelled to Naim's Salisbury HQ recently to listen to the company's latest range of streaming devices.

The three-strong line-up consists of the range-topping ND 555 at  $\pounds$ 12,999 together with the NDX 2 ( $\pounds$ 4999) and the entry-level ND5 XS2 costing  $\pounds$ 1999.

Naim has spent four years developing the units, building them from the ground up to provide the best streaming platform available yet from the company.

All of them include embedded Tidal, Spotify Connect and Chromecast compatibility up to 24bit/192kHz, as well as UPnP at 32bit/384kHz and DSD 128, plus aptX Bluetooth. There's also Apple Airplay and Roon built-in.

As ever with Naim great attention to detail has been paid to the power supplies, the ND 555 boasting no less than 13 of the company's proprietary DR voltage regulators to feed the DACs, clocks and output stages.

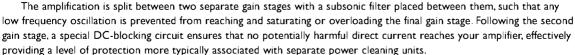
Initial listening in Naim's demonstration room was overwhelmingly positive with the NDX 2 sounding exceptionally sweet for its price. We hope to bring you a review soon but in the meantime log-on to *www.naimaudio.com* for more details.

## **PURE TECHNOLOGY**

Italy's Audio Analogue has unveiled a new phonostage featuring a number of interesting features. Its AAphono is fully configurable for both MM and MC cartridges including gain and loading for MC cartridges but also the less common MM input capacitance and resistance.

At the same time, the AAphono is simple to use. There's no need to power off, cool down and delve under the hood. Simply press an easily accessible button to make your adjustments, which will be saved when the unit is switched off or even disconnected.

Three separate toroidal transformers form the heart of the power supply, and hence the heart of the phono stage: one for each of the stereo channels (left and right) and, to keep the audio signal as pure as possible, a third one supplies the control circuitry.



Priced at £1599 it is available now. For further details point your browser at UK distributor www.decentaudio.com.



#### **CAMBRIDGE EDGE**

Cambridge Audio is celebrating its 50th anniversary with a new range of components.

The Edge series comprises of an Edge A integrated amplifier ( $\pounds$ 4500), Edge NQ streamer ( $\pounds$ 3500) and Edge W power amplifier ( $\pounds$ 2500).

The company says it asked its engineers to develop the bestsounding components possible with cost no object.

Cambridge Audio's managing director Stuart George said "We removed all limitations during development of Edge – anything goes so long as it's in pursuit of the best system we've ever made. The results speak for themselves".

Given Cambridge Audio's track record in terms of producing cutstanding value for money components we look forward to reviewing the new range soon.









#### **TURNTABLE SALES**

Soundbars are in - turntables are out, or so it would seem.

New figures from industry research company Gfk show turntable sales were down by almost 5% in 2017 compared to the previous year despite a number of new models hitting the market. Could the vinyl revival have reached its peak? Probably not.

Sales of soundbars, however, surged – they now take up an astonishing 95% of the home cinema market.



#### **NOKIA DITCHES JACK**

Mobile 'phone giant Nokia has followed other manufacturers in ditching the headphone jack on its latest flagship Nokia 8 Sirocco model.

Buyers will need to employ the USB-C adapter bundled in the box or go wireless to use the 'phone as their music player.

Apart from that the model - which is expected to sell for around  $\pounds$ 700 SIM free - features a stainless steel frame, a 5.5 inch screen and the Android operating system.



#### **STUDIO SOUND**

Monitor Audio's latest standmounts are undoubtedly striking looking. The  $\pm 1000$  per pair Studios feature technology derived from Monitor's flagship Platinum II series with twin 4-inch mid/bass drivers and a proprietary MPD (Micro Pleated Diaphragm) tweeter.

Twin slot ports at the rear (one top, one bottom) are said to provide a smooth airflow.

Find out more at www.monitoraudio.com.

## RUARK MRX

Ruark has unveiled its first networked, wireless, multi-room loudspeaker in the shape of the MRx.

Priced at £400 it also boasts aptX Bluetooth, a USB socket and 3.5mm optical and analogue input as well as Spotify, Deezer and Tidal compatibility built in.

There's also a free dedicated control app for iOS and Android devices. For more details log-on to *www.ruarkaudio.com*.

www.hi-fiworld.co.uk





## **NEW SPENDORS**

Legendary British loudspeaker maker Spendor has added a new floorstander to its entry-level A Line range.

The A7 joins the A1 standmount and other floorstanders the A2 and A4 and is priced at £2995. It features Spendor's latest EP77 polymer cones which provide a smooth, balanced mid-range. They are available in black ash, natural oak and dark walnut finishes with more details to be found at www.spendoraudio.com.



### **TURNTABLE LUXURY**

If, by any chance, you happen to have won the National Lottery or are in charge of a hedge fund company then the new turntable from the Netherlands-based Metaxas & Sins might catch your eye.

Priced at a mere £35,000 the extravagantly named Phonographic Perambulator Turntable is made from aircraft-grade aluminium and titanium and hand-built by the company's founder Kostas Metaxas and his two sons.

The futuristic-looking design includes a tonearm with a sapphire tube and jewelled bearings. It's due to be officially unveiled at the forthcoming Munich High End Show.

We'll report back when we hear one - but in the meantime just feast your eyes on the design.



#### NEW IPAD

Apple has launched a new iPad. It's specifically aimed at the education market but at £319 could well tempt other users too.

The 9.7-inch device boasts an 8 megapixel camera, up to 10 hours battery life plus an A10 Fusion chip which Apple claims is 40 per cent faster than the iPad it replaces.

It also supports Apple's Pencil device which was first introduced with the iPad Pro – although this is a separate purchase and does not come bundled. Go to www.apple.com for more information.

#### **POWER CHORD**

The Chord Company has expanded its range of Shawline cables with a new power lead featuring its proprietary Aray technology.

The Shawline power cable retails at £200 for a 1 metre length and features  $3 \times 14$  AWG high-purity multi-strand copper conductors in a parallel layout, with a dual-layer floating shield to protect it from RF interference.

The cable is available fitted with high-quality 10 or 16-amp IEC plugs, precisionengineered by a specialist company to The Chord Company's specification. Euro/Schuko, Australian and USA mains plugs are available to order. Standard lengths include 1m, 1.5m and 2m. Custom lengths and terminations are also available. More information is available at www.chord.co.uk.





#### **FESTIVAL OF SOUND**

The Indulgence Hi-Fi Show is returning to West London this year – except under a different name.

The show has now been rebranded as the Festival Of Sound and will take place at the Novotel London West hotel in Hammersmith between September 28th-30th.

Exhibitors already signed up include KEF, Chord Electronics, Dali, Arcam, AKG and Naim. Organisers are also promising a selection of live music acts as well as special areas for headphones and portable audio.

Hi-Fi World will also be there to answer your questions. To book tickets go to www.indulgenceshow.com.

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# Focal Vision

Focal's new Kanta N<sup>O</sup>2 loudspeakers feature an unusual mix of flax main drivers with a beryllium tweeter. Jon Myles sits back and enjoys the sound.



rench loudspeaker giant Focal has a long history of innovation since its initial foundation back in 1979.

It was only the second company – after Yamaha – to use a beryllium tweeter in its home hi-fi products. More recently it introduced new main drivers consisting of flax fibres (France being the main producer of flax) encased by two thin layers of glass fibre.

Put the two together and what do you get? Focal's latest floorstander the £6999 Kanta N<sup>0</sup>2, the first of what, presumably, will be an expanding range.

Some loudspeakers look decidedly ordinary, others make you sit back and admire. Put the Focal Kanta N<sup>O</sup>2 into the latter category. Unboxing them I couldn't help but be impressed by their unique design. The front of the 'speaker is made from a single curved piece of high-density polymer with rounded edges to minimise diffraction. This is joined to a heavily-braced plywood rear section with an elegant glass top that gives the 'speakers an air of luxury. The curvature is designed to time-align the drivers for a smoother sound.





The 2M Series, named after the abbreviation of Moving Magnet (MM) technology, is an affordable range of pickup cartridges with first-class audio design principles throughout. Featuring Ortofon's trademarked split-pole pin technology for a flat frequency response, all 2M cartridges have a high output for easy integration into any turntable system.

Designed in conjunction with celebrated design house Møller-Jensen Innovation Design, the 2M Series body represents the shape of a diamond, whose contours gracefully trace the grooves on a record's surface.



#### **Red Cartridges**

A hugely popular all-purpose cartridge with a Tipped Elliptical stylus that delivers an open, dynamic sound with a slight touch of warmth.



## **Blue Cartridges**

An affordable step up in the range, which adds greater dynamics, resolution and detailed sound thanks to the Nude Elliptical stylus.



#### **Bronze Cartridges**

Featuring a superior body, the Bronze picks up even the highest frequency information for a rich, detailed and deep soundstage, and can be further upgraded with ease.



#### **Black Cartridges**

The musician's choice and flagship of the range, the 2M Black features a Nude Shibata stylus which guarantees a true-to-life sound performance.



There's also an array of colours to be had for that front panel. Our review sample came in Gauloise Blue but there's also Solar Yellow and Carrara White on offer, as well as different options for the finish of the rear cabinet.

A heavy out-rigger style metal alloy plinth attaches to the bottom of the cabinet for stability, fitted with screw-down knurled nuts for easy levelling. Also included are magnetically-attached grilles for the mid-range and bass drivers although I (as ever) left these off for listening purposes.

As to those drivers, flax and beryllium is a combination which, as far as | know, has never been tried before in a domestic product. But, as Focal controls the entire design and manufacturing process from its base in Saint Etienne, you can be assured the Kantas have gone through some rigorous testing. Indeed, the company says these loudspeakers spent three years in development from the initial concept to the final product.

They are a three-way design with two 165mm bass/mid drivers above and below the tweeter in a classic D'Appolito arrangement, augmented by a bass unit below to improve power handling and lower bass distortion by increasing cone area and reducing cone travel.

The tweeter uses Focal's IAL (Infinite Acoustic Loading) and IHL (Infinite Horn Loading) techniques to absorb rear radiation while also saving space within the cabinet. Beryllium has many advantages, being extremely light and very stiff. However it is difficult to work with, having high toxicity during manufacture. For this reason Focal has its own dedicated chamber with specially-trained staff to produce its inverted dome model.

Two reflex ports – one at the front and one at the rear – add to bass extension (see Measured Performance for full details).

Dimensions-wise these are relatively slim loudspeakers, measuring 1118mm x 321mm x 477mm (H/W/D). Focal recommend they can be used in rooms measuring up to 750 sq ft – but say they work best in smaller spaces of around 350 sq ft.

#### **SOUND QUALITY**

Initially the Kantas took a while to come on song, sounding a little boxy and muddled at first. However, after a thorough run-in they started to shine.



tures a specially-moulded high density polymer fascia which is curved to time-align the four drivers. It certainly gives the Focals a distinctive look and works well.

The first thing to note is that they will go loud – as in very loud – from just a few watts of power, making them ideal for valve amplifiers.

Pressing our trusty Icon Audio Stereo 30SE single-ended Class A amplifier into service in triode mode just a small turn of the volume control brought out a powerful, wellbalanced rendition of New Order's 'Bizarre Love Triangle'.

Bass was firm and controlled having a pleasingly propulsive character that reminded me of the clean sound of Spendor's excellent D7s.

Up top the beryllium tweeter has excellent detail. With Bjork's 'Human Behaviour' (24/96) the vocals were stunningly realistic with no edge or harshness to them. Underneath the bouncing timpani riff had a fulsome quality with excellent body to it.

Any doubts about how well the combination of flax cones and

beryllium could integrate was quickly dispelled with a run-through of Mahler's 'Symphony No2' by the San Francisco Symphony under the direction of Michael Tilson Thomas. Here the orchestra was projected full into the room with striking power but on the quieter, vocal passages there was a delicacy at work that sent shivers down my spine.

There was wonderful synergy between the drive units; I had no sense of listening to four different units. Instead the music came over as a seamless whole, flowing freely and unimpeded.

Upping the ante a little with my favourite bass-heavy track of James Blake's 'Limit To Your Love' revealed the Kantas don't plumb the sub-sonic depths. This song really does have some room-shaking bass but the Focals do not have the size of drivers to bring out to flesh out the bottom octaves.

That said, the scale of the piece was still well-portrayed and unless you've heard it on larger and, invariably, more expensive

loudspeakers the lack of sub-sonics would be of little consequence as the Focals captured the essence of

the music with a thoroughly realistic presentation. As with the Bjork recording, Blake's keening vocals were deliciously reproduced, having just the right amount of delicacy.

And, while there may not be ultimate low bass, the advantage is that these floorstanders never sound slow or boomy. Instead they present music with a verve. Putting on Nils Lofgren's classic 'Keith Don't Go' the zing in his fretwork was evident.



Focal's in-house designed and manufactured beryllium tweeter gives extended high frequencies but without any undue harshness.





# **60 Watts Of Pure Triode**

### Two amplifiers in one!

The TRIODE valve is over 100 years old, regarded by many as the ultimate in sonic perfection. Vintage designs such as the 300B and 845 are still popular today. However amplifiers using directly heated vintage valves have the drawbacks of generally lower power and higher production cost. The modern KT150 valve is very versatile and when used as a triode in our MB90 amplifiers has a very usable 60 Watts output, three times more than the 300B. This way you can have the best of both worlds at a very reasonable price point!

Our MB90 MK IIm has an "Ultralinear" output of 115 Watts but its real magic is revealed when you switch to "TRIODE" on the front of the amplifier. Under these conditions the KT150 becomes very linear revealing a rich, warm presentation still with plenty of power for all but the most demanding situations. Customer feedback tells us that 80% of owners use "Triode" mode almost exclusively with "Ultralinear" used when high power is required.

The MB90 also features 4 and 8 Ohm matching and high and low sensitivity so designed to work with "Passive" and "Active" pre-amplifiers or direct from our PS1 and PS3 phono stages.

Tolerant of "difficult load" speakers including ESLs. The MB90 MKIIm will work well with any speaker of about 80dB or more even in large rooms. The "easy bias" meter enables simple checking that the KT150 is always at optimum performance, the meter also gives an indication of the output power. Useful when you may need to know if you are likely approach the maximum available power.

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You are welcome to contact us for more information by phone or email. Demonstrations a pleasure. Colour brochure on request or see our website.





#### The rear of the Kanta N<sup>0</sup>2s has a large reflex port above the single pair of loudspeaker binding posts.

Shutting my eyes I could sit back and picture his hand moving across the strings.

If there's any reservation it's that the Focal Kanta  $N^{O}2s$  can sound a little restrained compared to some rivals. They are not as exciting initially as some brasher loudspeakers. But they repay longer listening where their talents come to the fore – a smooth, even balance with a good mid-range and punchy bass allied to sweet treble.

Positioning is also easy. Give them a little room ahead of a rear wall because of that rear-firing port and they'll sound fine. They're also not too fussy about toe-in. I tried them pointing straight down the room and also angled in to the listening position. Their basic character didn't change in either position although | preferred the former option as the treble seemed more natural.

What impressed most, though, was just how well these 'speakers worked with all forms of music. The live jazz of Ornette Coleman and his band on 'Sound Grammar' had the atmosphere of a concert hall, The Clash's 'Live At Shea Stadium' revealed the different acoustic of an outdoor venue while on The Beatles' 'Sgt Pepper's Lonely Hearts Club Band' the various overdubs and studio techniques were evident.

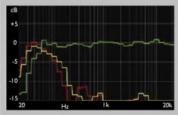
This sense of precision brought the best out of Kratfwerk's 'Minimum-Maximum' live opus where the different ambiences of the various venues – Warsaw, Moscow, Berlin, London etc. – could be clearly defined. But, while there were subtly different shades and toning to the electronic soundscapes, never once did the Kantas lose their rhythmic pulse.

One other feature worth noting is that they are rather forgiving of harsh recordings. Much as I like Oasis I've frequently found the guitars on the debut album 'Definitely Maybe' can sound distinctly searing through some

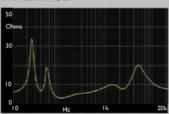
#### **MEASURED PERFORMANCE**

Focal's Kanta N<sup>0</sup>2 places bass/midrange units above and below the tweeter in a classic D'Appolito arrangement that gave even results over a good vertical range. Our third-octave frequency response analysis shows a flat result across the audio band, when measured on-axis; there's a slight roll off off-axis. The Kantas can be pointed straight down a room, or directly at listeners,

FREQUENCY RESPONSE Green - driver output Red - port output



#### IMPEDANCE



loudspeakers – especially those with metal cones and domes.

With the Kanta N<sup>O</sup>2s, however, there was more of a warmth to the sound, taking away some of the edge yet without detracting from the energy of the recording.

In fact, the more I listened to the Focals the more impressed I became. Swapping out the Icon Audio amplifier for a powerhouse McIntosh MC152 showed they are capable of highlighting the differences between amps. With Nick Cave's 'The Kindness of Strangers' from his Murder Ballads CD the sound via the McIntosh was more clinical and insightful – the Icon Audio had a richer, more enveloping sound.

Neither could be classed as right or wrong but just different, meaning these 'speakers will highlight just what your amplifier is doing. And that, in the final analysis, is just what you should expect of a loudspeaker.

#### CONCLUSION

Focal's Kanta  $N^{0}2s$  are smooth, detailed and suited to all genres of music. Other loudspeakers at this price may sound initially more exciting but the Focals reward longterm listening.

maintaining an accurate tonal balance. The central tweeter runs strongly up to 20kHz with no drop in output. There's a small lift above 10kHz so upper treble is well maintained. A flat midband will make for a forward and detailed sound.

Output across the lower midband and bass is smooth and accurate down to 60Hz – with no bass accentuation. However, the two large ports both act to increase bass power around 40Hz and the cabinet reaches down to 30Hz before output drops away quickly, as always with ported loudspeakers. Low bass will be powerful, but deep subsonics are absent. As Focal say, the Kantas best suit medium size rooms – I'd suggest up to 20ft long approximately.

The impedance curve confirms port tuning peaks at 40Hz ; bass will be lively rather than strongly damped.

Sensitivity was high at 90dB sound pressure level (SPL) from one nominal Watt (2.8V) of input. Amplifiers around 40 Watts will deliver very high volume and down to 10 Watts will suffice.

The Kanta N<sup>0</sup>2s will sound smooth, even and detailed. Bass will be firm and powerful with a lively quality. Little power is needed to go loud. **NK** 

#### FOCAL KANTA N<sup>0</sup>2 £6999

#### \*\*\*\*

OUTSTANDING - amongst the best.

#### VERDICT

The Kanta No2s combine a pleasing aesthetic with a seriously good sound.

#### FOR

- smooth and refined

- style - easy to position

#### AGAINST

- appearance might not suit everyone

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# QUAD'S SUPERB VENA AMPLIFIER WORTH £599 IN THIS MONTH'S GREAT GIVEAWAY!

win the superb Vena amplifier. Read the review excerpt below and answer the questions

"At its heart the Vena is a 45 Watt per channel integrated amplifier but its connectivity options go farther than any previous equipment from Quad at the price point.

It has two analogue inputs, two optical and one co-axial digital input

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music collection

aptX codec support.

amplifier.

In addition music can be

portable devices via Bluetooth with

optical and co-axial digital outputs

and stereo analogue outputs for

connecting to an off-board power

Completing the feature set are

streamed from computers and

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Inside a linear power supply is built around a decent toroidal transformer while digital to analogue duties are handled by a Cirrus Logic CS4398 DAC.

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

It comes in Quad's traditional Lancaster Grey finish".

For a chance to win this great prize, just answer the four easy questions at right. Send your entries on a postcard only, by 8th June 2018 to:

June 2018 Competition, Hi-Fi World magazine, Studio 204, **Buspace Studio**, **Conlan Street**, Notting Hill, London WI0 5AP

#### QUESTIONS

[I] What is the power output? [a] 100 Watts [b] 45 Watts [c] 4 horse power [d] 8 BTU

[2] What USB inputs are fitted? [a] Type A and B [b] Type C [c] Type X [d] none

[3] Music can be streamed by · [a] VHF/FM [b] long wave [c] Bluetooth [d] short wave

[4] The case is made from -[a] steel [b] plastic wood [d] aluminium



### entries will be accepted on a postcard only

#### **MARCH 2018 WINNERS: DUAL MTR-75 TURNTABLE** Duncan Maclean of Aberdeen, Mr J Maylin of Solihull

ere's your chance to and both Type A and B USB sockets. The former allows the connection and charging of Apple iPods, iPads and iPhones while the latter facilitates connection to your computer based

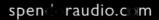


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# Technica Tech

Noel Keywood listens to Audio Technica's new ATH ADX5000 headphones.



udio Technica are aiming high with their new ATH ADX5000 headphones – they cost £1990! It puts them well above most else in terms of cost.

The ADX5000s are a tech fest, boasting a 58mm drive unit with tungsten coated diaphragm integrated into a baffle. A light and strong magnesium frame carries this unit in open-back configuration. The benefit is a clear and open sound lacking reflections from a rear chamber, the drawback being less bass and more sound radiated out of the 'phones to perhaps annoy others – not so good on the commute then.

At this price I was initially taken aback that the lovelies had no branding adornment – you know, Beats, or Sony or Sennheiser et al. There isn't even a model number – I searched with a magnifying glass! Then I realised that at £2k best not to in public places. It also adds some mystique perhaps, like those cars with ID removed.

Our scales measured weight as 272 gms without the cable – light. They fitted me easily since the 65mm internal diameter of the foam ear pieces is larger than most (55mm or less) and left my lugholes (pinna) some space. Clamp pressure was light, making for comfort: I found these 'phones easy to fit and live with; they have less bulk than most. The cable is long at 326 cms (11.7ft) The new 800 Series Diamond didn't get better by chance. It got better by change. 868 changes to be precise.

# Bowers & Wilkins

bowers-wilkins.com





# "These 'phones are information machines: you get to hear everything"

range, highlighting digital coarseness – and also a slightly metallic quality. A struck piano chord in Steve Winwood's One More Day (0.33secs in) jumped out, where other 'phones brought out timbral detail and complexity in a less forced manner. With Benjamin Grosvenor playing Chopin's Nocturne No 5 (24/96) piano was hard lit – and I admit to being uncertain whether this was correct or not. It was case of alternatives. Measurement revealed raised output around 4kHz.

Playing through a wide repertoire of test tracks that I'm familiar with, the ADX5000s always impressed with their revelation, but they achieve this partially through high frequency emphasis that adds a sheen. They try just a little too hard to impress I felt.

#### CONCLUSION

Undoubtedly the ATH-ADX5000 headphones shade most else with their insight and detail but this took precedence over an easy, natural tonality. At the price though you must listen yourself, against competitors like Audeze's superb open-backed planar magnetic LCD-3 for example. These ATs have a very specific sound., but they are impressive - that's for sure.

too long for use on the move. Each earpiece has an input socket, allowing for fully balanced connection, but the only lead supplied came with miniature MMCX connectors, rather than the common 2.5mm two-pole jack. They are sturdier than such jacks
their advantage – but finding an alternative or replacement lead for the one supplied there is less choice. A normal unbalanced lead with 1/4in (6.3m) jack plug (three pole) termination is supplied.

#### **SOUND QUALITY**

The overview here is a light, open and clear sound that is intensively detailed. These 'phones are information machines: you get to hear everything. I used them with an Audiolab M-DAC+ (Optimum Transient XD filter) fed from a Mac running Sierra and playing from Audacity, as well as from an Astell&Kern AK120 portable player.

Stevie Nicks solo vocal in Silver Spring (24/96) was sparkling clear; transferring back to Oppo PM1s or Philips Fidelio X1s seemingly wrapped her up in cotton wool. The difference was big and stark. However, the other 'phones gave

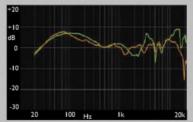


# Audio Technica's cutaway of their internal drive unit with its tungsten coated diaphragm.

more bass, if of a fulsome nature. With Rock tracks this was a consistent property: the ADX5000s sounded tight and insightful but they're short of bass depth and weight by general standards – especially by Beats standards.

Everything came to life with the ADX5000s, as if a whole pile of murk had been miraculously banished across the mid-band and treble highlighted at the top end, making the smallest cymbal taps shimmer. However, there's emphasis in the upper mid-

### **MEASURED PERFORMANCE**



Frequency response of the ADX5000s (green trace) shows a peak at 4kHz and strong upper treble output too.

The orange trace shows Philips Fidelio X1s as a benchmark for comparison. HRTF correction not used.

# ATH-ADX5000 £1990

EXCELLENT - extremely capable.

#### VERDICT

Revelatory – but with a bright sheen. Light but clean bass.

#### FOR

- revealing sound
- fast bass - light and comfortable

#### AGAINST

- metallic hard
- low bass power
- bright

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# Jano STUDIO8 SERIES

The new Jamo Studio 8 series has been reimagined to live seamlessly in modern, premium environments.

Contemporary material and finish choices - such as wood grain accents, matte vinyl finishes and magnetic woven linen grilles - accentuate the clean minimalist lines of this European design.

Sonically, the Studio 8 series employs 1" soft dome tweeters and WaveGuide technology for a dynamic, powerful sound performance. The stylish, aluminised polyfibre woofers deliver deep, accurate bass from a small footprint thanks in-part to the clever use of reflex ports.

The Jamo Studio 8 series starts from just £155.00.

Jamo





# Take two

#### Rotel recently launched a classic pairing of RA-1572 amplifier and RCD-1572 CD player. Noel Keywood listens in.

he name Rotel conjures up images of their eye catching 1970s receivers, with brightly-lit green VHF/FM tune window and meters, satin black fascia and wooden sleeve – I'm thinking of the RX-

802 I once owned. You got fine sound and arresting visuals, all at a sensible price: Rotel equalled value.

The Rotel amplifier and CD player combo I'm reviewing here

I hoped would offer up the same, good sound quality allied to a friendly price tag, which here is £1395 for the RA-1572 amplifier and £845 for the RCD-1572 CD player – substantial, but there's a lot on offer, if not the bright green displays of yore.

Weighing in at 13kgs (29lbs) the RA-1572 amplifier is no small package, due mainly to the large toroidal mains transformer of its beefy linear power supply. It's needed since the amplifier delivers power figures above most else: a claimed 120 Watts and we measured 150 Watts (8 Ohms), plus a whopping 222 Watts into 4 Ohms – it can handle just about any situation, from insensitive loudspeakers to large rooms and deliver massive volume. This is from an analogue Class A/B output stage – no Class D modules or switch-mode power supply here – it's a trad. design, but one that's very



A massive toroidal mains transformer accounts for much of the amplifier's weight. Large heatsinks at left and right keep the output transistors cool. Small-signal sealed relays provide switching.

well developed, free of crossover distortion.

In spite of all this, the unit is reasonably compact, measuring 43 Imm (17in) wide, 358mm (14 1/8in) deep and 144mm (5 5/8in) high. It has a nicely finished brushed alloy fascia into which Rotel has been engraved. The rear casework follows standard pattern though, being

> a folded sheet steel cover over a similarly folded

sheet steel chassis. There's much more under the hood, since the RA-1572 is a 'digital' amplifier fitted with an AKM AK4495-SEQ digital-to-analogue convertor (DAC). AKM's product data describes this as a 'premium' DAC but it's bettered by others in their Verita range – so not a top DAC, as measurement

confirmed. Digital inputs (S/PDIF) accept the output from CD players or transports, or portable Digital Audio Players (DAPs) and such like. The optical input accepts 192kHz sample rate so an Astell&Kern player's optical output is compatible – not always the case with digital optical inputs even now. There's a USB input for computer audio that comes set to USB Class I audio with a 96kHz sample rate limit; I was surprised to see our MacBook Pro running Sierra register this limit. Class 2 audio, which requires a supplied

"The introductory bass line sounded firm, deep and tuneful from an Ortofon 2M Black MM cartridge"

driver for PCs but not Macs, is a manually selected option allowing 384kHz sample rate. This done, the AKM signalled back its acceptance of 768kHz sample rate from the Mac. The PC driver can deliver DoP (DSD over USB) from a PC; Macs are unable to deliver DoP.

There's also Bluetooth wireless

disc drives.

In all then, quite a line-up of facilities. As a result the inside of the amplifier is a busy place, as our picture shows. There's even an ARM processor in there. A dot matrix display gives access to many functions in a settings menu but filters – analogue or digital – are absent, as is



The amplifier's rear panel has two pairs of loudspeaker terminals accepting bare wire, spades or 4mm banana plugs. There are balanced analogue XLR inputs and a USB for computers, as well as digital S/PDIFs – optical and electrical.

with aptX and a network connection that allows a basic iOS control app to be used. Yes, iOS so you need an Apple device. A remote control unit is supplied and there's provision for an external remote control unit for use in another room, or if the amp is built into a cabinet, but it's an extra. This remote control bizarrely has CD transport buttons that did not work with the partnering CD player.

There are three unbalanced (RCA phono socket) analogue Line inputs and also one pair of balanced (XLR socket) Line inputs, plus Preamp out and two subwoofer outputs. An MM phono stage has been included, so a turntable can be connected. Two pairs of sturdy goldplated loudspeaker sockets are fitted, accepting bare wires, 4mm banana plugs or spades, with front panel switching between them, or both can be turned off when listening to headphones that can be plugged into a 1/4in (6.3mm) front panel socket.

Also on the front panel is a USB socket to accept playback from Apple products (iPhone, iPad etc) via their Lightning-USB A lead. Note that this socket does not read mass storage devices, like Flash drives or external

The amplifier's remote control has CD transport buttons but they don't work with the RCD-1572.

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a warp filter for the turntable input. You do however get well tailored tone controls.

The RCD-1572 CD player accompanying our amplifier is top of their '15' range, Rotel say. It uses a Wolfson WM8740 digital-to-analogue convertor (DAC) and has its own remote control unit. Their iOS app also controls it, but only via Rotel's RA/RC models - including the RA-1572 amplifier - via a control cable link. The remote control differs from that of the amplifier, so you need both, unless a control link is used.

This is a straightforward player with no frills, meaning no filter options, no SACD and not even an optical digital output. The rear panel carries analogue balanced XLR output sockets, unbalanced phono sockets and a digital (S/PDIF) phono socket output (co-axial). Which to use when connecting to the RA-1572 amplifier? Rotel show all three in their instructions; I prefer digital since it cuts out many analogue stages, but in this case | preferred the analogue XLR connection that was just marginally better - meaning the



The CD player has a linear power supply, a small toroidal transformer being visible at far left. A Wolfson WM8740 DAC chip sits middle right on a fibreglass circuit board.

ran from our Isotek Evo3 Mosaic Genesis regenerated mains power supply to eliminate influence of the mains.

With the CD player connected digitally, spinning Nils Lofgren's 'Keith Don't Go' from CD, for example,



At rear of the RCD-1572 CD player are XLR output sockets giving a balanced analogue output.

Wolfson DAC was a tad superior to the AKM. I prefer an optical digital cable to avoid the earth currents (that | have seen upset some DACs) but no such option here, which is a pity.

The player weighs 6.7kgs (14.8 lbs) and is 431mm (17in) wide like the amplifier, but it's shallower at 320mm and 104mm (4in) high. Like its partner, build quality and finish are good, if conventional with a folded steel cover over a folded steel chassis. The front panel controls are short-action push buttons and the fluorescent matrix display shows track and time.

#### SOUND OUALITY

| partnered this combo with our Martin Logan Electromotion ESL-X hybrid electrostatic loudspeakers connected with Chord Signature Reference cables but brought other units into play. As always, the system gave an easy and unchallenging presentation that took me back a bit to 'good CD of old'. It was smooth, lacking bite, but also a tad hazy and unengaging, leaving me feeling a little detached as a listener. CD can sound better than this.

I thought hi-res digital from my Astell&Kern AK120 portable connected through a short optical digital cable to the amplifier would give useful improvement - but not so. Although the delicious irony of playing Otis Redding's 'Dock of the Bay' from 1963 in 24/192 over optical was met by success, sound quality was fair - but again unchallenging.

Moving on to other 24bit hires material from Fleetwood Mac to David Bowie changed little. I swapped from digital connection that utilises the internal AKM DAC to analogue via XLR that brings the Wolfson DAC of the CD player into action but there was little change. This left me a little baffled

Firing up our Oppo UDP-205D universal player connected via its balanced XLR analogue outputs to eliminate Rotel's digital sections and focus on the amplifier alone brought

a complete change: suddenly the RA-1572 sounded clean, clear and composed. It had a solid sounding lower midband and firm, powerful bass, whilst treble came across as pure and sweet. So fed from one of today's best DACs, an ESS Sabre 32 Pro 9028 that

sits within the Oppo, Rotel's RA-1572 delivered a very nice result, competitive with all around it at the price point.

Playing the AK120 through the Oppo and into the Rotel brought hi-res files to life - and this was the clincher. The amplifier's internal DAC (and associated circuitry that perhaps was a party to this issue) was unimpressive - and the RCD-1572 CD player proved similarly unimpressive. Wth LP

- that avoids digital processing of course - tracks like Kate Bush singing 'King of the Mountain' from Aerial the introductory bass line sounded firm,



The CD player's remote has no volume control but it does have a numeric keypad for direct track entry.





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Klipsch Reference Premiere loudspeakers broadcast the finest musical reproduction and cinematic sound thanks to their Cerametallic<sup>™</sup> woofers and Hybrid Tractrix<sup>®</sup> Horn. They can fill your room with theatre-quality sound with minimal effort - immersing you in the ultimate listening experience. Klipsch guarantees a complete hemisphere of rich, detailed sound and at the greatest value possible. Your music and movies will never sound the same again.



deep and tuneful from an Ortofon 2M Black cartridge, mounted in an SME309 arm on a Timestep Technics Evo SL-1210 Mk2 turntable: it was obvious in the mix and easy to follow. A wide soundstage and low hiss and hum contributed, but as you might expect there wasn't the stage depth and fluidity of higher quality phonostages such as our Icon Audio PS3 that is my sonic reference.

An Apple iPad connected into the front USB A socket worked without problem and so did Bluetooth; the BT input has to be selected before it becomes active and visible to a Bluetooth transmitting device. But then there's no key-exchange faffing around and my iPhone just played, including DSD

# "The basic analogue amplifier is classically solid and powerful with great bass quality"

files from an Onkyo HF player that sounded pretty good, even if they were likely a 44.1kHz sample rate PCM version for iOS and Bluetooth aptX compatibility.

#### CONCLUSION

The RA-1572 is a complex package with a wide array of digital and analogue inputs. The basic analogue amplifier is classically solid and powerful in its sound with great bass quality – rhythmic yet tight – an open midband and clean treble, all nicely in order; a top quality Oppo BDP-205D universal player connected via XLR demonstrated this.

Unfortunately, the digital section of the amplifier didn't match current expectations at the price and nor did the RCD-1572 CD player. Both were tidy enough and inoffensive but digital today can sound better.

#### **MEASURED PERFORMANCE**

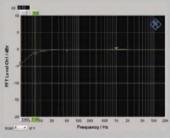
#### ROTEL RA-1572

The RA-1572 produced 150 Watts into 8 Ohms and 222 Watts into 4 Ohms under measurement, going very loud with insensitive loudspeakers and/or big rooms.

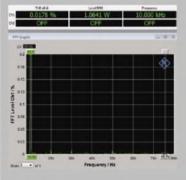
Distortion levels were minimal at all frequencies and power outputs, just 0.005% in the midband and 0.02% at 1 Watt, 10kHz where crossover distortion can measure ten times more, so this is a very low distortion design.

Frequency response of the amplifier was both flat and wide, stretching from 7Hz to 100kHz within -1dB limits. Input sensitivity was average, 300mV at the Line inputs (CD, Aux etc) and 500mV at the balanced XLR inputs. This will match most external sources, bar a few low





#### DISTORTION



gain external phono stages.

The MM phono stage was accurately equalised to meet the RIAA curve, measuring flat from 7Hz to 20kHz, but there is no warp filtering to reduce low frequency gain so loudspeaker cone flap will occur with warped LPs. Amongst all the selectable options such a filter would have been useful. Sensitivity was high at 2mV allowing high output moving coils to be used, and overload just sufficient at 30mV.

Dynamic range via the optical and electrical S/PDIF digital inputs was unexceptional at 114dB. Distortion measured 0.04% with 24bit and 0.22% with CD, both good results. Digital (S.PDIF) and USB frequency response reached a high 83kHz upper limit, when set to Class 2.

The RA-1572 amplifier offers high power and low distortion; the MM phono stage and digital sections work well but are unexceptional by current standards.

150W				
Frequency response (-1dB)				
7Hz-100kHz				
Ohms) 0.02%				
0.3V				
-98dB				
62				

#### ROTEL RCD-1572

Frequency response of the Rotel RCD-1572 CD player measured ruler flat from 10Hz to 21kHz our analysis shows.

From the balanced XLR output distortion measured 0.0008% at peak level (0dB) and 0.27% at -60dB, the latter being a little above the 0.22% that's common nowadays. Not a big difference it would seem but it was the reason why EIAJ dynamic range came in at 98dB where 102dB has been common for some years now, the 4dB shortfall putting this player behind rivals.

The unbalanced phono socket outputs gave a similar result.

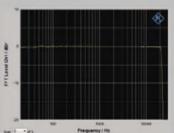
Output levels were conventional, 4.5V from XLR and 2.2V from the phono sockets.

The RCD-1572 measured well but was a tad behind what is possible in critical dynamic range and distortion values. **NK** 

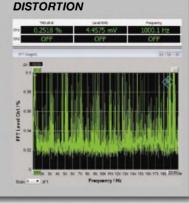
#### Frequency response (-1dB)

	10Hz-21kHz
Distortion (-60dB)	0.27%
Output (XLR/phono)	4.5V / 2,2V
Noise	-98dB

#### FREQUENCY RESPONSE



\_\_\_\_\_



## ROTEL RA-1572 £1395

# EXCELLENT - extremely capable

#### VERDICT

Fine sounding amplifier with lots of inputs, but digital sound could be better.

#### FOR

- amp sound quality
   power
- power - facilities

#### AGAINST

- mediocre digital sound (PCM)
- no warp/digital filters
   no MC phono option

#### ROTEL RCD-1572 £845



GOOD - worth auditioning

#### VERDICT

Neat, easy to use CD player with balanced outputs, but behind the pack in sound quality.

#### FOR

- balanced analogue outputs
- easy to use

#### AGAINST

- mediocre sound quality
  - no volume control
  - no digital filter options
     no optical output
  - Rotel Europe
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Answers by: NK - Noel Keywood; JM - Jon Myles; PR - Paul Rigby; MP - Martin Pipe.

#### LETTER OF THE MONTH PRIZE



Tannoy Mercury 7.2 loudspeakers www.tannoy.com

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

#### A pair of Tannoy Mercury 7.2 loudspeakers are on their way to KEITH ROE, Letter of the Month winner in our May 2018 issue.

#### Letter of the Month

#### **GO FOR A REFERENCE 75**

I took your advice a couple of years ago when I was thinking of upgrading to a Devialet Expert 200 amplifier or Chord DAVE DAC to improve my system's sound, the Devialet to replace my Musical Fidelity Nu-Vista 300 power amplifier and Music First Audio Classic V2 pre amplifier.

A home demo of the Devialet Expert 220 Pro showed a loss of musicality to my ears over what I already have, so I went with the Chord DAVE – and haven't regretted it. I have subsequently added the Chord Blu MKII upsampling transport to my system which has raised the musicality to a

higher level still. My current system is Sonus Faber Electa Amator IIs, reinforced with Sonus Faber Gravis B1 subwoofer, driven by the Chord DAVE/Blu MKII front end,

the Chord DAVE/Blu MKII front end, powered by my venerable Musical Fidelity Nu-Vista 300 power amplifiers. I had the Nu-Vistas fine tuned 7 years ago, and they have been faultless and musical since day one.

I demoed your highly rated McIntosh MC152, albeit at a dealer but with the Chord DAVE, and I heard no improvement over my Nu-Vista 300.



Audio Research Reference 75 valve power amplifier. "Do you think it would be a good match for my system" asks David, "playing 70s, Jazz/Funk and Soul".

I have the opportunity to trade in my Nu-Vista against a 2nd hand Audio Research Reference 75SE or new Audio Research VT80 with the VT80 £500 more expensive. I'm aware that the Reference 75SE is the better amplifier, even got that directly from Audio Research, however the fuse protection, auto-bias, and tube flexibility of the VT80 does appeal. With your experience of the Reference 75SE do you think it would be a good match for my system, 70s, Jazz/Funk and Soul, but above all rhythmic and musical? Regards, David.

Hi David. You will get more slam from the Reference 75SE, since it uses KT150 output pairs (ensure the one you are considering has these tubes and not something else). Fixed bias also gives a slightly drier and more punchy sound. The VT80's auto-bias and single pair of KT150s will give a slightly easier delivery. However, as you are talking about moving from solid-state (output stage) to valves I suggest you get another demo, since the sonic differences are considerable. Having said that, Audio Research



Audio Research VT80 amplifier with KT150 output valves, one pair per channel. Power of 75 Watts is claimed.

amplifiers consistently have a fast and punchy delivery way beyond that of solid-state; it's unlikely you'll be disappointed.

I suspect a Reference 75 with KTI 50s will best suit. You may want to know how many hours are on the second-hand Reference 75 tubes by the way, and look at replacement costs, but they're not high (£300 or so for quad matched pairs) relative to the cost of the amp.

With regard to our McIntosh MCI52 reference power amplifier, readers demand to know what we choose to use when reviewing - understandably so - but a review amplifier isn't necessarily "the best", whatever that is .The McIntosh MC152 has a unique output stage with auto-transformers that delivers just about zero high frequency distortion (because the output transistors delivers volts not amps). It gives a super-clean sound as a result. Also, it drives just about all the loudspeakers we hook up to it without difficulty. One of its strengths then, for us, is that it's a wonderful and reliable workhorse that is consistent in its high-quality sound - but this matters less to those who won't be changing loudspeakers regularly. The power meters are handy too, ensuring we avoid overload (with insensitive loudspeakers). But our other amplifier is an Icon Audio Stereo30 SE valve amp of just 30 Watts - radically different. They're both fine amplifiers - but in their own way.

A final note: as Audio Research say, the KT150 is an impressive sounding valve (unlike KT120s and KT90s) – ensure you use them and nothing else. An amplifier must deliver 2A heater current to this valve – a massive 16A to quad-matched pairs. That's a serious mains transformer. Always ensure an amplifier suits KT150s; earlier Audio Research models did not 1 believe. **NK** 

#### **SOUND OF CD**

Noel's review of CDs in April was great and explained a lot. But one question that comes to mind is what effect does the CD player itself have in determining the sound? I have a modest CD collection and use three different CD players in three systems – and each has a very distinct sound.

I use an Arcam FMJ CD33 through WAD 300B PP monoblocks driven by an Audio Note M3 pre and it sounds very good.

If I swap the CD player to a Naim CD5i it sounds quite different, more dynamic and great for rock but less so for acoustic jazz & classical.

If I use my main system player, an Audio Note CD 4.1x, through AN M6 pre to AN Quest Silver 300B monoblocks, all linked with AN silver cables, the music sounds quite different again – very like a good 180gm vinyl pressing.

The CD is the same, and I know that you can't put back data that isn't there, but I wonder if a good quality CD at some point the sound does change. If the source is always the same then presumably the "change" happens in the DAC...Mmm... I'm not sure if I'm making sense here.

Confused of Warwick... Greg White.

Hi Greg. You are making perfect sense. Put simply, everything in the recording chain makes a difference and music through our hi-fi systems could sound so much better if it got a better start in life.

In your specific case the Arcam is a fairly conventional design, the Naim as always has their particular house-sound and the Audio Note is quite different again, with little antialias filtering, a current-to-voltage interface audio transformer (no chips here!) and 6DJ8 anode follower valve output stage. Audio Note use the LP (i.e. analogue sound) as a sonic reference and their products veer away farthest from sounding 'digital' as a result.

As a final aside, I think I am right in saying that your World Audio Design WAD300B was designed by AudioNote's designer, Andy Grove who is behind many or most of their products, so there's a symbiotic link in there! Happy listening. **NK** 

#### **EXPENSIVE TAT MAT**

Having just recently been scanning last year's back issues I stumbled on a previously missed article by Paul Rigby (page 67 November 2017) with regard to the pricing of "Old Vinyls" and the rock bottom prices for early examples of Beatles/ Stones and the like being



Audio Note CD 4.1X CD player. "It sounds very like a good 180gm vinyl pressing" says Greg White.

player can mitigate some of the shortfall in quality of the CD itself?

This raises the further question: when is digital not digital? Logically "ones" & "zeros" never change. But "picked up" for very little outlay, typically less than £10.00.

Either Paul is rarely out and about beyond the realms of the home counties or is living on another planet. Here even





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the most dog eared copies command outrageous prices in market stalls and even car boot sales. Some vendors locally I know purchase from charity shops or from punters selling off the older generations copies for peanuts.

I have experienced some of these latter transactions "first hand" where family members dispose of discs of their dearly departed for as little as 50p - to £1.00 apiece. Chatting to the vendors themselves whilst browsing, I often find they seem to be unable to comprehend why these items are still on the shelves up to 2+ years after they acquired them (for peanuts).

This is what is probably confusing the sales trends, as the outrageous asking price hereabouts starts at around £15.00 upward.Typically, early but not first issues of the first Rolling Stones Album start at around £30-£40 pounds despite being in almost unplayable condition and in many cases with totally illegible sleeves and original mildew on sleeve liners. Same goes for poorly cared for Beatles/Dylan and similar period material. None of these examples could be considered as mint, let alone of merchantable quality.

I saw a Beatles White album not fit for a doormat at £50.00. and looking closely probably not fit for my medium priced turntable. Please oh please Paul, next time you are at a collectors fair can you persuade some of the vendors in your realm to visit the North West England even if only once a year.

Sad end note. I let most of my LPs go (for little reward) when the "highly" rated CD turned up in the '80s – hailed as the new musical age and would finish vinyl forever!

Keep up the brilliant editorial. Kindest regards, **N. Porcher, Oswestry, Shropshire.** 

Hello Mr Porcher - and thanks for your letter. There's a distinct difference between an asking price of any item and the price a customer is prepared to pay. I too have seen astronomical prices for original vinyl featuring The Beatles, Stones et al. Many non-specialist, fair-weather retailers see a Beatles LP and then pound signs before their eyes. Nowadays, as I stated in my piece, such high prices belong to history. Most true fans already have their (excellent condition) copies and will only pay for special editions including the recent audiophile reissues.

The problem relates to past sales expectations and information

contained within popular record buyer's guides quoting high prices for mint condition examples. The uninformed are slaves to such guides: charity shop owners and antique dealers are the main culprits.

One specific example? Fleetwood Mac's ever popular and steadily selling Rumours (original pressing) has actually risen in average price from a once realistic £5 to a healthy £12 from a typically knowledgeable record fair dealer. Yet, I've seen antique dealers asking £30 for it. Crazy. I spoke to a host of professional dealers whose livelihood is governed by roaming the country, buying and selling vinyl of all types. It's their judgement I trust because they are at the coal face, interacting with hardcore music fans as opposed to unfortunate, gullible week-end shoppers. Choose your vinyl vendor carefully! PR

#### **BALANCED OR REGENERATED**

Thanks for the many product reviews, and general good read which I enjoy every month. This has helped me to make several worthwhile improvements and upgrades over the years. I am always open to further improvements and tweaks, to tease even more from my system.

However, there is one topic that has left me both intrigued, but also confused. Having read several reviews on Balanced Mains Units and now Mains Conditioning, the net effect seems/ sounds very similar. These two routes seem very different to resolving mainsbased problems, but the results seem to converge, to remove background noise, and to present music closer to how it was originally captured. Sounds like heaven!

I live within the M25, near Rickmansworth, and have never been aware of mains-borne noise, pops/clicks etc, but I can accept the principle of providing my system with a better mains 'signal', for it to work better. I use a linear power supply for my Audiolab M-DAC, and can hear a huge improvement over its original switch-mode.

So, do I need to consider both Balanced and Conditioned supply, or start with Balanced? Is there a costeffective approach? Such units are not cheap, but I seem to remember a previous letter about Airlink Transformers (?), which sounds a more industrial but effective route. I would welcome any feedback to help clarify.

My system is: PrimaLuna Prologue 2, Quadral Style 8 speakers, Arcam CD23, Audiolab M-DAC +Power supply,



The ever popular Rumours album from Fleetwood Mac. "I've seen antique dealers asking £30 for it. Crazy." says Paul Rigby.

Linn LP12 with Lingo 1, Project Tubebox (to be upgraded). Tellurium Ultra Black interconnects, and Transparent speaker cables. Many thanks,

Martin Trevers.

Hi Martin. Using a balanced mains transformer reduces leakage currents – but it doesn't clean them. Using a regenerator doesn't reduce leakage currents but it does clean them.

As you say Airlink are a goto source for balanced mains transformers for audio systems. Slowly, however, regenerated mains supplies are appearing and they don't so much reduce ground currents but clean them up by eliminating the extended mains distortion harmonics



Airlink Conditioning balanced power supply with noise filters. Cost - around £300.

that I suspect are a function of voltage regulation. At Hi-Fi World offices this is a rock steady (and high) 245V with 3% distortion.

The problem with regenerated supplies is that they're complex, bulky and expensive – even when unable to cope with heavy loads, meaning most power amplifiers cannot be hooked 'If you want the best Wi-Fi speaker...this is it... you have a near-perfect 21st century speaker.' T3.com



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Winner: What Hi-Fi? Best Wireless Speaker £800+ 2014 | 2015 | 2016 | 2017 up to them, except through filtered (not distortion free) outputs that do only half the job.

We have heard good things about the Power Inspired AG500 regenerated supply (see also the Letter from Phil Haywood in this issue) and we use an Isotek Evo3 Mosaic Genesis as a must for reviewing purposes.

You could run a regenerator from a balanced mains supply, where high current amplifiers would in effect benefit from the balanced supply direct.

A small final observation. Balanced power supplies give 115V out on each line so are safer in the home. They are commonly used (110V out, centre tapped) on building sites (those big orange boxes) to feed electrical tools 55V per line. **NK** 

#### **REGENERATION WORKS**

I was interested to read the letter from Evie Sandston in your May issue as I have recently purchased a mains regenerator. Unfortunately, my budget no longer runs to the four figure sums required to buy such an item from a hifi manufacturer. So, after a look around the web, I settled for a product designed predominantly for computer use. The item in question is an AG 500 from Power Inspired. It outputs 230V and now powers my entire system, which consists of record deck, phono stage, CD transport and DAC and valve amp.

Unlike your other corespondent, the difference in my system is clear. The soundstage is wider and instrumental separation much better. The sound has become much smoother and more lifelike. All this for just £275. I would suggest that any other readers contemplating mains regeneration should start with something modestly priced before spending big bucks. So, how about a review of the AG500, or something similar? I would love to know how it measured! Regards,

#### Phil Haywood.

Hi Phil.Yes, I'm onto it (or was) and then let it slip. Power Inspired said "yes" to a review so I hope we'll have one in for measurement and listening soon. The AG500 is a 500 Watt UPS (uninterruptible power supply) with batteries on-board giving 10 minutes off-line protection for computers; it is not a dedicated audio product but suitable for hi-fi the company say, due to quiet fan running. The distortion spec. is 'less than 3%' where the lsotek Evo 3 we use is less than 0.2%



AG500 a.c. ReGenerator from Power Inspired (Bicester, UK). "The sound has become much smoother and more lifelike" says Phil Haywood.

and ours hovers around 0.1% - hence the price difference.

I'm surprised your AG500 supports a valve amplifier as they commonly consume a lot of power. Those interested should find the mains power consumption of each product from the manufacturer's spec. and total the values, that should not exceed 500 Watts.

Thank you for giving us your experience; it's always good to hear from others working independently – something readers value. We certainly find our Isotek regenerator works and look forward to measuring and using an AG500. **NK** 

#### **MOJO WORKING**

I very much enjoyed Noel's piece in the April edition on the evolution of digital and the inherent limitations of CD. It seems very like the evolution of digital photography. The first pictures could only be printed at postcard size before losing definition but today's digital cameras can easily produce posters. And we now have a feature film shot on an iPhone.

I do have a question about digital replay. I have a Mcjo. It's stunning. I drive it from a MacBook Pro running Audirvana with music held on an external disc drive. But it's not very portable: disc drive cable MacBook cable and Mcjo.

I have pondered a FiiO X5 or AK70 as an alternative source and it does work quite well from an AK70. But here again it seems like overkill as both the FiiO & AK have built in DACs and headphone amps of their own which duplicate the Mcjo.

I have been waiting for the Chord Poly to arrive, it being a dedicated streaming source, complete with memory cards, designed for the Mcjo. But having read about it, and seen various YouTube videos, I can't really understand how I would control the music. All the articles suggest it's easy from a smart phone or tablet, but I can't really understand how that would work. I have an old smart phone (HTC MI - 7) which I just use as a phone. It's an old model and I can't load music onto it.

So my question is how do I control a Poly if I get one? Is it as easy as the trade press suggests? Or would I be better served by getting an AK70 / AK300 / FiiO ? Kind regards, **Edward Martin.** 

Hi Edward. Chord has just released a control app for the Poly called GoFigure. Unfortunately it's Apple



Isotek Evo 3 Mosaic Genesis mains regenerator – gives you hi-fi mains! Low distortion and noise are its plus points.



Chord Electronics Mojo portable DAC headphone amplifier with Poly extension player. "How do I control a Poly if I get one?" asks Edward Martin.

iOS only at the moment, for an iPhone or iPad. An Android version is under development so that won't help you right now, but perhaps in the future if you prefer to use a tablet or mobile phone based on the Android operating system.

Therefore, as you like the sound of the Mojo in your system, I'd advise you leave it there and invest in a portable player for when you are travelling. I use a FiiO X5 myself it has a rich, warm sound although the AK70 offers more detail. **JM** 

#### **DOWN TO EARTH**

I write in response to Evie Sandston's letter in the May issue, in which she questioned the usefulness of mains supply products.

In his reply, Noel provided a reference to the subject of 'Ground Loops'. Minimising the effect of ground loops in an audio system is a useful first step in 'cleaning up' the a.c. supply. I offer some explanations and suggestions to those readers new to the topic.

'Ground loops' can arise when connecting your audio equipment to the mains supply. If each item of equipment provides a path to earth via its mains cable, then plugging in many items will provide multiple paths to earth. These multiple paths to earth constitute the 'ground loops'.

The mains isolating transformer in each item of equipment leaks small alternating currents to earth. These a.c. leakage currents develop a.c. voltages in the ground loops which produce 'hum' in the equipment. In addition, the ground loops act like aerials and pick up high frequency interference.

In the past, this journal and others have suggested actions that readers can take to minimise the effect of ground loops. I claim no originality in regard to listing some of them below.

Avoid plugging your different items of equipment into different wall outlets in the room. You do not want to create huge ground loops! Provided its maximum current rating is not exceeded, use a single mains extension or distribution block to supply all your items of equipment.

Consider a distribution block that employs 'star earthing'. This connects all the equipment earths to one common point inside the block.

Consider having an electrician install a dedicated spur from the consumer unit. This will avoid having to connect your system to the potentially 'noisy' ring main circuit.

I hope this information provides a 'down to earth' take on what can be a complicated subject. Alan Scott.



Dynavox X4100 mains filter unit. It has four unfiltered outlets and four filtered outlets. Which to use asks John Beverly.

Hi Alan. Thanks for your words of wisdom. I spoke to a "senior" engineer at a show recently and he had never considered how leakage from a mains transformer could affect sound quality. I was taken aback. But as you say the topic can get complicated, which is why I referred to Doug Self's diagrams and analyses at The Amplifier Institute.

The topic of transformer leakage (of dirty mains currents) is all over the 'net for anyone interested and militates for the use of low leakage (high cost) mains transformers in hi-fi products. As this item is one of the big expenses in the design budget there's pressure not to specify internal screens and external screening cases. It's all down to money and what you can get away with (I'm feeling cynical today!). **NK** 

#### **UNIPIVOT BOUNCE**

I have a Hadcock GH228 arm with Decca London cartridge on Linn Sondek LP12. Have read unipivot arms a no-no on suspended decks? What say you? Cheers

#### Howard Phillips, Hitchin,

#### Herts .

PS. Read you review (GH228) from HFN 1978.

Hi Howard. If you are happy and able to catch butterflies with your fingers then no problem. For most of us such dexterity perhaps once existed fleetingly a long time ago! You could say it was a 1970s thing where the young and nimble used such paraphernalia, where today its an app. (that doesn't work because the battery has run down).

The Hadcock had a smooth and easy presentation I recall but I would tend toward a rigid Rega these days, that being light can be mounted on an LP12. Or use a Linn arm. The Decca London is quite lively and needs a rigid platform.

And finally I wasn't aive in 1978 – or I can't remember it! **NK** 

#### **FILTER LIMITS**

I've just bought a Dynavox X4100 mains filter. It has eight power out sockets, four filtered and four direct. I've got the usual array of hi-fi equipment: integrated valve amplifier, CD transport & DAC, turntable & phono preamp and a tape deck for when I'm feeling nostalgic. My favourite music is on CD and that's what I listen to the most. What do you recommend that I plug into the filtered sockets and what into the direct? All the best,

John Beverly.

Hi John. I see no individual current ratings for filtered / unfiltered sockets so must assume either can accept the full current rating of 10A (before a circuit breaker operates). It's usual to connect low current/ power consumption sources like CD players, DACs and turntables (etc) into the filtered outlets and high power consumption devices like your tape deck and power amplifier into the unfiltered outlets. However, with a high 10A limit the filtered outlets



Hadcock GH228 unipivot arm – difficult to handle on a bouncy suspended turntable.

can be used for all items since few hi-fi products get near to such a high consumption. **NK** 

#### **BACK TO THE UK**

I'm getting ready to move back to UK from the USA (New York) and working out what items of my hi-fi go to UK and which goes to holiday home/storage.

Very tricky re:VPI Prime Signature & Ortofon Quinex Black V Nottingham Analogue Spacedeck & SME 309 & Sumiko BP SE III, Sugden A2 I SE amplifier + Rega Aria + Rega DAC v Devialet Expert 120 Pro, Martin Logan ESL9 Classic v Sonus Faber Cremona M.

And that is before I think about racks (Hi-Fi Racks v Mapleshade), cables (Chord v Morrow Audio), let alone power cables etc. Anyway, my wife has already returned to the UK and so, left alone, I spent the last few weekends listening to various combinations – although mostly via vinyl.

In this very interesting and extremely erjoyable time what i have found is that the Sugden works very well with the Martin Logans.

My set up re: current room and placement, is not great here in N.Y. with the Sugden working via a transformer and 'speakers just dumped in the only position possible. The sound gets a bit boomy at very high volumes but given that I do most of my listening at lower levels i do not see this as an issue once I move back home.

What has really surprised me is how much better the Sugden + Rega phono stage sounds verses the Devialet using internal phono stage and also with the Rega phono stage!

I have also tried with and without Devilaet's loudspeaker tuning system SAM switched on, with both Chord & Morrow Audio cables but every time the Sugden combination wins. Maybe this is system matching but I do feel that this firm's products need more recognition. I have spent the last 6+ hours listening on both systems to the Kate Bush album "Before the Dawn", they are super.

On record players, love both but a bit different. With the Sugden and Martin Logans, the VPI is just wonderful, the Nottingham just seems a bit too laid back, maybe an unfair comparison as the VPI + ADS + Ortofon MC is significantly more expensive.

However, when I move to digital, the Devialet with Apollo CD and Vortexbox NAS is ahead of the Sugden and Rega DAC. What I also note is that the Devialet is happier when driving the Sonus Faber speakers.

What this all goes to show is that system matching is very key and will re-iterate that you should consider reviewing systems as against individual components, I understand that this is challenging but do feel that many people would appreciate this.

On a separate note, I use STAX 507 & SRM600 energiser with a Macbook Pro & Dragonfly Red or via A&K, all playing FLAC or Apple Lossless ripped from my CD collection. I find that the headphones creak in one of the ear speakers when I am listening, if i sit perfectly still then fine but if I blink or my jaw moves I get this noise. Is this normal? Can it be sorted? Kind regards

John Speight

Hi John. We have always admired Sugden amplifiers and did even use one as a reference. It doesn't surprise me that your Sugden offers such a good sound and works well with Martin Logans, which are a difficult load (I Ohm at 20kHz). It uses Sugden's own dynamic Class A output stage, I believe I am right in saying, developed long ago and now well refined. The only sonically convincing alternative would be a valve amplifier such as the small lcon Audio Stereo30 SE (also Class A) I use with Martin Logans. Or perhaps try an Audio Research.

Devialet's phono stage was a bit of an afterthought I suspect; it initially picked up internal RF on occasion. Jon Myles likes Devialet amplifiers though (in addition to Naims!).

Creaky headphones don't sound normal to me. I suggest you e-mail the manufacturer.

Don't leave us all guessing which items went into storage though: that's cruel.We hope for an update. **NK** 



Martin Logan Classic ESL9 hybrid electrostatic loudspeakers 'at home' in New York. Best driven by a Sugden A21SE (top left) says John Speight.

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AC/306

# A Fair deal

Martin Pipe misses the snow to look for bargains at Britain's popular Audiojumble, Tonbridge, Kent.



t's lucky that the Audiojumble was organised for February 18th 2018 – not long before winter snows fell, bringing much of Britain to a standstill. The event was instead blessed by some pleasant weather, luring sizeable numbers of hi-fi enthusiasts and record collectors to Kent, accounting for the claimed 'best ever' attendance figures. Two large halls and a sideroom of the Angel Leisure Centre – where parking has the unusual benefit of being free – were given over to the Audiojumble. As usual, there can be assembled from the budget classics of yesteryear. Great for newcomers. Those with electronics experience and the ability to wield a soldering iron can do even better. Equipment in need of attention – an amplifier with blown output transistors, or a turntable that doesn't – can often be found going cheap. A few spare evenings, aided by service information freely-available online, and the acquisition can be brought back to life. For example a decent Sony CD player that needed attention eventually changed hands



were two entry times, a £12 'early bird' ticket that gets you in at 9.30 a.m. for priority on potential bargains and a £6 'standard' 10.30 a.m. entry. At these events, there is

something for everyone. A perfectlygood music system, for CD or vinyl, for a mere 50p, while a complete Revox B77 reel-to-reel tape deck in reasonable shape (worth £100s) was overlooked in the side-room for a surprisingly long period of time – despite a mere £50 asking price. The downside? A 'spares or repair' sticker. The seller told me that the work in question wouldn't cost more than  $\pounds 100$ .

Alternatively, if you're cash-rich and time-poor some mouth watering pieces of equipment – including rarities – were on display.

But there was more to this show than hi-fi equipment. The music sellers were also a draw – whether you're after original pressings, remasters of favourite albums struck on 180g vinyl or alternative carriers like CD, cassette or 8-track.

Open reel tape recorders – a format slated for revival – were also much in evidence. In addition to a wide selection of machines were tapes to feed them in a variety of shapes, sizes and track formats. Other attractions included refreshments, demonstrations and club stands: the British Vintage Wireless Society, New Ash Green Hi-Fi Club and West Kent Amateur Radio Society.

The next Audiojumble takes place on Sunday 7th October 2018 at the Angel Leisure Centre, Tonbridge, Kent TN9 1SF. See www.audiojumble.co.uk.

#### FEATURE



An enormous Hitachi SDT-400 music centre circa 1978. It boasts turntable, cassette deck, four-band tuner and must have cost a lot in its day, but at Audiojumble nobody would even spare a quid for it.



A Pioneer F-91 FM/AM tuner – 1980s state-of-the-art. Any VHF/FM enthusiast prepared to gamble on it's continuance may like paying the £150 being asked for this one.



A UK-made Capitol/EMI RS101B circa 1959. One of the first stereo players on the market, the RS101B featured off-board speakers to help the listener achieve a decent image. Turntable is a four-speed Garrard. This lovinglyrestored example was supplied with two cartridges – mono and stereo. Your £400 also bought a spare turntable.





A QLS QA550 from China – an unusual solid-state media player intended to replace a CD transport. Using SD cards, it's optimised for 16-bit/44.1kHz WAV files 'ripped' from CDs, having no analogue audio outputs. Instead, its S/PDIF digital output feeds an external DAC. This 'upgraded' one, boxed and complete with remote control, was £40.



Linn's imposing Isobarik loudspeaker – here PMS variants with external crossovers. £1200 for a pair in good shape. Reasonable value: when discontinued they cost nearly £4,000.

A Fons CQ30 turntable. It had 78rpm as well as 33rpm and 45rpm. This speed flexibility derives from a servo-controlled DC motor, which Fons specified instead of the more usual synchronous AC type. Like its contemporaries, it was a suspended subchassis design. The one snapped here – equipped with an SME 3009 S2 tonearm – was being offered for £300.



A pair of Quad II valve power amplifiers (15 Watts) – valued classics. These were unrestored and being offered for £700. They need a Quad 22 pre-amplifier however (or home built equivalent).



A Sony TTS-3000 turntable from the late 1960s. This slightly corroded example I bought for a mere tenner. The platter didn't spin but I got it going. Expect an Olde Worlde soon...



A Sugden A48 MK II amplifier together with its matching 'T48 II' six-preset FM tuner. £100 would have bought this specimen. Refugees of a house clearance, they were claimed to be working but in need of a service.



A Sansui SM-12M low-power (4 watts) receiver, circa 1961. There's not only short-wave coverage but a 'magic eye' tuning-indicator. For the £100 asked, a great intro to the 'tube sound'; efficient speakers are a must here!



A Krell FAM-7, circa 1988, which they classed as 'entry level'. Krell gear was never cheap and the £750 asked for this mint specimen (complete with power supply) was reasonable perhaps.



The owner of this complete Revox B77, a fairly standard half-track model with 9.5cm/s and 19cm/s speeds, was letting it go for a mere £50 – one of the biggest bargains of the show! It was sold as 'spares or repair', but its heads seemed to have plenty of life in them. One of its flimsy toggle switches had snapped off.



A mint-condition Philips Laservision player where an LP-sized analogue disc was scanned by a Siemens helium-neon laser. £100 would have secured you this museum piece, which will even work with modern flat-panel TVs provided they have analogue video inputs. A pair of phono sockets allow analogue audio to be fed into a hi-fi system.



#### **TURNTABLES** AVID 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 Radikal DC motor add precision and grip to one of the world's most musical disc spinners. Expensive though.

#### **MICHELL GYRO DEC**

£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**

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**

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 Mkll 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

#### HADCOCK GH-242 EXPORT

Consummately musical, lyrical sounding tonearm, but needs the right turntable.

#### **ORIGIN LIVE ONYX**

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

£550

£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

£3000

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

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 coll 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 WOOD SL MC £945

Highly finessed Swiss moving coil that plays music with riflebolt precision.

#### DENON DL-103

£810

£450

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



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#### LYRA TITAN I MC

Breathtaking speed and dynamics from LP, helped by diamond coated, boron rod cantilever.

£3.500



#### 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. Highend 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**

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.

£2.500

#### ICON AUDIO PS3 MKII





LUXMAN EO-500 PHONOSTAGE £4.495 A fully-equipped phonostage from Japanese manufacturer Luxman that offers comprehensive cartridge matching allied to superb sound.



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 phonostage with valve output circuit and a big sound



#### QUAD QC24P

£35

MM and MC, oodles of gain, a volume control - and valves! Looks superb and sounds even bet ter: smooth, atmospheric and big bass.

£995

£995

#### TIMESTEP T-01MC

New, minimalist phonostage that sonically punches well above its weight.

#### PREAMPLIFIERS

ICON AUDIO LA-4 MKIII £1.400 Uses early 6SN7 triodes for liquid sound. Has plenty of gain and a remote control into the bargain.



#### MF AUDIO CLASSIC SILVER 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.

£4.500

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 PR08455E

£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. Svelte delivery from a dainty case that fits in anywhere - and isn't Class D!

#### EXPOSURE 1010

Entry-level integrated from Exposure has excellent upper mid-performance with an almost valve-like sound.



£495

ICON AUDIO STEREO 60 MKIII £2,800 Excellent tube integrated with plenty of power and an expansive soundstage, plus KT150 tube option and bias meter for easy adjustment.



#### NAIM NAIT 5Si

Naim's fabled entry-level integrated amplifier is updated to si status. **D**emos Naim's superbly muscular sound at entry level.

£925

£2,480

£7.498

£5.000

#### SUGDEN A21SE

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 VSI75

Powerful, fast valve sound that makes everything else look weak at times. Needs careful matching but well worth the effort.

#### AUDIO RESEARCH VS115

**O**odles of power with enormous punch. Rafael Todes said it provided "shock and awe" while retaining incredible smoothness and texture.

#### ICON AUD IO MB845 MKII £7,600 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 MB81PP £15,000 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.



QUAD 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.

#### QUAD 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 D3

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

£12,500

£1,600

£2.500

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-8B

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.



QUADRAL 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.

#### QUADRAL ORKAN VIII AKTIVS

Active loudspeaker with tight, powerful bass, perfect accuracy and detailed treble from a ribbon tweeter.

£6.200

£480

£6.495



#### Q ACOUSTICS 2050i

A large floorstander at a budget price. Offers high sensitivity and big sound and has very few flaws for the price.

#### SPENDOR SP100 R2

Retro looks but a sound that's hard to match. Spendor's 12" bass unit provides massive lowend grunt with a room-filling sound



#### SPENDOR A3 £1,300 Fine little floorstander with a smooth, natural midband and even tonal balance. Ideal for smaller moms

TANNOY DEFINITION DC10 Ti£6,000Enormous power with great projection. Glorious

Enormous power with great projection. Glorious subsonics too Need little power to go very loud and have superb finish into the bargain.



#### TANNOY KENSINGTON

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£9.950



#### 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

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  $\ensuremath{\textbf{D}}\xspace$  iamond 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

£1,000

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 0hm - 300 0hm) headphones the little Creek has a marvelously well-judged sound.

#### CHORD MOJO

Class leading portable DAC and headphone amp with ability beyond all else. Big, open spacious sound.

£399

£99



#### **EPIPHANY EHP-02**

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.



The HP8 MKII valve-based headphone amplifier brings the spacious sound of valves to head phones. 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.



#### £500 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 F9 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.

ICON AUDIO HP8 MKII





#### **ELECTROCOMPANIET EMP-1/S**

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 Bluray (+DVD) sound deep, spacious and full bodied. Reference quality that's affordable



#### **REGA APOLLO-R**

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**

A charmingly musical performer at the price - this is a surprisingly sophisticated CD player for the monev



#### 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**

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

£4,650

£550

£900

£550

£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

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

£250

£990

#### ANTELOPE ZODIAC GOLD/VOLTIKUS £3,095 DAC/preamp/power supply combination majors on detail but has a remarkable un-digital sound. One



#### CHORD 2QUTE HD

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 digiral-to-anlogue convertor with great sound at a great price. Cuts upper treble, though

NAIM DAC £2,400 Superb high-end digital convertor 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.



CONVERT TECHNOLOGIES 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

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

£2,995

£2 175

#### NAIM ND5XS

Great sound quality with traditional Naim heft. A wonderful DAC with full 24/192 handling. Only the display could be better.

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#### NAIM NAC-N172 XS

A pre-amp/DAC/streamer package provides a taught, rock-solid presentation with a tonally rich midband and a superior sense of rhythm.

£1.650



**PRO-JECT STREAM BOX RS** £1,095 Unusual valve-based streamer/preamp with variety of inputs and a lovely liquid sound. Not the most detailed but compensates with sheer musical verve.

OUAD PLATINUM DMP £2,500 Combined CD/network player has all the usual Quad elements but with added zest and detail that brings life to everything you care to play.



#### **DIGITAL SOURCES**

ASTELL&KERN AK100 MKII £569 Portable high-definition digital player with superb sound quality. Punchy and fast.



#### FiiO X3

Fabulous value player with nice easy sound and full range of abilities. Small and light. For newbies

£150

£1,500

#### LOTOO PAW GOLD

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 A 50W amplifier with traditional Naim heft, a CD player and vhf/fm radio, plus network input and Bluetooth make this a great all-in-one.



#### PORTABLE SPEAKERS

£149.99 BAYAN SOUNDBOOK Superb design and great sound make for one of the best portable Bluetooth speaker/radios on the market. Not the cheapest - but worth every penny



#### **IRIVER IRA-50** £69 Big, warm sound with plenty of volume and clean at high levels. Muscular sound compared to many rivals

#### CABLES

BLACK RHODIUM TWIST £71/3M Twisted to fight off radio frequency, the Black Rhodium speaker cable is easy on the ear with a fine sense of clarity and focus. A remarkable performer at the price.



#### MAINS CABLES R US NO.27 £95 Offers a sprightly pace with a precise nature. Fast performance enhance frequencies and beautifully etched detail.

CHORD SIGNATURE REFERENCE

mended upgrade

TELLURIUM O BLACK

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cables

TELLURIUM O SILVER DIAMOND

Majors on timing, detail and openess. Capable of

getting the best from most systems and a recom-

A deep, dark, velvety performer that's neverthe-

less highly musical, it represents excellent value

An open, natural and transparent sound that is

difficult to beat, from these great loudspeaker

#### **HEADPHONES**

AUDEZE LCD-3 £1.725 A planar magnetic 'phone that offers monitor quality. Strong sound with silky, dark quality that others struggle to match.



#### B&W P3 Beautifully presented headphones from the

loudspeaker specialists. Feed them a good quality source signal and they reward with excellent sound

#### JAYS V-JAYS

£49 Wonderful little budget over-ear portable 'phones with a clean, clear sound to beat the best of the rest at the price.



NOBLE K10 INC. FITTING £1.279

£170

Custom fit in-ear phones with 10 drivers deliver a sound that is out of this world. Personal and perfect.



OPPO PM-1 £950 Planar magnetic phones with a warm, easy but big bodied sound that draws you in. Need a lot of drive, but deliver superb bass.



SENNHEISER HD700 £599 Tremendously fast with a strong, focussed, lowerfrequency range and a firm bass punch.



**YAMAHA HPH-MT220** £150 Purposed for indoor monitoring yet light and comfortable enough to be used on the move Excellent sound quality marred only by a slight warmth to vocals.

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£900

280/3M

£804/M



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## Debut III S Audiophile

The Debut III S Audiophile takes the iconic, multi-award winning Debut design and adds advanced features to enhance the look and performance to an all-new standard.

With new features, including the one-piece S-Shape tonearm, Pick-IT 25A cartridge and upgraded turntable feet, the latest addition to the Debut range delivers a very harmonic and warm sound to impress even the most experienced audiophile.



# Head-hunting

Martin Pipe is knocked for six by the 'killer feature' of Sennheiser's Apple-specific Ambeo Smart Headset – binaural recording.

ay back in the mists of time (well, 1973), Sennheiser introduced its MKE2002 'dummy head' binaural microphone. Its omnidirectional microphones, mounted on the cups of a stethoscope-like headset, are placed in the dummy ear's pinnae so that they capture sound as you would hear it - needless to say, binaural recordings must be experienced through headphones. The MKE2002 could work very well, yielding a convincing soundscape that bordered on the three-dimensional. It was alas not particularly cheap (£150 in 1978), being pitched at professional users

Forty years on, and interest in binaural sound has not waned. Music continues to be released in this format, and manufacturers still produce 'dummy heads' – among them smaller-scale devices that can be mounted on the accessory shoe of a camera or camcorder. I have successfully experimented with modified headphones and earphones, in which the inwardsfiring transducers have been replaced by microphone capsules aiming outwards.

Sennheiser hasn't forgotten binaural either, its £260 Ambeo Smart Headset I'm reviewing here comprising headphone/microphone combo. A pair of in-ear 'phones/ microphones are hard-wired to terminated in a Apple Lightning connector.Yes, a compatible iThing is essential for would-be Ambeo purchasers, although Sennheiser's Nicole Fresen told me that an Android version is planned for "late 2018." For now, though, you'll need an Apple device equipped with a Lightning port and running iOS 10.3 or later (when Apple, according to Ms. Fresen "implemented the option to do stereo recordings")

You can use the device with, for example, a Lightning-equipped device running earlier iOS9 – but recording will be in mono only. The basic stereo headphone functionality is still available with these earlier devices.

Ambeo is rather advanced – an active noise-cancelling function is provided. In fact, the Ambeo headset goes one better with something

ENNHEISER

that Sennheiser calls 'situation awareness'. In addition to its noisecancellation mode, the Sennheiser technology uses the omnidirectional microphones (which lurk behind the metal grilles of each earpiece) to pick up ambient noise which is mixed with the audio being played. 'Transparent hearing', as it's called, is useful for cyclists who insist on listening when they're on the move. These modes can be disengaged if not needed – home listening, for example.

It almost goes without saying that Ambeo will act as a 'hands-free' headset when you're on the phone, a central button on the control unit accepting, holding or ending calls. The controller's various buttons will also adjust volume level, play or pause music and select tracks.

By default, a 'smart slider' switches between recording level – either maximum, or reduced (which may be more appropriate for live music).The controller, which is powered by the Apple host, crams

> in a lot of electronics – microphone preamps, analogue-to-digital converters, digital-

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AMBEO SMARTHEADSET

Something not sounding right? Maybe we can help.



The long development time of the OCTAVE V 16 Single Ended has surely paid off: an uncompromising single-ended Class A integrated amplifier (and headphone amplifier) that delivers ultra-quiet operation highlighted by deep bass, a natural midrange and silky-smooth highs combined with an unsurpassed degree of reliability and



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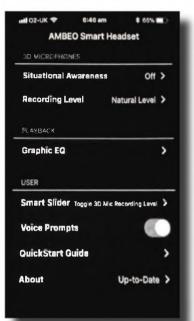
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to-analogue converters, headphone amplifiers, a Lightning interface and control electronics. Despite the complexity, using Ambeo didn't seem to impact on battery life.

The Apogee Ambeo app also requires iOS10. It allows the user



#### The Apogee Ambeo app that needs iOS 10 to run. It allows the Ambeo Smart Headset to be configured to your taste.

to customise the device - how the smart slider behaves by default (launching a recording app, for example), changing recording level, selecting whether voice prompts are active or not and setting a graphic equaliser.

To take advantage of binaural recording you need a recording app. Camera apps (such as Apple Camera) will automatically record sound from the binaural mikes when Ambeo is plugged in - indeed, Sennheiser sees sound for video as one of the device's main applications. But you'll probably feel the need to download an audio-only app too (Apple's voice memo, if installed, does work). I tried several of these third-party programs and one of the best was Recorder Plus, which is capable of the two-channel recording needed for binaural sound (Sennheiser's own Apogee Meta Recorder is worth a try too). This easy-to-use app also allows you to upload recordings by e-mail - files too long for e-mail attachment are automatically sent to an iCloud server, and a download link sent to the recipient. Such hassle is inevitable, thanks to Apple's insistence on proprietary standards and 'walledgardens' that make getting media into and out of its battery-powered devices such a pain. Paid apps also support lossless file formats and 24bit recording.

#### **SOUND QUALITY**

The earphones, which 'hook' over the ear, were reasonably comfortable to wear but did have a tendency to slip out on occasions, reducing bass. In terms of sound quality with music the presentation is perhaps a little treble-dominant and can sound harsh on occasions. Furthermore, sound levels were rather low even at maximum volume and the bass is, even with buds pushed fully home, a tad 'tubby' in character. Ambeo's voice-cancelling and transparenthearing functions were both effective, but their effects had an inevitable impact on sound quality.

You can undoubtedly buy more musical and gutsier Lightning headphones - but none of them have Ambeo's binaural microphones. These propel Ambeo into a different league, and I hope that the device encourages global users to take up a new hobby - making 'sound captures' for posterity, and sharing them via sites like YouTube and Soundcloud, I for one would love to hear ambience clips from famous locations and events around our fast-changing world - a fascinating archive could be built up for future generations to enjoy. And Ambeo is ideal for this. Partly because they look like headphones and won't attract attention, but mostly because the system's binaural recordings are crystal-clear and packed with detail, albeit rather bereft of the lowest frequencies (minimising wind-noise).

The imaging properties were simply superb. It was possible to pinpoint individual sources of sound with uncanny precision. I made recordings of hubbub in tea rooms and pubs, bird-song and even the sounds of boat-rigging and masts whistling in the wind. In all cases I got a real sense of 'being there'. But there's a caveat. Although left-toright sound staging is impeccable, front-to-back and top-to-bottom are harder to perceive. The effect is nevertheless closer to threedimensional audio than 'basic' stereo can provide - although you're stuck with headphones. Routing my recordings through a very highresolution playback system (a Chord TToby DAC/headphone amp driving Focal Utopia 'phones) didn't make

much difference in the latter regard, although it did prove the worthiness of the Ambeo's transducers and electronics.

#### CONCLUSION

They may not be the best-sounding 'phones that you can buy for Lightning devices, but that's not to say they can't give you an engaging listen. In any case, the features provided (hands-free, noise cancellation) compensate adequately. What really steals the show, though, is Ambeo's binaural recording prowess. This, I hope, will encourage consumers to take a practical interest in sound recording – a hobby that faded away in the 1970s.



There are several recording apps that you can use with Ambeo, in addition to iOS staples like Voice Memo and Apple Camera. Audacity isn't yet available for iOS, and so you're steered towards apps like Sennheiser's own Apogee Meta Recorder and the Recorder Plus you see here.

Programs of this sort support 24-bit stereo/binaural recording, basic editing and uncompressed audio. The wonderfully user-friendly Recorder Plus even makes the uploading of your recordings via e-mail (or, if they're large, cloud services) a doddle.

#### SENNHEISER AMBEO SMART HEADSET £260

#### **0000**

EXCELLENT - extremely capable.

#### VERDICT

A reasonable pair of headphones, their price justified by a binaural recording facility.

#### FOR

- Binaural recording
- crisp, clean and detailed
- easy to use

#### AGAINST

- iOS 10.3 or above
- limited volume
   weak bass
- weak bas

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# Shining Diamonds

Italy's HiDiamond loudspeaker cables deliver a thrilling listen, says Jon Myles.

iDiamond cables came as a bit of a revelation when I first heard them. The company is an Italian manufacturer which has been specialising in the production of interconnects and loudspeaker cables using their own proprietary techniques for the past 17 years but is only now starting to take a presence in the UK market.

I first tried their £60 entry-level interconnects the Diamond Is earlier this year (Hi-Fi World March 2018 issue) and was impressed at how open and honest they sounded.

Now we have the Diamond 7s - a set of loudspeaker cables that stand higher up the range.At £990 for a 1.5 metre length they are not exactly cheap.

However the construction is undeniably impressive. There's a graphite/copper composite inner conductor which is shielded by a thick XLPE braiding.

Attached to these are rhodiumplated connector plugs with a locking mechanism to ensure a tight fit. Overall it means that Diamond 7s are a rather hefty cable – but they are quite manageable in tight spaces and easy to install.

#### SOUND QUALITY

Swapping out my usual 'speaker cables and inserting the Diamond 7s brought an undeniable difference. These HiDiamonds are very true, very accurate and devoid of any colouration.

Used between an Icon Audio Stereo 30SE valve amplifier and the new Kanta N<sup>O</sup>2 floorstanding loudspeakers (see review this issue) they opened up a large, thrilling soundscape.

With Bruce Springsteen's 'Darkness On The Edge Of Town' the haunting melody was starkly defined with a crystalline clarity to the instruments. Using the same CD for 'Badlands' it was clear that these cables don't impose much of their own character on the sound. Bass pumped forcefully, Clarence Clemons' saxophone soared while Springsteen's guitar bit deep.

Instrumentation was also well separated: on Ornette Coleman's dense, heavy and congested 'Free Jazz' everything snapped into focus. I could hear and track plus all the musicians and there was coherence between them all.

On Olivier Messian's 'Quartet For The End Of Time' (24/96) the timbral quality came over with outstanding brilliancy.

The clarity of these cables, though, does mean they will highlight any deficiency in partnering equipment. They are ruthlessly revealing and so need top-notch separates to work at their best. They'll certainly show-up poor recordings or heavily-compressed material.

But, partnered with the right amplifier and loudspeakers, there's a coherence and openness to their sound that makes them a joy to listen to.

Feed them some highresolution tracks and the extra sonic information is evident. On Led Zeppelin's 'Dazed And Confused' (24/96) every leading edge of Jimmy Page's guitar solo leapt out of the 'speakers with crisp resolution. The decay of the notes also seemed to last a little longer making the whole listening experience extremely lifelike.

#### CONCLUSION

These HiDiamond cables are not exactly cheap but they do deliver in terms of performance. Alongside a revealing amplifier and loudspeakers they are something of a revelation.

#### HiDIAMOND 7 LOUDSPEAKER CABLES £990 (1.5M)

#### \*\*\*\*

OUTSTANDING - amongst the best.

#### VERDICT

A high-end 'speaker cable that is truthful and revealing. Capable of getting the best from top grade components.

#### FOR

- clean, crisp performance
- build quality
  - open mid-range

#### AGAINST

- not cheap

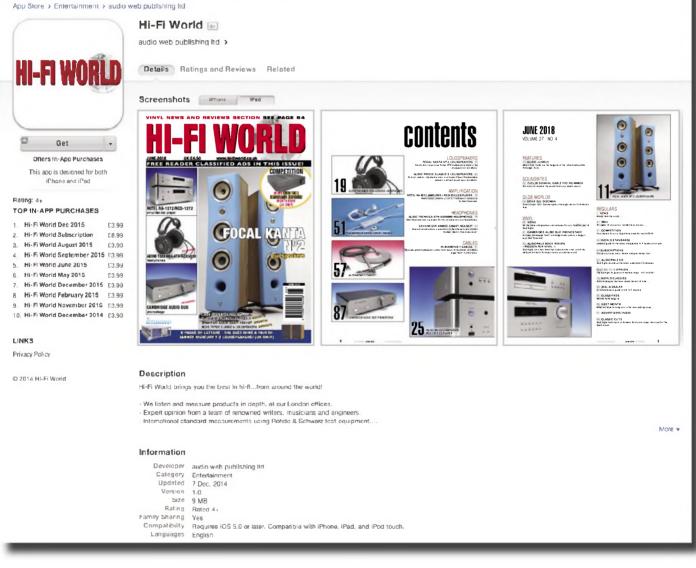
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# Day of the Discman

#### Martin Pipe recalls the heyday of Sony's personal CD player.

y the end of the 1980s, Sony's Walkman personal cassette player had transformed how we listened to music on the move. From early-morning jog-

gers clad in legwarmers to besuited businessmen on the Tube home from work, the sight of 'open' type headphones became an essential part of life for many. Another 1980s phenomenon was, of course, the Compact Disc – co-developed by Sony and Philips, then both on a roll when it came to consumer electronics.

Portable cassette players may have become popular but the sound was seldom up to hi-fi standards, unless you were using a Walkman Pro., and tapes were fragile and jammed. Until November 1984, CDs were something you could only experience at home; they were not purposed for portable or car use. But that month Sony launched its D-50 personal compact disc player, and the game changed forever.

The D-50 was an incredible piece

of engineering for the time – CD had only been on dealers' shelves for a couple of years – and to cram the functionality of a full-sized home player into something not much bigger than a stack of four jewelcases was quite some achievement. It was the first fruit of Sony's 'Compact Disc Cost Down Project', which began eighteen months earlier when a block of wood dictating the physical volume of the product was slapped onto a table somewhere in Osaka by the head of Sony's audio division.

His engineering team was told "I don't care how you do it, or whether you decide to put cicadas or grasshoppers in it, but just make this produce sound." To achieve this goal – a pocketable CD player that would sell in Japan for under 50,000 yen (£330) - the engineers had to develop new LSI (Large Scale Integration) chips, semiconductor-laser optics and motors. Even Sony expected to make a loss initially thanks to the considerable investment involved, but the worldwide success of the D-50 (and its successors) confounded all expectations.

However, not even Sony could work miracles. There was no room inside the D-50 for batteries, meaning that an external power source was essential. Alternatives to the battery pack were a mains unit (allowing the D-50 to be used at home, either with headphones or your hi-fi system) and a car cigarette lighter adaptor.

I don't alas have a D-50 for you this month; instead, I've gone five years forward, having a D-22 Discman. It sold for approximately half the price of the D-50, and it's clear to see where savings were made – more use of plastics and the level of circuit integration even higher. This enabled Sony to incorporate a battery compartment housing four AA batteries for up to eight hours of playback from alkalines. Also new was 'Megabass', which provides two levels of headphone bass-boost.

As well as a standard 3.5mm headphone socket there was a



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fixed 'line level' output for a home audio system or a car system with auxiliary input. Another connector was provided for a 'corded' remote – spending a little more acquired you the luxury of an infra-red receiver and 'wire-free' handset – thereby restoring the main CDP-101 feature that the original D-50 left off. Remote or not, the D-22 is very easy to use.

When I acquired my player second-hand twenty years ago, it came in the original box. My £20 also bought me the optional CPM-HKI 'car mount kit' (also boxed) that Sony sold for use with D-22. It contains the platform to which the player clips, together with the cigarette lighter and cassette adaptor.

For those used to personal cassettes the D-22 must have been a sonic revelation to its buyer back in '89. Even today its audio has immediacy and impact, a complete absence of wow, flutter and hiss being the most obvious improvement to somebody used to tape. By today's standards, though, the top-end is rather coarse and blurred. Musical timing and transients aren't handled particularly well, and the subtler details of complex pieces remain buried in the mix. This player is alas rather susceptible to physical mishandling, and under such circumstances sections of the currently-playing track can be skipped. Memory chips, of the capacity needed to provide a usable shock-proof 'buffer' of the data being read from the disc, were very expensive in the late 1980s.



The D-22 can be run for up to eight hours from four AA cells, which are stowed away behind a flap in the disc compartment. Sony's original D-50 didn't have any space for internal batteries. It relied on a clip-on holder.

Headphone drive is surprisingly good, decent volumes of sound being generated through Oppo PM3 phones; initially, I heard occasional distortion with some discs, and this remained even with the volume turned down so I suspect it cannot handle discs recorded to full level (0dBfs). Talking of which, this unit is incompatible with CD-RW media and playback of CD-R discs is somewhat unpredictable. But then again, such media wasn't in circulation as the '80s blending into the '90s.Yes, the D-22 is very much of its time - as that styling attests!

Personal CD players were to be refined in the years that followed

the D-50 and D-22. In-cord remotes, compatibility with MP3 files and – thanks to the falling price of memory





The D-22 used components that were designed specifically for personal CD players, among them the Sony-developed CXD1161M, a 16-bit DAC chip.

Included in the car kits was this 'faux cassette'. It plugs into the CD player's line output and slots into a car's cassette player, that sees it as a cassette.

- 'shock proof' playback were added. Battery times were extended significantly, especially when rechargeables were used. Later players were sold exclusively for personal use - by that time, CD players were ubiquitous for both home and car.

Few people use personal CD nowadays, most portable music collections having migrated onto a solid-state player or smartphone. Sony no longer manufactures CD personals, if their absence on its website is anything to go by, although they are still being offered by cheaper brands for as little as £10. So the D-22 – and all that came before it – is today little more than a reflection of how we used to live.



#### BAREFOOT JERRY

#### Watchin' TV/You Can't Get Off Floating World

he band itself has a bit of a convoluted history and most of it surrounds the constant presence in the band of guitarist, Wayne Moss. It was Moss who began life as part of Brenda Lee's backing band, then he worked with Bob Dylan around the time of 'Blonde on Blonde' only to later join the Escorts during the late 60s. Then he got together with other Dylan associates to form Area 615. It was at this point that Moss formed the band, Barefoot lerry with Mac Gayden and Kenny Buttrey, guitar and drums respectively. The final piece of this jigsaw was the addition of John Harris on keyboard, who had worked with Horace Silver

The band found a record deal in 1971 with Capitol and released 'Southern Delight'. Kenny Malone and Russ Hicks replaced Gayden and Malone, the band shifted to Monument and released both of these albums: 'Watchin' TV' (1975) and 'You Can't Get Off' (1976).

Touting Southern and country rock with a superb array of musicianship, these albums flag up a chameleon quality, as if the group was constantly changing and searching for a style. For example, there's a distinct Little Feat tinge in their often laid back approach to their work especially on 'You Can't Get Off' while, what is interesting on the first track on 'Watchin'...' is the almost Crosby, Stills & Nash pace to their work. There are harmonies, not in the same class, yet the tone of the whole is vaguely similar with an easy flow.

Mastering quality is pretty good here with plenty of air infused into the soundstage to give the music a spacious and free flowing aspect. Slight compression adds focused punch to the bass but the overall presentation is both lively and musical.



#### JOHN SURMAN

Invisible Thread ECM here's a sense of Surman exploring the world music space on this CD (his first since 2012's 'Saltash Bells') with folksy overtones. His journey, via baritone and soprano saxophones as well as bass clarinet, is accompanied by Brazilian Nelson Ayres on piano and New Yorker Rob Waring on vibes, marimba and percussion (the first recording from this new trio) but the content is mostly Surman as eleven of the twelve tracks here are Surman originals.

The playing itself feels like one long piece of music from Surman, an interconnected suite of moods and tones that restrains the emotion and keeps the pace low with an often sad feeling, ranging to one of stillness and meditation. 'On Still Waters', especially, retains that essence of the immobile and the reflective while The Admiral is a weightier affair but its pace is careful and precise. Even a sprightly little number like 'Pitanga Pitomba' is sparse and stripped, having an innocence and emptiness that explores air more than tone. You could say that 'Summer Song', from Ayres, is a welcome change of pace, a sort of advertising break away from the mood of the main feature, with its almost playful keyboard romance.

This CD, as it appear with all ECM products, features an admirable level of sound quality for a silver disc. There is a basic sense of empty space here that surrounds each musician but which allows separate reverb tails to trail from each instrument. More than that, it also allows the trio to actually play with the silence and for that silence to become part of the arrangement. A relatively broad and dynamic soundstage encourages you to see the trio as an almost living entity, as they move and flow in tidal fashion, at times

ot only is this year the 50th anniversary of the band but also the 40th anniversary of the album 'Heavy Horses'. Presented as a 3CD/2DVD book-type box set this release is known as the 'New Shoes Edition'. In terms of the discography of the band, it fits inbetween 'Songs From The Wood' (1977) and 'Stormwatch' (1979).

More specifically, the collection includes a stereo remix of the album (supplied by the omnipresent Steven Wilson) with eight added tracks including alternative versions, seven of them are previously unreleased. The other two CDs cover a live convert from May 1978 from Berne. This has been mastered by Jakko Jakszyk.

The two DVDs in the pack feature the content of the three CDs in 5.1 DTS, AC3 Dolby digital Surround and hi-res audio – that is, 24bit/96kHz. The second DVD also squeezes in a couple of TV promotional videos and a TV Ad. So, as you can see, this is a packed set, full of goodies.

The original album, the eleventh album release by the band, retained the melodicism of 'Songs From the Wood' but added an extra sense of energy and urgency to the presentation.

In sonic terms, this box set is a testament to the improvements that have and continue to appear within ADC units in mastering studios. For a CD, the sound quality offered here is excellent. Yes, the original slight warmth of the 70s master is retained but there is also a superb sense of layering over the soundstage allied with instrumental separation that provides a delicately placed complexity from left to right. Detail - and subtle detail at that - is easily accessible by the ear. Everything from low key guitar strumming to delicate secondary percussion. A top quality set all 'round then.



#### JETHRO TULL

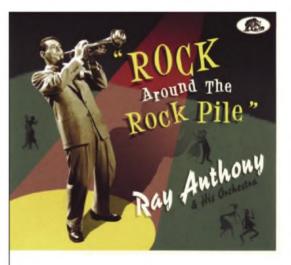
Heavy Horses Chrysalis

merging from a stint with the Glenn Miller orchestra during the forties, Anthony became a band leader and actor during the following decade in which he swung his trumpet style to good Harry James-like effect, enjoying a host of hit singles including the Peter Gunn theme (present on this CD compilation) via his stint at Capitol, recording other hits such as Bunny Hop Rock which spawned an entire dance craze plus the theme to the TV show, Dragnet (again, all on this CD).

Such regular hit work spawned extra curricular activities which included the musical director for the TV show Top Tunes and hosting his own variety show and appearing as himself (who could do it better?) in feature films. That said he did once play Jimmy Dorsey in The Five Pennies and acted alongside one of the original blonde bombshells, his then-wife and actress, Mamie Van Doren in 1958's 'High School Confidential' and 1959's 'Girls Town'.

Ranging from 1950 to 1961, this twenty-eight track compilation also includes his work on the film, 'The Girl Can't Help It', including rarities plus the complete EP 'Rock 'n' Roll With Ray Anthony' from 1957. The ever reliable Bill Dahl provides recording session information plus rare photos and illustrations.

In terms of sound quality, be aware that much of this content was intended for commercial release. That is, it was meant to sound good on basic audio equipment and the radio which means, to maintain volume and artificially enhance detail, compression has played a significant part in the proceedings. That said, Bear Family has done a remarkable job in maintaining a reasonable sonic balance to prevent listening fatigue, maintaining midrange precision without overt and destructive brightness. An entertaining release.



#### **RAY ANTHONY**

"Rock Around The Rock Pile" Bear Family

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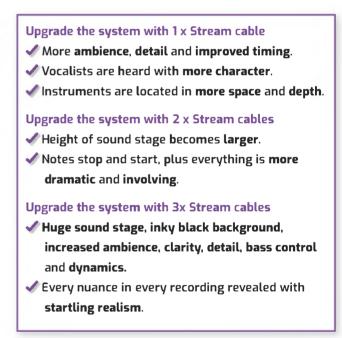
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# "Oppo likely never found the sales they needed and the outlook was only going to get worse"



Noel Keywood

hat a shock! Oppo Digital have announced they will cease manufacture of hi-fi products. Since Oppo are (or

were) China's second largest mobile 'phone producer behind Xiaomi – this is more than unexpected. Whilst manufacturing and distribution worldwide will cease, service will be available for around five years. The company has provided no explanation but there's plenty of opinion on the 'net of course – so I'll add my piece later in this column! What to do now – today – to play CD, or hires digital at the quality level Oppo made a market standard?

What Oppo relied upon to gain a cutting edge was use of top quality U.S. (California) designed and built ESS Sabre32 digital-toanalogue convertor (DAC) chips – it's as simple as that. Except that it isn't simple at all at a technical level, nor is it cheap – which I'll come to later when covering the company's demise.

Sonically, there aren't many DAC chips that get close to the ESS designs, but perhaps I'm wrong! It's been a fairly firm conviction of mine since hearing the original BDP-IO5D player some years ago: it had insight, an easy smooth nature and a beguiling cuddliness in the sound that I'd never heard from CD. But perhaps I've grown a little uncritical since this introduction to CD as a smooth source and need a re-think. Now is the time to do so.

A wake up call came recently when listening to McIntosh's MCD350 CD/SACD player (May 2018 issue). Although both the CD and SACD sections of Sony's chip that McIntosh use in this player didn't yield class leading figures under measurement, all the same CDs sounded shimmeringly clear in use, so much so I was a bit taken aback. I don't often hear this chip set: it's little used, likely because of cost and because those figures have given it – the CD section in particular – an iffy reputation (on the 'net). Perhaps also because Sony's CD/ SACD dedicated DAC chip has been used in circuits that don't flatter it, switch-mode power supplies being one potential culprit; McIntosh use a C core mains transformer in a linear supply by way of contrast, likely explaining the player's superb bass.

And here's where I started to have reservations about ESS's Sabre32 series DACs and the surprisingly similar-sounding new Verita series from AKM (Japan) who seem to want to be in on the top end action of the audio chip market.

I have been careful to say in reviews that ESS DAC chips are smooth-to-warm, but with great insight – and listening at length to our Oppo UDP-205D against McIntosh's NCD350 highlighted this fact. I sheepishly admit I preferred the McIntosh to our Oppo UDP-205D reference player – and so did Jon Myles on hearing the two side by side. They were substantially different in presentation but the McIntosh is the player I'd take home, ignoring wonga issues (it's far more expensive).

Oppo's players are still brilliant. You hear far more into CDs and they don't sound harsh either – magic I thought, and still do.AKM's (Asahi Kasei Microdevices) new AK493EQ chip sounds much like ESS's Sabre32 chips so expect to see it becoming more popular as Oppo's influence disappears.

The Sony chip set in McIntosh's MCD350 offered a polar opposite view, making the Oppo sound rather shut-in, as if music was issuing forth from a wool lined box.That doesn't sound very complimentary but it's an observation rather than a criticism. CD has sounded so harsh for so long that the Oppos and the ESS Sabre32 DAC chips came as a blessed relief. Yet there are alternatives we're now obliged to consider with Oppo's passing.

Audiolab's M-DAC+ is probably now the best place to get the ESS sound, especially with its excellent filter set.

In contrast Chord Electronics products use their own in-house digital convertor offering a brighter sound – and Texas Instruments are in contention with their PCM-1796 chip. I must not ignore dCs either, for those with deeper pockets. The landscape is changing.

And now to Oppo's demise. Their players were incredibly complex, trying to address a wide market with one unit that did it all, playing video Blu-ray discs and DVDs as well as all audio discs. They also acted as a stand-alone DAC.

ESS Sabre32 DAC chips are hugely expensive items, around \$38 a pop last time I looked. Oppo's players cost too little to support such parts, each player using two; I guess they were looking for the numbers.

With the market for video and audio from silver discs in decline as streaming from Netflix and Spotify rises, Oppo likely never found the sales they needed – and the outlook was only going to get worse. That, I suspect, is the reason they pulled the plug.

Normally you sell a company on, because simply terminating it means accepting big losses. It's a shock to me that this hasn't happened, nor was the product line up and/or pricing changed. But president Alen Wu said ominously in 2016 that Oppo the 'phone company would not make other products. He must have found out they were!

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# "Sonic improvements on CD are still occurring. I've heard some amazing CD productions of late"



Paul Rigby

hen a mass market dies, there is a wailing and gnashing of teeth and general sadness that the end has truly arrived and

the product(s) at the centre of that mass market have disappeared for good – or will very soon.

It's amazing that often this is not the case. If the product at the heart of the mass market for it is a good one, something with genuine value, it will become dormant. Human beings are complex and odd creatures. We will not let go of something that we love and we insist that it remains. Examples? Everything from bikes to handbags, corsets to tarot cards, plastic model kits to knitting.

Vinyl is our principle example here of course.Vinyl was the only music carrying game in town for decades.The music industry was a waxy physical one and that was that. Then CD entered the fray around 1982 and vinyl was declared dead. CD became the mass market but vinyl didn't disappear. Its numbers, in production terms, fell off a cliff yes – but it didn't totally die.

Then CD sales wavered and MP3 took over. Vinyl was still there, sales declining to a steady figure. Low for sure, but the vinyl format remained. Then MP3 died and downloading took over. Yet vinyl remained as an alternative – people would just not let it go and specialist record labels began to appear supporting a growing interest. That is, there were enough people who maintained an interest. Enough to actually keep a range of analogue-centric businesses alive and kicking.

Downloads have been eclipsed by streaming in the mass market, yet vinyl sales are on the up. New pressing plants and pressing machines are appearing for goodness sake. Life has a cyclical aspect and we now remember what we loved about the physicality of vinyl. Vinyl is still not a mass market medium – it likely never will be again. What vinyl is, though, is a successful niche market.

But that's not all because CD is not 'dying' (the media love a dramatic death rattle) but is declining to become a niche market too. Thing is, sonic improvements on CD are still occurring. I've heard some amazing CD productions of late and I'm sure that's down to improvements in studio kit, the ADC

specifically. So, let's hear it for CD as

well as vinyl. I love niche markets. These are places where the money bubble has burst and the investment sharks have come and gone. The production people who are left tend to be those who are in the market for wholly emotional reasons. Yes, they need to make a living to survive but that, in itself, makes them happy. The sheer 'doing' is often fulfilment enough, in many cases. It transcends work. It becomes a full time hobby.

Another example in our industry is, oddly enough, the record label. The music industry as it was in the seventies is dead. The death of so many large labels confirms that. The mostly small labels who are left run on equally small profits and do so for love of the music and, again, the 'doing'.

One of those is the Munichbased jazz outfit, ECM. Edition of Contemporary Music, as it is properly known, was born in 1969, when the music industry was a powerhouse. Manfred Eicher was the founder and he still runs the show. ECM is an independent and 'uncommercial' label, with over 1,000 titles to its credit. Riches are not the reason for carrying on says Manfred: "success is the quality of the records and the response to them. If the media are interested and people write to me directly from Indonesia or Vietnam about them, that's a measurement".

Hi-fi fans have often shown an interest in the house sound from ECM. Much has been talked about the quality of the recording studio and the microphone positioning and, of course, the musician's input – but a large part of the reason ECM recordings are of consistently high quality – even on CD – is because there is no artificial reverb, no EQ and no compression. In effect, you have an acoustic space and music. That's it.

And why am I writing about ECM? Because I'm astonished at its health and continuing output. Another heap of quality works has hit my desk in CD format, from Jon Balke's baroque 'Siwan: Nahnou Houm' which fuses cultures and time to Kit Downes' 'Obsidian' which offers a creative approach to the church organ, to Norma Winstone's 'Descansado: Songs for Films' providing a poetic edge to cinematic and jazz-flavoured lyrics.

"I'm definitely someone who can be a catalyst. Who would have thought that the Belonging group, with Keith Jarrett and Jan Garbarek, would be so successful? These things you can never foresee exactly. You can only guess, you can try. So I try."

Only someone who loves what he does can speak like that. And that's why I'm attracted to vinyl – and now CD. Both are chock full of people who have a love for the formats and the music they carry. Soulless commercialism has gone but enthusiasm remains – and we all benefit.

# THE VINYL REVOLUTION





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# "The sound the ANS makes can be truly ethereal and, at times, rather eerie"



Jon Myles

hicago, Manchester, Detroit; they were the three major cities that first embraced the pioneering sounds of House and Techno and so kicked of the electronic dance music (EDM) revolution.

I still remember hearing Model 500's 'No UFO's' (sic) and marvelling at the electronic sounds ricocheting around the room. That was 1985 and the song still sounds remarkably fresh and new today.

Of course, the increasing sophistication of synthesisers and samplers helped – as did their plummeting costs and the increasing power of desktop and laptop computers. Suddenly, for just a few hundred pounds, teenagers could create electronic music in their bedrooms without recourse to traditional instruments. It was like the punk days again – only this time with synthesisers and sequencers!

But to really understand the history of electronic music in all its forms you need to travel to another city – the Russian capital Moscow where you can visit the Glinka State Central Museum of Musical Culture. There you'll find the remarkable ANS, one of the first electronic instruments, developed by Russian engineer Yevgeny Murzin from 1937 to 1957.

It's a big beast – around the size of a family car – but contains some truly clever technology based around sine waves. These are printed onto five glass optical discs, each having 144 individual tracks for a total of 720 microtones spanning 10 octaves.

Modulated light from these discs is then projected onto the back of the synthesisers interface which is a black glass plate coated in non drying mastic. The user (or musician!) simply draws their finger through the mastic to let in light which shines onto a bank of photocells. These send the signal to twenty amplifiers and bandpass filters, each having its own gain adjust control.

Marks made low on the glass plate generate low tones and ones higher up high tones. The sheets can be prepared in advance and then fed into the machine – the tempo dependent on how fast this is done.

In effect the ANS is actually playing what you draw. Remarkably it's also fully polyphonic, able to generate all 720 pitches at once if that's required (one long vertical swipe will achieve this).

The sound the ANS makes can be truly ethereal and, at times, rather eerie. If you want to hear what I mean take a listen to the soundtrack to the classic Soviet science fiction film Solaris, composed by Edward Artemiev with the help of the device. (Incidentally, the ANS was named in honour of and dedicated to the composer Alexander Nikolayevich Scriabin – an occultist, theosophist, and early exponent of color-sound theories in composition).

The fact that the ANS still survives today is something of a miracle. Russian inventors were well ahead of their Western counterparts in the development of electronic instruments during the 1920s and 30s Alongside Murzin there was Leon Theremin whose eponymouslytitled device produced sound by sensing the position of the player's hands relative to two antennae. It's still popular today amongst certain musicians as it sounds like nothing else. Take a listen to 'Ouch Evil Slow Hop' by jazz drummer Sebastian Rochford and Theremin player Pamela Kurstin to hear the range of sounds it can produce.

But these avant garde inventors fell out of favour during the autocratic rule of Josef Stalin. Many sound art projects were condemned and destroyed and engineers redirected to work on the Soviet Union's frantic drive for industrialisation. Murzin himself had to work largely in secret during his spare time and often struggled to find parts for his machine and, sometimes, even laboratory space in which to work. That explains why it took so long to go from initial concept to fully-fledged working model.

The ANS itself eventually ended up behind a curtain in a basement of the Moscow State University, hidden away and virtually forgotten until this technological marvel was thankfully rediscovered and moved to its present home where is still delights visitors.

Since then it's been pressed into service by a number of experimental bands including Coil's 'coilANS' – a boxed set of experimental drone music performed on the ANS over a three-day recording session.

If you cannot get to Moscow to hear Yevgeny Murzin's remarkable invention for yourself then you can hear a fuller history of the instrument on BBC Radio's World Music 50-minute documentary Yevgeny Murzin: Master Of The Synthesiser. It's still available for download now via the BBC's iPlayer radio section. Just log-in and search for the programme.

You'll get a fascinating insight into an electronic instrument that was truly way ahead of its time and one that still holds a real interest today more than 50 years on. Chicago, Manchester and Detroit made electronic music popular but Moscow invented it!

# **Fii**O



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# "Those of a certain age enjoy 1980s episodes of Top of the Pops"



Martin Pipe

ome see television as the spawn of the devil. Others see it as a distraction from the serious business of listening to music, tolerating the presence of 'the box' (panel nowadays!) as other family members enjoy watching it. I mostly use digital television platforms for the radio services they carry, but usually I can find something worth watching. BBC Four, for example, offers plenty of documentaries (many alas repeated) and excellent music coverage.

A short while ago, it brought back the much-missed Old Grey Whistle Test 'for one night only'. Original presenter 'Whispering' Bob Harris was joined by various luminaries including Gary Numan, Kiki Dee, Dave Stewart, Peter Frampton and Joan Armatrading. Archive was important, but there were also performances from new artists – like Wildwood Kin, whose album I subsequently bought.

Music documentaries are a Friday-night staple, and live material regularly features too. Proms concerts, Eurovision heats and BBC Four Sessions – plus there's BBC's Young Musician of the Year. Those of a certain age (myself included!) enjoy 1980s episodes of Top of the Pops (TOTP), most of which haven't been aired since originally broadcast. Some have been shortened, to excise certain presenters or performers maybe?

TOTP has, the odd 'special' apart, been off our airwaves for twelve years. The year it disappeared (2006), the BBC began broadcasting in highdefinition. This was the biggest change to TV since going colour in the late 1960s. Today, all BBC TV output is in high-def. It has to be said that even BBC Four's old TOTP episodes benefit. They may have been made in standard-def, but the codecs that hi-def employs seem to be 'kinder' to noisier vintage material (less artifacting, for example).

However, many have noticed that terrestrial HD channels (notably BBC Four and BBC News 24) have gone AWOL. Their unexplained absence followed an on-screen message inviting viewers to retune their "TV or box" if "missing channels" were noted; a phone number (0808 100 0288) was also given. Unfortunately, retuning does not always restore them.

The reason for all this? The UHF TV broadcast band is currently in the process of being reorganised so that its upper end can be sold off to 5G telecoms companies. It's noteworthy that broadcast spectrum is being sacrificed to make way for broadband - reflecting how many of us consume TV (as well as music) nowadays. Interestingly, the auctioning of other radio spectrum (2.3GHz and 3.4GHz) is already in progress. An Ofcom spokesman told me that "the total value from the principal stage was £1.36bn" - money that will be "paid to HM Treasury". Next year is UHF's turn.

In the UK, several digital TV (and/or radio) services are slotted into a DVB-T/T2 'multiplex', carried on a single UHF channel of 8MHz bandwidth. There are 49 such channels, numbered 21-69, which correspond to frequencies between 470MHz and 860MHz. Some multiplexes will move to different channels as part of this 'juggling'. Hence those 'retune' messages.

Take for example Crystal Palace's TV transmitters, which serve London and the South-East; 6 million or so TV homes, mine included, have been affected by recent changes. One of the Crystal Palace multiplexes ('COM7') recently moved from UHF channel 33, to channel 55. COM7 carries high-def channels like BBC News HD and 4seven HD, alongside some SD services.

Why doesn't retuning help? Years ago the UHF TV band was split into several overlapping 'groups'. Each region's TV services was cleverly allocated to a specific group, to prevent transmitters from adjacent regions interfering with each other.

A viewer needed to choose an aerial 'tuned' to the appropriate group – in other words, one gave its best results (highest gain, or 'signal pulling power') on these channels. Subsequently, 'wideband' – also known as 'Group W' – aerials were introduced. Lacking the gain of aerials optimised for narrower groups, they were useful for those living in areas where multiple transmitters could be received.

Originally, Crystal Palace viewers needed a Group A aerial. A Group W aerial (or its post-switchover 'Group T' equivalent) is now essential for reliable reception. Crystal Palace viewers may need to replace their Group A aerials, if full reception is to be restored.

The good news is that help is at hand, although you only have three months to register your interest via the Freeview Advice Line above. Their technicians will deal with the problem free of charge, if retuning makes no difference. Aerials will be replaced where necessary, and if terrestrial TV is no longer an option then Freesat equipment (satellite and cable aren't affected) may be installed.

Those losing one or more of the "standard-definition public service SD channels" would, a Freeview spokesman told me, get priority and "an installer appointment within 10 working days". If only HD channels are missing, longer waits can be expected. Government support for the project, to the tune of £600m, was announced as part of the budget statement in March 2015.

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## "We cannot tell without the use of Dr Who's Tardis and a visit to Tottenham Court Road!"



Dave Tutt

get quite a few questions about loudspeakers. It's often a case of "mine are broken as we had a party last night". Sometimes it's "I've had these for 40 years and they are brilliant but they now make funny noises, can you help?".

Then there are those who read what the web says about their particular model, telling them how fabulous they are (a massage to the ego), but they don't understand that paper, foam, fabric and glue all age and fall to pieces. A loudspeaker even 10 years old will not sound the same as it did when new and just run in. If you were, as a loudspeaker, to be subject to the accelerations of 20G -50G at frequencies between 10Hz and 10kHz you might just start to feel your age pretty quickly!

So if you have – for example – a pair of Wharfedale Meltons with the bass drivers gone you could of course send them off to have them rebuilt with new cones and suspension and a new voice coil. These 'speakers are somewhat unique in hi-fi, given that they have 12 inch bass drivers with smooth cones, no decoupling rings to extend the frequency response and an inverted rolled rubber edge suspension with no identical replacement type that will work in these cabinets.

A rebuild might seem a good bet but how much would you pay? Well, I doubt you would see much change from £140 for a pair. Then factor in that they most definitely won't sound the same as they were after a modern re-build. Given that Meltons are early 1970 models I would ask – is this a sensible thing to do with your cash?

Just want to get them going again? Well, you could find similar drivers on eBay but there is no guarantee if you buy a pair of 'new' drivers here what sort of sound you will get – especially if you buy second hand ones that could be worse than those you have removed!

How about some new 12 inch drivers? I recently fitted MCM 55-2973 drivers to Meltons. These are polycone drivers and a generic replacement 12 inch part designed for low power PA rather than hi-fi. As such but they are not exactly great as PA units as they don't have the power handling. They don't have a low resonance – 50Hz at best – so you would again assume that infinite baffle enclosures were really not ideal either.

Do these drivers work in the Meltons? Yes, most definitely. They are faster than the originals, less soft and woolly, they have much better bottom end despite the enclosures raising the resonance somewhat.

Low power handling suggests that at high volume compression sets in and it all sounds crowded? No sign of it from what I could hear.

Midrange? Smooth. Not as you would expect from a 12 inch driver or for that matter a plastic cone – probably due to them being a bass driver rather than a dedicated small cone bass/midrange driver as used in smaller bookshelf 'speakers.

Do the Meltons need any cross over changes with these drivers? None at all. They are a straight forward swap of the originals but have six hole mounting rather than the original four, so you have to have a think about the mounting. There is little strength to the edges of the baffle but there is plenty of meat to accept four screws into the |2mm ply so the driver can be mounted well from the rear. Front mounting might be better - but then the grills won't fit. Cost of the drivers is only around £17 inc VAT each, so trying it isn't going to break the bank.

At low levels these drive units offer a polite and clean sound – and visually match the purple dome tweeter of the Wharfedales very nicely. At higher levels they have better bass than you would expect and could survive a party quite well I think. That may well be a good given that many old 'speakers ending up at Boot Fairs get pushed into doing things they were never intended to do.

I am sure that from a purely hi-fi standpoint people might think old Meltons are really not up to modern standards but they were good in the 1970s – or at least decent.

Today we expect a more forthright sound than in the '70s and many of the old surviving loudspeakers are an indication of the soft presentation that you might think was designed in when new. This may not be the case but we cannot tell without the use of Dr Who's Tardis and a visit to Tottenham Court Road!

The age thing is going to tend to blur expectations of old products like Meltons, but actually a cheap modification like this regenerates a failing old pair of boxes quite nicely.

If anything, for a 12 inch driver the enclosure is a little too shallow but without ports in the box there is less of the reflective sound getting out so the bass is rather more controlled than you would expect. I think if you ported them it might just ruin things.

Restoring old Wharfedale Meltons threw up a host of challenging issues, as always with old kit. But I managed to overcome them and they ended up sounding lovely, if 'trad' in the best sense of the word. I now wonder what loudspeaker will be next in my list and what peculiarities I will be faced with in the workshop.

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### Coming Soon



28-30 September 2018 Novotel London West Hammersmith London

www.festivalofsound.co.uk

#### SOUNDBITES



#### FiiO RCC-MMCX1S £19.99

Cable clutter is becoming an ever more pressing problem for headphone users while out and about - especially with more and more mobile phones cutting out the standard headphone jacks meaning a Bluetooth device is needed to access your music.

But a long lead can be a bit cumbersome if you've got a

Bluetooth adaptor pinned to your shirt or jacket. So enter FiiO's RCC-MMCX1s. Admittedly, it's not the snappiest of names but does describe what its purpose is. Basically it's a short – as in 60cm in length – cable capable of being plugged into the likes of FiiO's BTR1 Bluetooth device (see Hi-Fi World review February 2018 issue) and those from other manufacturers. One end has a standard 3.5mm jack while at the other there are a pair of MMCX connectors – meaning they will fit most of FiiO's own in-ear monitor headphones as well as models from the likes of Shure, Ultimate Ears and Westone.

Priced at a reasonable £19.99 the cable is well-made with a woven construction that is handily free from inducing tangle even when pulled in and out of a pocket on daily commutes.

Sound-wise it doesn't disappoint having a warmish quality that suits Bluetooth well. The main selling point, though, is the length. Connected to the BTRI it was much more convenient - no long, trailing lead having to be wrapped into a pocket or dangling between my knees!

If, like me, you now have a smartphone without a headphone jack and are going down the Bluetooth adaptor route then this could be ideal.

[Advanced MP3 Players www.advancedmp3players.co.uk +44 (0)343 289 6880]

# SOUNDBITES



#### Fiio L28 COAXIAL CABLE £19

Also from FiiO comes the L28 coaxial cable, a high-grade connector designed for sending hi-res files from a player to a dedicated headphone amp/DAC.

Again it is short as this works best with such a combination. Each end has 3.5mm L-shaped plugs for easy insertion. They are also metalplated to help avoid EMI interference. The cable itself is sturdy but flexible and once inserted between a FiiO Q5 amp/DAC and the company's X5II player stayed resolutely in place - even during some brisk exercising.

Most impressively the cable supports up to 24bit/192kHz audio as well as DSD. Listening to Cowboy Junkies' 'The Trinity Sessions' provided excellent resolution with the atmosphere of the recording coming over in excellent resolution.

With Blur's 'Song 2' the lowend power of the Q5 really came through - powering my reference Noble K10 in-ears to the peak of their abilities.

Of course, this is down to the qualities of the Q5 and X5II together but the big point about the L28 is that it doesn't throttle their performance - instead simply providing a simple, easy link allowing the two devices to be used together without any undue hassle.

The cable is available for around  $\pounds 19$  and if you have a FiiO Q5 and a compatible music player then it's a must-have purchase to get the best out of both of them. **JM** 

[Advanced MP3 Players www.advancedmp3players.co.uk =44 (0)343 289 6880] 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

 EAT FORTE
 2009
 £12,500

 Lavishly finished two box, two motor turntable with gorgeous lkeda 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.
 1

REGA P22008£300Excellent value for money engineering, easy set upand fine sound.

MCINTOSH MT102008£8,995Big, expensive, controversially styled and glows<br/>more than some might consider necessary, but an<br/>astonishingly good performer

REGA P3-242008£405Seminal affordable audiophile deck with timebundled tonearm. Tweakable, and really sings withoptional £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 cuality and a sound to match. Sound is edge-of-the-seat stuff.
 Sound to match. Sou

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.
 and play

 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.
 mean



MICHELL ORBE

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

1995

£2,500

SME MODEL 10A1995£4,700Excuisitely engineered deck and SME V tonearmcombo that's an extremely accomplished performerwith 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 E550 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 CS5051982£75Simple high quality engineering and a respectablelow mass tonearm made for a brilliant budget buyPolished, 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.
 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 31978£79Brilliantly simple but clean and musical performer,<br/>complete with Acos-derived S-shaped tonearm1983saw the arrival of the RB300, which added detail at<br/>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!
 Complexity of the spare support - buy with caution!

TRIO 1.0-70

The best 'all-in-one' turntable package ever made, Clean, powerful and three-dimensional sound, ultimately limited by the tonearm.

1978

5600

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.



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THORENS TD124 1959 £ N/A The template for virtually every 1970s 'superceck' 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 BB251 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 counterweight modification

HELIUS OMEGA	2008	£1,595
Stylish and solid lump of arm with	fabulous	build qual-
ity that turns in a dynamic and we	ighty per	formance

AUDIO ORIGAMI PUZ 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 soudstaging. Build quality up to SME standards, which is really saying something!

TRI-PLANAR PRECISION 2006 £3.600 Immaculate build, excuisite 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, crilling 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 tailed. Charming nonetheless, with a warm and inottensive 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 uniustifiably 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 tinesse



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 Supernait 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 speak ers

CREEK OBH-22 £350 2008 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, tinesse 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 seminal 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 strance.

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 1980sminimalism 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

#### **CLASSICS**

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

Sweet and musical feature-packed integrated; the Audiolab 8000A remains a classic

1977

£115



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/Δ 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 ELECTROCOMPANIET NEMO 2009

(EACH) Norwegian power station as cool as a glacier tonally, yet impresses with sheer physicality and fleetness of foot. 600W per channel.

£4,995

£6.000

NUFORCE REFERENCE 9SE V2 2006 £1.750 Brilliant value for money monoblocks with massive power and super-clean, three dimensional sound

2005

QUAD II-80

PER PAIR Quad's best ever power amplifier. Dramatic

performer with silky but dark tonality, blistering dynamics, serious power and compellingly musical sound.



**OUAD 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

1997 MICHELL ALECTO £1989

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.

**OUAD 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

£110 1973 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.

**DUAD 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 £31 1958 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. TL/12 PLUS

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.

1949

£28

#### 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

AUDID RESEARCH SP-8 1982 £1,400 Beautifully designed and built high end tube preamplifier with deliciously sweet and smooth sound. Not the last word in incision or grip.

1986 LINN LK-1 £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.

**UIIAD 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 monoblocks - cloudy and vague sound means it's for anacrophiles only.

#### LOUDSPEAKERS

WHARFEDALE DIAMOND 10.3 2010 £290 Great small standmounters for audiophiles on a budget; dry punchy sound with impressive soundstaging 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 dizzving 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 PI 100 2008 £2,300 The flaoship '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, eveness and delicacy, although not the world's most powerful sound.

PMC OB11	2008	£2,950
Cleverly updated floorstanders	give scale	and solid-
ity 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**

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

2007

£5.000



**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 dimen sions and price tag.

QUAD ESL-2905 2006 £5.995 The old 989 with all the bugs taken out, this gives a brilliantly neutral and open sound like only a top electrostatic can; still not a natural rock loudspeaker, though,

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

£10,500



REVOLVER CYGNIS 2006 £5.999 Revolver pull out all the stops and show what they can do with this magnificent flagship loudspeaker. A superb monitor that is like a mini B&W 801D in many ways

**USHER BE-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 Astonishingly 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 charac-

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.

teristics makes them great for valves.



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

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



DUAD 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.

JUNE 2018 HI-FI WORLD

B&W 801D 2006

### SPENDOR BC11976£240Celestion HF1300 tweeter meets bespokeSpendorBextrene mid-bass unit. The result is a beautifully

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 E550 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 reason-

ably 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.
 Figure 1000 (Strengthered)



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 it bigger brother.

MERIDIAN F802007£1,500Fantastically built and versatileDVD/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

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

2007

£650



 AURA NOTE PREMIER
 2007
 £1,500

 Lovely shiny CD/tuner/amplifier with fine sound quality and dynamic abilities.
 sound
 sound



MARANTZ 'LEGEND' 2007 £22,000 The combination of SA-7S1 disc player, SC-7S2 preamp and MA-9S2 monoblocks delivers jawdropping 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

Excellent sounding iPod dock, impressive **D**AC and fine amplifier section make this an excellent one box style system.

£1 000



#### 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 cackage.

MYRYAD MXT40002005£1,000Sumptuous sound and top-notch build quality makefor a tempting AM/FM package. Warm and richlydetailed on good-quality music broadcasts.

NAIM NAT031993£595The warm, atmospheric sound is further proof of<br/>Naim's proficiency with tuners.

# CREEK CAS3140 1985 £199 Excellent detail, separation and dynamics - brilliantly musical at the price. T40 continued the theme... - brilliantly musical at the price. T40 continued the theme...

QUAD FM41983£240Supreme ergonomics allied to a pleasingly lyrical<br/>sound with plenty of sweetness and detail made<br/>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.
 budget b

 MARANTZ ST-8
 1978
 £353

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

YAMAHA CT7000 1977 £444 Combines sleek ergonomics, high sensitivity and an explicit, detailed sound.

SONY ST-59501977£222One of the first Dolby FM-equipped tuners, a for-<br/>mat that came to nought. Still, it was Sony's most<br/>expensive tuner to date, and boasted good sound<br/>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.
 and

#### SANSUI TU-9900 1976

A flagship Japanese tuner . It boasts superlative RF performance and an extremely smooth and lucid sound.

£300



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 bestsounding tuners ever, Adaptation for stereo easy via phono multiplex socket. Deliciously lucid with true dimensionality.

#### **HEADPHONE AMPLIFIERS** GRAHAM SLEE NOVO £255

2009 Dynamic headphone amplifier with a great sense of timing. Crisp, clear treble and warm midrange gives an involving sound.



MUSICAL FIDELITY X-CAN V8 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 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 dowr

£5.000



SONY MDS-JE555ES £900 2000 The best sounding MD deck ever, thanks to awe some 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-8 DATMAN	1 <b>996</b>	£599
Super clean sound makes	this an amazing	portable
but fragile.		

LINN KARIK III 1005 £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 cear No digital output

SONY CDP-R1/DAS-R1 1987 £3.000 Sony's first two boxer was right first time. Tonally lean, but probably the most detailed and architectural sounding machine of the eighties

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

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 unadulter ated luxury of a paperbook-sized remote control

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

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



#### ANALOGUE RECORDERS 1989 AIWA XD-009 £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 PO 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 cone and responds well to re clocking

#### DACs

DCS FLGAR 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 FN/A Exquisite; the warmest and most lyrical 16bit digital audio we have ever heard

**GED DIGIT** 1991 £90 Budget bitstream performer with tweaks aplenty. Positron PSU upprade 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

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

£120



# **Take 5**

The new Classic 5 floorstanders from German brand Audio Physic are a potent performer, says Jon Myles.



ny hi-fi company worth its salt has to have it's Go Deeper', with Quad 'The clos-

it's Go Deeper', with Quad 'The clos-est approach to the original sound' while Chord Electronics go with 'Pure Audio'. In the case of German manufacturer Audio Physic the tag-line of choice is 'No loss of fine detail'. Not the most demonstrative of marketing slogans, perhaps, but actually it says a lot about how the company builds its loudspeakers and the qualities they aim for. These are not flashy hit-you-in-the-face 'speakers but ones that stoer towards a more conblicticated

but ones that steer towards a more sophisticated in sturdy, excellently-crafted cabinets.

The new entry-level Classic 5 floorstander is a case in point. Standing just over 3 feet tall they are relatively slim at just 170mm (6.7 inches) wide with a depth of 231mm (9.1 inches). An oversized plinth adds excellent stability and gives them a purposeful look

It's a traditional two-way, rear reflex-ported design utilising a woven glass fibre mid/bass driver with a fixed phase plug to reduce compression effects. Above like mounting to aid dispersion and extend the sweet spot. On the rear is a single pair of 'speaker binding posts below the small(ish) reflex port.

Audio Physic say particular attention has been paid to the crossover - the designers eschewing the usual printed circuit boards for a freely-wired design with high-grade components such as film capacitors.

Price? A reasonable £1598 with finishes available in black ash, cherry, walnut and (the now seemingly de rigueur) white semi-gloss.

All told, it's a good-looking loudspeaker whose compact dimension means it can be fitted into relatively small rooms with ease.

#### SOUND OUALITY

Siting the Audio Physics pointing straight down the room and connected to a McIntosh MCI52 power amplifier, fed CD and high-resolution tracks from an Oppo UDP-205 universal disc player/ DAC, these loudspeakers gave a good impression from the start.

Audio Physic has a reputation for producing a large, well-layered soundstage and so it proved. On 'Stockport to Memphis', Barb Jungr's silky vocals were anchored firmly between the 'speakers, having sonic height and depth. Her distinct vocal phrasing was effortlessly portrayed, improvisation and change of tone within it coming over especially well. Some 'speakers can make Jungr sound a little mechanical but not these - they captured all her emotion and vocal dexterity in a natural way.

Behind this the backing band was especially well tiered - every instrument occupying its correct space, replete with detail and nuance to the playing. The Classic 5s were able to bring out little embellishments in the piano and guitar parts that gave the impression of a band playing live (which is how the album is supposed to sound).

With Tommy Smith's 'Dialogue Of The Insects' the tweeter revealed itself as exceptionally refined and wide ranging. Moving my listening position from left to right, Smith's saxophone stayed resolutely in place with no significant shifting of the image. It was only when I angled the 'speakers in towards the listening seat that I could hear a little brightness to the treble. Not that it was unpleasant but certainly displaying more emphasis compared to the midband.

Moving on to Led Zeppelin's dense, murky 'When The Levee Breaks' (24/96) the Audio Physics retained their ability to separate the instrumental parts. Robert Plant's wailing harmonica wasn't subsumed into the mix but stood out distinct from the pounding drums of John Bonham and Jimmy Page's searing guitar work.

This track did, though, show the 'speakers are best used close to a wall to get the best bass response. Out into the room they sounded accurate but lean. Moved back there was extra power to the track with little loss of detail. They also punched the sound out further into the room used this way.

I couldn't help but feel, though, that they lacked a little thrust in terms of tempo on rock music. Subjectively, they are not the fastest of loudspeakers sounding rather polite at times - so The Jam's 'A Town Called Malice' didn't grab me as it should with its forceful pace. The bass line underpinning this track didn't have the natural bounce and vibrancy expected. It was tuneful but dry - although some listeners may well prefer this presentation. Switching from the McIntosh to a Naim Supernait 2 integrated helped here to my ears - the Naim doesn't have the power of the McIntosh but it sounds pacier and this suited the Audio Physics ideally. The combination of the innate musicality of a Naim amplifier and the ability of the Classic 5s to relay the signal in an open, honest way was an ideal match.

That's an indication of the ability of these loudspeakers. They are capable of revealing the characteristics of whatever amplifier they are matched with - meaning it might take some experimentation to achieve your ideal combination but once done they will reward with a richly enjoyable listening experience.

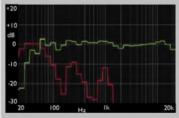
#### CONCLUSION

There is a nice balance to these new Audio Physic floorstanders. They have tremendous resolution and are adept at creating a detailed, open soundstage which allows various

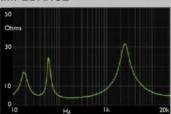
#### **MEASURED PERFORMANCE**

Our third-octave frequency response analysis of the Classic 5 shows a flat characteristic across the audio band, when measured 15 degrees off-axis, so the loudspeaker should be pointed straight down a room, not at listeners. The small tweeter works from 2.5kHz up to 20kHz but it peaks by +3dB above 10kHz so upper treble is well maintained. Take this into account with the smooth midhand and detail will be good, but

FREQUENCY RESPONSE Green - driver output Red - port output



#### IMPEDANCE



instruments to be tracked easily. Take some time to match them

with an amplifier which suits your tastes and they'll deliver a refined and thoroughly impressive performance.



The Audio Physic has a rear-firing reflex port at the top, a single pair of loudspeaker binding posts plus a large plinth for stability.

there'll be no warmth and upper treble 'obvious' with bright recordings.

Below 400Hz the lower midband does not rise to add body to the sound, instead running smoothly down to 50Hz. This will give a very even character but it best suits a position close to a rear wall, firing down a small-to-medium room (16ft max) to avoid sounding lean. All the same, the 'speaker reaches down to 40Hz so goes low; it does not produce subsonics.

The impedance curve shows the port is tuned to 40Hz and has a broad acoustic damping effect on the bass unit. Bass will not be as 'bouncy' as that of narrow tuned ports. The Classic 5 will better play a bass tune however.

Sensitivity was average for a floor stander, measuring 86dB sound pressure level (SPL) from one nominal Watt (2.8V) of input – that's loud-ish. Amplifiers around 60 Watts minimum best suit. Impedance measured 6 Ohms overall.

The Classic 5 will sound detailed and bright in hue, with a lean sound balance, yet with smooth and even bass under good control. It is purposed to be sited close to a rear wall in small to medium rooms, where it will give a clean and open sound. **NK** 

#### AUDIO PHYSIC CLASSIC 5 £1598

EXCELLENT - extremely capable.

#### VERDICT

Superbly detailed yet with a big, powerful sound for their size when positioned correctly. Best near to a rear wall.

#### FOR

- level of detail
- soundstage
   compact
- tuneful bass

#### AGAINST

- need careful amplifier matching
  - can sound a little polite

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# **VINYI Section** contents

**JUNE 2018** 

www.hi-fiworld.co.uk

**CAMBRIDGE AUDIO DUO 87** A new MM/MC phono stage from Cambridge Audio, reviewed by Noel Keywood

> **AUDIOPHILE BOOK 93** Paul Rigby enjoys Passion For Vinyl Part II.



#### **MUSIC ON VINYL**

A gamut of new releases from Music on Vinyl (www.musiconvinyl. com) includes 'Hot Shots of Reggae' (1970), a first vinyl reissue from the Leslie Kong vaults, including cuts from The Maytals and Ken Boothe

There's no Herbie Hancock this time but this LP from The Headhunters, 'Straight From The Gate' (1978) is under-rated and worthy of a listen, mixing funk, R&B and jazz.

Mixing hard rock with Ska and Funk, Fishbone's amazing 'Truth and Soul' (1988) features quality song writing and an unfailing musical blend.

loe Jackson's 'Live 1980/86' double album originally released in 1988, celebrates it's 30th Anniversary - and is taken from a variety of venues.

The melodic rock of Vertical Horizon and 1999's RCA debut, 'Everything You Want' was a bit too polished and slick against their earlier indie efforts. Still, plenty of catchy hooks here

Korn's 'The Path of Tonality' (2011) hits vinyl for the first time, coloured too. A change into dubstep and electronica that somehow works and retains their personality throughout.

Amen's 'Amen' (1999) was the band's excellent debut outing of punk metal. Aggressive and in your face both in terms of the music and lyrical content.

Finally, changing the pace somewhat, Gerry and the Pacemakers' 'Best Of...' initially appeared in 1965 (not 1977 as it says on the rear sleeve) with all the familiar songs. Essential for the fans.



TRUTH AND SOUL

VERTICAL NORIZON

#### SEVENS AND TWELVES

From Third Man Records (thirdmaseries is metal punk drone merchants, Earth. He ain't heavy, he's my...hang on, actually, he is.

Also available in the series is the three-piece, Boris. A Japanese experi-

extreme guitars, energy and some more energy.

Also look out for a host of 7" singles from Fells, Green Hornes, Rocket 455, Soledad, Whirlwind Heat and The Dirtys along with three Sun label reissues from Earl Peterson, Carl Perkins and Johnny Powers.

EARTH



#### **SPEAKERS CORNER**

Three new releases (www.speakerscornerrecords.com). The first is Charles Mingus' 'Pithecanthropus Erectus' (1956), his major release as a leader and composer, stretching the entire notion of jazz into tonal arrangements.

LaVern Baker's 'Sings Bessie Smith' (1958) is a splendid release from this R&B singer, surprisingly so. With a jazz backing group this rich style soup allows Baker to sing Smith in her own effective manner.

Finally, Albert King's 'Born Under A Bad Sign' (1967) is his wonderful Stax cut, a host of singles strung into a LP and oh, so influential. Clapton built his early career on the guy.









#### **MIXED-UP ROCK**

Gomez's debut, 'Bring it On' (Virgin), the 1998 Mercury Prize winner (and a worthy one, it has to be said) of blues rock has been remastered at Abbey Road over two discs and coloured vinyl.

Air Formation's 'Near Miss' (AC30; store.clubac30.com) is not the shoegaze some have it. More power/minor chord rock, reminiscent of late nineties Radiohead, early Coldplay and, on that subject, Embrace's 'Gravity'. Lovely stuff.

Kyle Craft's 'Full Circle Nightmare' (Sub Pop; www.subpop.com) beings in Patti Smith pop post punk fashion but there's too many beer-mug-waving-singalongs to impress.

'This is Eggland' (www.thelovelyeggs.co.uk) Is The Lovely Eggs' noise pop/ rock that resemble a bit of Bis or Riot Grrl rock in terms of its aggressive, sometimes childlike, stripped-rock delivery. Direct and meaty.

From Black Moth is 'Anatomical Venus' (Spinefarm; www.spinfarmrecords. com) with a female-fronted vocal offering doom and a bit of prog/goth. Power, primitive energy but also hooks. A great combo.



#### ...AND FINALLY

New from Kim Wilde – yes, she's back – is 'Here Come the Aliens' (Wildeflower; ww.kimwilde.com) with a pop rock extravaganza, hook laden, dancey groovy thing. Upbeat and fun.

The Hanging Stars' 'Songs For Somewhere Else' (*Crimson Crow; thehangingstars.bandcamp.com*) do psyche/folk with a bit of country thrown in but the combination is fascinatingly twangy Byrds.

Lowtide's 'Southern Mind' (*Creative Victoria*; *lowtidemel-bourne.bandcamp.com*) has a Flying Saucer track, Cocteau Twins, Jesus and Mary Chain feel to it. Sweeping, epic guitar soundscapes provide a tonal treat.

Kacy & Clayton's 'The Siren Song (newwestrecords. com) are a folk duo with a slightly swampy, Americana feel, reflecting on a seventies and all the better for it.

Montero's 'Performer' (*Chapter Music; chaptermusic.com*) provides synth pop and psyche with a Korgis/Grand National and ELO presentation and lots of classic melody structures.

From Up High Collective, 'Solitude' (www.tangramrecords) offers drop dead gorgeous electronic constructions. Ideal for Tangerine Dream fans.

Charlie Barnes' 'Oceanography' (Sony) is polished, sincere, he sings well, quality backing, well structured songs. And bland.And derivative.And no.

Thundercat's 'Drank' is a remix of 'Drunk' via DJ Candlestick and OG Ron C of Houston DJ collective, The Chopstars on purple vinyl. Slowed and chopped.

Finally, Jono McCleery's 'Seeds of a Dandelion' *(Counter; jonomcleery.com)*. An LP of covers from the likes of Billie Holiday to Beyoncé. The man has a beautiful voice and he does a splendid job with these familiar songs.







IN CHARLEE BARNE













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#### Cambridge Audio's new Duo phono stage is a bargain at just £250, says Noel Keywood.

ambridge Audio cruise things like analogue phono stages, that are a technological pimple in the wider electronic landscape presented by digital. And that's obvious with the little Duo, price just £250. For this you get a small box that connects between turntable and amplifier (because that's what they do) so as to play LPs. Yet it's sophisticated inside, perfectly manicured to do the job properly where most are not.

Physically, there's very little to the Duo. It is a small, lightweight and unassuming grey box. The volume control – here comes a gripe – affects only the headphone output, which I think is an opportunity lost: gain from input to line output is fixed, and gain via the headphone output too low to drive most power amplifiers direct.

So this little unit is best partnered with a normal integrated amplifier with reasonably sensitive input (200mV or so). It isn't purposed to run power amplifiers

direct, something I like to do as it makes for a pure and simple system.

I'm uncertain why the Duo has a headphone output, since most integrated amplifiers have one in any case. Is it because headphones are so popular nowadays that (young) people don't bother with amplifiers and loudspeakers - as in my house where my son thinks his World Audio Design K5881 amplifier and Revolver loudspeakers are wonderful, but never turns them on because



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Enjoy the Music.com is the Internet's leading information site for high fidelity audio equipment and consumer electronics since 1995. Being affiliated with many prominent publications plus offering its own Review Magazine and over 200 show reports online, Enjoy the Music.com is official media partners with AXPONA, Los Angeles Audio Show, and RMAF plus Internet partners with The Absolute Sound, Australian Hi-Fi, hi-fi+, Hi-Fi World, HIFICRITIC, HiFi Media, NOVO, Sound Practices and VALVE magazine.





#### **Technical Support Specialist**

We have a new role in our Technical & Marketing Services Department for an individual who has a passionate interest in all things hi-fi. The role requires advising trade and public customers on their next hi-f purchase both in person and over the phone, maintaining our showroom and demo rooms, assisting in the preparation of shows and maintaining our demonstration stock

#### **Network Audio Specialist**

Due to recent expansion into the ever-developing world of multi-room and digital audio solutions, we have a new role in our Technical & Marketing Services Department for a network audio specialist. The role will suit an individual who has an understanding of the hi-fi industry, with a particular focus on digital media. Past work experience in networked audio solutions is preferred but not essential

Salary: Confirmed on application Salary: Confirmed on application

Both roles are based at our office in Didcot. Oxfordshire and have significant potential of future growth and development. Successful applicants will need to have completed some form of higher education or specialised training relevant to the role. A full UK driving license is essential, as is a good telephone manner



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www.henlevaudio.co.uk +44(0)1235 511 166 info@henlevaudio.co.uk



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he'd have to remove the ear buds to which he has become biologically attached?

The Duo is aimed at such an audience I suspect. This little phonostage

has a dedicated moving coil (MC) input, offering higher quality than MM. Since inexpensive ear buds became popular with iPods and a good proportion of that audience seems to have decided it is worth paying more for better quality over-ear headphones, perhaps as the LP returns moving coil cartridges will also become popular; after all good ones now cost £500 - much the same as decent headphones.

When switching from MM to MC a light-action press button actuates relays **N** internally, giving a slight **D** delay and complete absence of switching cracks or thumps, even with the high gain of MC selected and volume turned up.

Internally then, the Duo is more sophisticated than it appears – and also more sophisticated than



Neat internal construction reveals the quality of the Cambridge Audio Duo phonostage. At a price of £250 it puts many other rivals to shame.

The Duo was first connected to a Creek Evolution 50A amplifier to see how its low gain would influence usage – and all worked well enough: I had to turn volume I measured the Duo fed from the 2M Black to ensure its response wasn't being affected by input capacitance, but all was well.

### "With rock music the Duo sounded fulsome and both deep and broad in its soundstage"

most rivals, especially at the price. There are no cheap DIP switches underneath and there was also no hum. Best to be aware however that measurement and use revealed it has low gain, meaning low output MCs are not best suited, since volume will have to be turned up very high. However, at the same time this is a super-quiet preamp so even with volume right up there's almost no hiss or hum.

Also on the rear panel is an unusual addition – a balance control. Cartridges can suffer slight channel imbalance, this control allows it to be nulled out.

#### SOUND QUALITY

I used a Timestep Technics Evo SL-1210 Mk2 turntable with SME309 arm – and cartridges were initially an Ortofon 2M Black (MM) and an Ortofon Cadenza Bronze MC. up but there was seemingly plenty of grunt available. The sound struck me as mellow.

For more critical assessment and expecting a less mellow presentation I moved on to our McIntosh MC152 reference power amplifier with a Music First Audio passive magnetic preamplifier (0dB gain) that acted as a transparent volume control ahead of it.

Loudspeakers with both amplifiers were Martin Logan ESL-X hybrid electrostatics and cables Chord Signature Reference. All components were fed by an Isotek Evo3 Mosaic Genesis re-generated power supply to eliminate mains influence.

With the 2M Black I was again struck by the mild treble of this phonostage that our Creek had revealed. But it also sounded smooth, clear and tidy. Slightly unsettled by results from our 2M Black, which is perhaps growing old gently, I fitted a new Audio Technica AT-760SLH to the SME309 arm and this was both crystal clear and forceful up top – so the Duo hides nothing, it just lacks harshness. With the more tonally accurate 750SH stylus the Duo sounded right.

Our Cadenza Bronze MC also came across as easy going but at the same time the Duo provided a silky open sound stage with plenty of depth, fully revealing the qualities of the Bronze, where budget phono stages commonly mask its abilities.

As LPs span one after the other I came to realise that the Duo is a sophisticate. It is stony silent with MC – more so than is common – and I can tell someone at Cambridge has studied this issue and selected a super-quiet chip.

It's also dynamically quiet: with volume turned a fair way up, when I dropped needle into groove on a Decca re-master (180gm) from Pro-Ject of Mozart Symphonies there was little surface noise: ticks and pops being almost absent.

The Wiener Philharmoniker came over as full bodied, strings smooth-to-silky and the sound

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The rear panel contains moving magnet and moving coil inputs, plus a balance control. Rubber feet anchor the unit firmly on a hi-fi rack despite its relatively small size. Balanced XLR outputs are missing, and balanced inputs too (rare). But both add to cost – and this is an affordable unit.

stage spacious.

No surprise that after this the slightly sheeny Direct Metal Master from 2L (Norway) of Marianne Thorsen also playing Mozart – Violin Concerto No4 – had lost its sheen, instead sounding well lit but convincingly balanced and structurally composed in a natural space.

LP was never popular for classical because of ticks and pops, but I hardly heard them from the Duo. It works wonderfully with MC cartridges: think smooth and sophisticated.

With rock music the  $\mathsf{Duo}$ 

"Although seemingly simple the Duo is in fact technologically sophisticated... with a svelte sound"

sounded fulsome and both deep and broad in its soundstage. It lacked the fast deep bass of the Rotel RA-1572 | review in this issue, but then warp filters are a mixed blessing, but bass was still strong. Mark Knopfler's laconic vocals drifted out of a dark background in 'Madame Geneva's' from the Kill to Get Crimson LP, underpinned by a fulsome bass line. The Duo has good lowend heft and – overall – teased out and displayed the strengths of a moving coil cartridge with impressive ability.

I found I could crank headphone volume up to maximum with Audio Technica's ATH-ADX5000 headphones and not be deafened. A bit more gain would have been appropriate here but it was not a big issue overall.

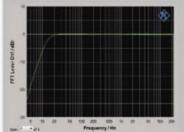
#### CONCLUSION

Although seemingly simple the Duo is in fact technologically sophisticated, using logic controlled switching of small-signal relays to

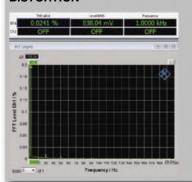
#### **MEASURED PERFORMANCE**

Frequency response of the Duo was identical between MM and MC, not always the case because MC sometimes runs out of puff at low frequencies. It has a perfectly flat response (accurate RIAA equalisation) down to 15Hz (-1dB), below which an unusually steep warp filter applies -30dB attenuation at 5Hz – impressive. This eliminates loudspeaker cone flap

#### FREQUENCY RESPONSE



DISTORTION



give slick thump-free operation. Gain is low so volume needs turning up, but there's just about no hiss or hum: attention has been paid to this – few rivals at any price compete.

With a svelte sound that ably reveals the qualities of a quality MC cartridge, and also gets the best from high quality MMs, it is the one to go for – especially at the price. I was completely impressed – and I suspect (young) headphone users interested in LP will be too.

with warped records.

Gain via the Line outputs with MM (moving magnet) was low at x83, meaning the Duo will give barely 100mV out. Volume will have to be turned right up on partnering amplifiers. The MC (moving coil) input gave x1000 which is again on the low side.

The volume control only influences the front panel 1/4in (6.3mm) headphone socket that delivers 1.7V maximum, before overload. This can be used to drive a power amplifier direct but gain is very low at x55, meaning 1mV in from an MM cartridge will give 55mV out where most power amps need 1000mV for full output.

The Duo is distinguished by very low  $0.09\mu$ V equivalent input noise – better than most MC phono stages on the market. The low MM value means the preamp contributes no noise to that produced by the coil of an MM cartridge.

The Duo could do with more gain but otherwise its warp filtering and super low noise make it stand out. **NK** 

<b>Frequency response</b>	15Hz- 20kHz
Gain	x83, x1000
Overload 33mV in,	7mV in / 7V out
Separation	66dB
Noise	0.09µV e.i.n.

CAMBRIDGE DUO £249

OUTSTANDING - amongst the best.

VALUE - keenly priced.

#### VERDICT

Low cost but high quality MM/MC phono stage that is technologically sophisticated and svelte in its sound. A must have.

#### FOR

- smooth sound
- super quiet - balance & headphones
- Dalance d headphon

#### AGAINST

- fixed warp filter
   no output level control
- low gain

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# Spin again

The latest in a new series of music-related books. Paul Rigby looks at tomes that go that bit further than the rest.

#### PASSION FOR VINYL PART II -AN ODE TO ANALOG Author: Robert Haagsma Price: £32.50

looked at Part I of this book back in 2015. Since then, new pressing plants have opened, record shops are opening again and record fairs are becoming popular: once more vinyl sales are on the up.

In this book, DJs, musicians, engineers, designers, shop managers, record label CEOs and collectors like Dischord's lan MacKaye, Norton's Miriam Linna, singer-songwriter Ryley Walker, musician and producer T Bone Burnett, Abbey Road's halfspeed maestro Miles Showell, DJs Sven Väth and Ellen Allien, designer John Kosh and many others tell about the records that changed their lives, their love for vinyl and the impact its resurgence has had on them.

What does that mean in practice? It means quite a relaxed, easy going read, actually. So each chapter pictures the interviewee in question.

Let's start at the beginning with Merel Parlevliet and Esther Lutgendorff who run a record shop in Amsterdam, Holland. After that you get a brief introduction of just who they are then a question and answer session spanning between two and five pages, replete with images of varying sizes.

The style is relaxed, informative, chatty and informal with a 'pull up a chair and let's shoot the breeze over a coffee' approach which is very appealing and, indeed, is ideal to read in one sitting or, even better, to sip over your own coffee and sticky bun.

In this case, the ladies talked about their background before opening the store, "My father had a huge vinyl collection and he restored old high-end turntables as a hobby after he retired. It has always been his boyhood dream to work in a record store, so I think we both made our fathers very proud..."

And so it goes on with a wide variety of guest speakers. Hi-Fi readers will be interested to hear that Grado CEO, John Grado is featured and shows that vinyl is sometimes an adjunct to the general chat, "In the beginning, we made the wooden parts of the headphones ourselves. Once the headphones started to fly out of the door, we couldn't keep up. A friend of mind started a woodworking company. I'm his only client. [So] whenever I need a few thousand parts..."

Passion for Vinyl Part 2 also shows how analogue recording techniques are making a comeback in the recording and mastering studios. Hence vinyl fans will be interested to read about Thomas and Fern Vernon Bernich who run a New York-based vinyl pressing plant called Brooklyn Phono, "We managed to buy two pressing machines from Erika Records in California and three more that were once used by the Capitol Records pressing plant. By trial and error, I learned everything about water, steam, electricity, hydraulics, material and everything else. There were many challenges."

A nice addition is the free 7" vinyl EP which is slotted into the front hard cover. Supplied by Norton on its Artone imprint, it features Hasil Adkins, Bloodshot Bill and Ellen Allien on the flip, pressed on white vinyl.

Written by Dutch author Haagsma and with an introduction by Michael Kurtz, co-founder of Record Store Day, this 252 page, case bound, full colour book is published by the Record Industry.

This is a lovely book offering plenty of fascinating material. It's one to relax with and one to savour. A vinyl fan's literary indulgence. Available to buy via all record stores but also online through Amazon (www.amazon.co.uk) and Sound Stage Direct (www.soundstagedirect.com).





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**True Signals** 

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# BRINSLEY SCHWARZ

NERVOUS ON THE ROAD MUSIC ON VINYL



"The fact that the band also rolled up late and also blind drunk just sealed their fate" t all began, as many of these seventies bands tended to begin, in the sixties, the late sixties and a band called Kippington Lodge, all the way from the hive of rock innovation,

Tunbridge Wells and, like all the classic rock groups of that time, they achieved their schooling in the grubby night clubs of Germany.

That band would then change their name to Brinsley Schwarz and the group's musical inspiration would evolve: from The Nice to Crosby, Stills & Nash and The Brian Auger Trinity to The Band.

The legend of this band, sadly, is not really served by music but overly ambitious PR as the band's management decided to immediately hit the heights, building an incredible amount of hype around the group, then inviting a gang of media types to fly with the band to the USA, booking the Fillmore East as a venue. That the media arrived at the venue late and tired did not help their mood, nor did the fact that most of them were blind drunk. The fact that the band also rolled up late and also blind drunk just sealed the fate of a group that played terribly that evening.

So you can imagine what happened when the band returned to the UK. It wasn't pretty. The media launched into the poor guys and took no prisoners. Such was their fall from grace that this world beating outfit suddenly couldn't even obtain a gig to play at, "I don't know why we didn't split up. We'd just been through this experience and I suppose we needed each other because we were the only ones who knew what it had been like," said bass player Nick Lowe to Q Magazine in 1990.

It was at that point that BS meant something good again, because the group discovered pub rock and pub rock discovered them. It was a match made in heaven as the group found a growing fan base and an R&B, down to basics, shirt and jeans style that worked on the pub stage and was a breath of fresh air when compared to the contemporary prog rock and glam rock of the time. The band would split in 1975, Lowe

would move easily into the punk scene as

a solo artist, as a duo with Dave Edmunds in Rockpile and successful producer at Stiff Records (with Dr Feelgood, The Damned, Elvis Costello and more).

During those Brinsley heydays, though, this 1972 release proved to be an artistic highpoint with a flowing, easy sound but one with a well structured production ethic. In many ways the LP sounds like a live album and a damn good one at that, with most of the songs penned by Nick Lowe. There's a great combination of rock songs here ('Surrender to the Rhythm'), ballads ('Don't Lose Your Grip on Love') and covers ('Home in My Hand') with an overriding, open pub rock presentation that is both friendly and approachable.

"I think [this album] is probably the product of the Van Morrison obsession we had at the time. We were great fans of his first few records. We were all trying to write songs. And, of course, we were kids and when you're trying to start out, you wear your influences on your sleeve. That's the way it goes," said Lowe.

The fact that this LP sits under the Classic Cuts moniker is a tribute but also a protest because it's a crime that this album is not talked about and played more often. A big thumbs up to Music on Vinyl, therefore, for bringing it to the fore, once more.

In terms of mastering, the general sound quality is good and there is nothing intrinsically wrong in terms of the production. Nothing offensive, that is, with the output being pretty neutral with no obvious brightness or blurring of the mids. Bass is pretty much controlled too. That said, there is a certain claustrophobic quality in terms of dynamic reach, best heard during cymbal crashes which only really move so far along the sonic ladder, while reverb is clipped, betraying a low ceiling in space terms.

That said, there are mitigating factors at work here, such as the typical seventiesstyle recording which adds its own period sepia warmth to the rocking soundstage. This means that bass is quite squashy and spongy. I am being picky, though, as the sound is very presentable and certainly has a pleasantly vintage aspect. **PR**  "Can you please develop a phono stage?"





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