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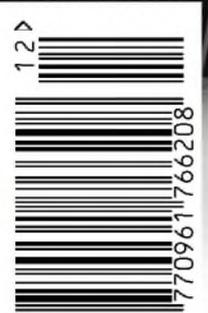
- CREEK OBH-8MK2 PHONOSTAGE
- CHORD SPM 1050 MKII AMPLIFIER
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Hi-Fi World Dec 2015



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Chord Sarum T Speaker Cable
Hi-Fi World Dec 2017

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welcome

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David Tutt.



I love accurate loudspeakers – but there's a down side. The more you hone them the less characterful and engaging they become. The best compromise I ever came across was made by Tannoy who were able to combine fundamental accuracy with dynamite sonics in a way that eluded all others. A big reason for this gap between mainstream and Tannoy lay in simple and obvious places like unique in-house drive units – their big dual-concentrics – housed in enormous cabinets. I loved every inch of them – a

go-to for the visceral excitement we all (secretly!) dream about. The only drawback of course was the price: think £3k to £10k or more if you can manage it – and own a castle big enough to contain their size and strong enough to withstand their power.

All of which brings me to the also characterful Klipsch R-820F Reference loudspeakers we review this month on p27. They're big too and have Klipsch's own unique drive units. Big cabinets give great bass. Yet these big boys from the USA cost just £900 and need Watts you can count on your fingers.

Klipsch are big in the USA; Quad are big in the UK. Innovative since 1949 with products that work wonderfully – I've owned them – I was happy to spin CD and listen to music from my iPhone with the new Artera Play+, reviewed on p10. Beautifully built in Quad fashion, and packed with latest technologies including the ES9018 DAC backed up by a linear power supply, this is a complex but intriguing CD player that is far more than that.

How do you build a good Direct Drive turntable and sell it for £200? Don't know. The economics baffle me. But Lenco deliver just this in their new L-400 that I review on p82. It is another product that delivers unbelievably good results at an absurdly low price.

We like to review the extravagantly expensive and large, such as loudspeakers from Tannoy, But this issue instead brings you affordable products that also make music exciting to hear. I hope you enjoy December 2018's edition of Hi-Fi World.



Noel Keywood
Editor

hi-fi world

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verdicts

●●●●●	OUTSTANDING
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worth auditioning
unremarkable
flawed
keenly priced



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

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

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

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

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

ELECTRONIC MAGAZINE

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contents



LOUDSPEAKERS

KLIPSCH R-820F LOUDSPEAKERS 27

Jon Myles listens to big US floorstanders that sound nothing like the norm. Vive la difference!

DIGITAL

QUAD ARTERA PLAY+ CD PLAYER 10

Noel Keywood spins CD on Quad's new player plus preamplifier, now with Bluetooth wireless. He enjoys it!

AMPLIFICATION

PIONEER A-40AE INTEGRATED AMPLIFIER 22

Martin Pipe listens to a new budget Pioneer that takes over from the legendary A-400 of the past.

RNHP HEADPHONE AMP/RUSS ANDREWS 48

A Pro U.S. headphone amplifier from Rupert Neve (Texas) impresses Martin Pipe with its power and purity.

CHORD SPM 1050 MKII AMPLIFIER 54

Jon Myles enjoys a massively powerful Chord Electronics amplifier capable of delivering an easy 300 Watts.



DECEMBER 2018

VOLUME 28 : NO. 10

FEATURES

44 FESTIVAL OF SOUND SHOW, LONDON

Noel Keywood and Martin Pipe report on London's Festival of Sound show, held 28-30th September 2018, in Hammersmith, West London.

58 AUDIOJUMBLE

Martin Pipe reports on a classic Audiojumble held at the Angel Leisure Centre, Tonbridge, Kent.

VINYL

80 NEWS

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

82 Lenco L-400 TURNTABLE

A £200 Direct Drive complete with Audio Technica cartridge impresses Noel Keywood.

86 CREEK OBH-8MK2

A great MM budget phono preamp, says Noel Keywood.

89 TURNTABLE TUNING

Noel Keywood on tuning your turntable, from simple to serious.

93 AUDIOPHILE BOOK

Paul Rigby reviews Ian Hunter's 'Diary of a Rock'n'Roll Star'.



HEADPHONES

17 AUDIOLAB M-EAR 2D AND 4D EARBUDS

Jon Myles is impressed by quality new in-ear phones from Audiolab.

REGULARS

7 NEWS

Words from the world...

34 MAIL

Pages of your views, wonderful as always...

41 COMPETITION

Your chance to win a NAD C338 hybrid digital integrated amplifier worth £600.

52 SUBSCRIPTIONS

Ensure your copy every month and save money too!

62 AUDIOPHILE CD

Paul Rigby rounds up the latest audiophile vinyl releases.

65,67,69,71,73 OPINION

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

74 WORLD CLASSICS

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

90 DIAL-A-DEALER

A comprehensive guide to UK hi-fi retailers.

95 CLASSIFIEDS

Second-hand bargains.

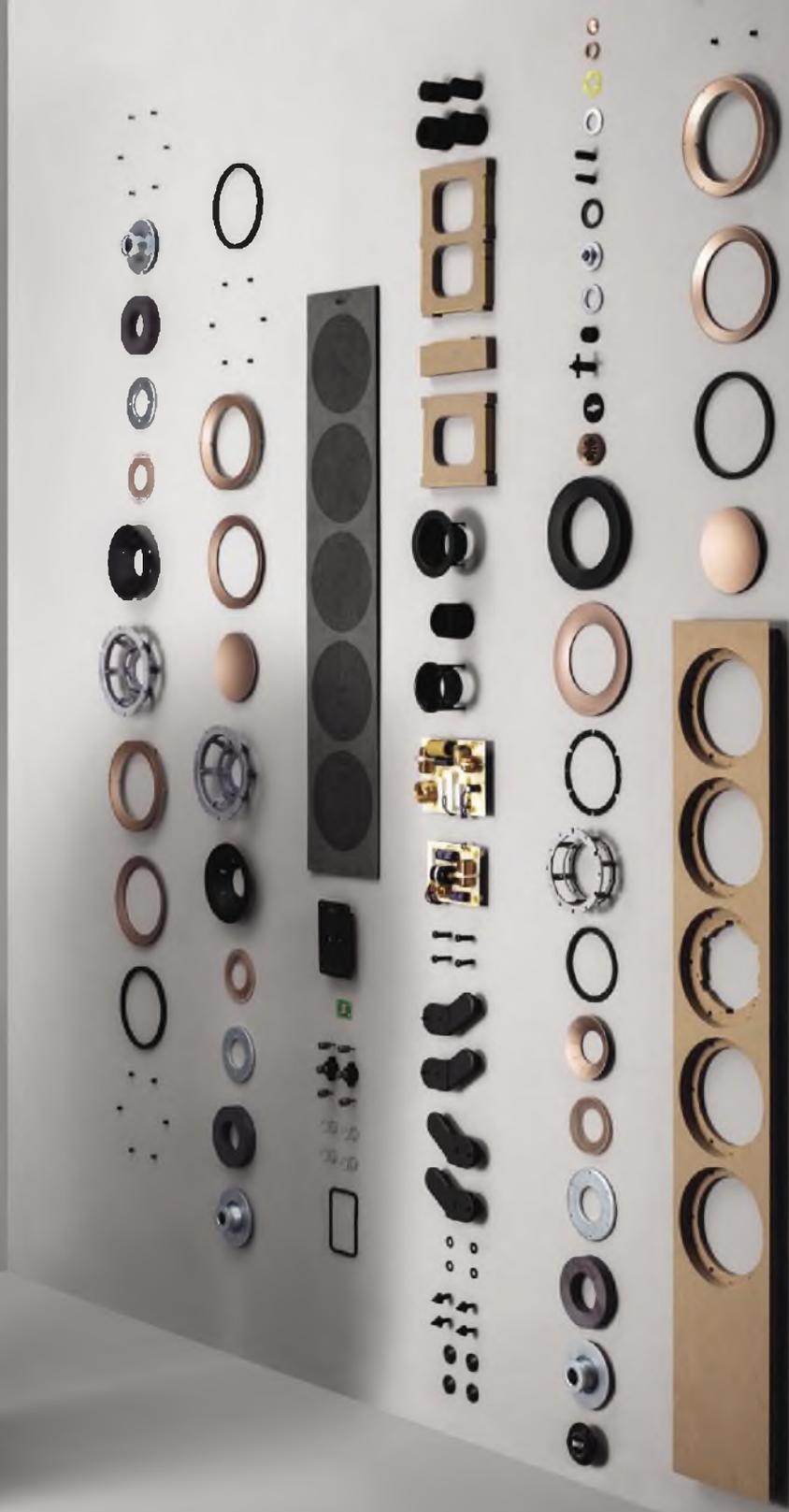
96 NEXT MONTH

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

97 ADVERTISERS' INDEX

98 CLASSIC CUTS

Paul Rigby looks at Nazareth and Hair of the Dog.



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POWER APLENTY

McIntosh has upped the ante with its new MC312 power amplifier. It boasts 300 Watts of power and comes with numerous improvements over the MC302 which it replaces.

McIntosh say improvements include doubling the filter capacity, which increases dynamic headroom by 27% (from 1.8dB to 2.3dB), as well as improving the internal wiring. Balanced and unbalanced outputs have been added to enable bi-amping or tri-amping 'speakers.

Other design updates include the addition of McIntosh's exclusive Monogrammed Heatsinks™, an eco-friendly power management system and direct LED backlighting illuminating the front panel for improved colour accuracy.

The MC312 is available now priced at £9,995. Log-on to McIntosh's exclusive UK distributor Jordan Acoustics at – www.jordanacoustics.co.uk for further information.



TURNING THE AIR BLU

Hi-fi products like the new NAD C 658 would have been inconceivable ten years ago. This £1499 unit – which combines the duties of preamplifier, DAC and streamer – boasts high-tech goodies like BluOS streaming ("the most sophisticated streaming system available" says NAD), aptX HD-ready Bluetooth and Dirac Live room-correction. As with other recent NAD gear, it employs Modular Design Construction (MDC) for upgradability – key digital audio and video circuits are on replaceable modules, keeping the unit "forever young and capable". Two MDC slots are built into the C 658.

Controllable by iOS or Android devices, BluOS natively supports nearly 20 streaming music services, 64 listening-zones and the indexing of over 250,000 tracks (count 'em!) from locally-networked sources. The C 658's upgradable 'lite' version of Dirac Live measures the acoustic performance of the system within the listening room, and optimizes playback performance to provide what is claimed to be "the most transparent music reproduction possible".

The C 658, which supports hi-res and MQA, doesn't forget analogue. It also includes a high-quality phono stage, line inputs, high-current headphone amplifier, balanced preamp and stereo subwoofer outputs. Visit NAD, www.nadelectronics.com



KUDOS AUDIO

Kudos Audio – the County Durham-based manufacturer of high-end loudspeakers – has unveiled a new standmount loudspeaker to its flagship Titan range.

First previewed at this year's Bristol Sound & Vision Show the 505 model is a two-way design featuring twin mid-bass drivers in an isobaric arrangement in which the second mid-bass driver is positioned internally back-to-back with the first.

Kudos says the result is significantly improved midrange clarity and bass response, as well as a reduction of bass distortion.

Price is £7000. More details can be found on Kudos Audio's website at www.kudosaudio.com.

ONKYO AMAZON

Onkyo has embraced Amazon Music with an update to its stereo receivers, network audio players, mini-system receivers, soundbars, AV systems and lifestyle audio products.

The new firmware allows Onkyo's range of players to access the internet giant's new music streaming service. For fuller details visit <https://music.amazon.com/home>. For firmware installation support visit www.onkyo.com.

ONKYO

TURNING TO JELCO

Set up in 1920, the Ichikawa Jewel Company initially produced jewel bearings for watches and measuring equipment which were sold under the 'Jelco' banner. Decades later came the hi-fi boom, which was found to complement the company's experience of precision engineering. Today, Jelco lives on as a tonearm manufacturer; it is one of the few left in Japan. Reinforcing its commitment to the vinyl cause are no fewer than four new Jelco-branded tonearms - each of which features SME-type detachable headshells and is available in 9in. ('S') and 12in. ('L') versions

First we have the TS-350, a conventional statically-balanced model (9in. £600; 12in. version £700). It is described as "essentially the classic and sought-after Jelco SA-250 reborn". Moving up a step is the SA-750-influenced TS-550, which adds an oil-damping option (9in. £750; 12in. £850). A statically-balanced tonearm with precision knife-edge bearings, the TK-850, sells for £950 (9in.) and £1,050 (12in.). At the top of the pile is the TK-950, a dynamically-balanced arm with knife-edge bearings and digital stylus pressure-gauge. It will set you back £1,250 (9in.) or £1,350 (12in.).

Contact: Divine Audio, +44 (0)1536 762211. www.divineaudio.co.uk



A KIND OF MAGIC

Updating the award-winning SoundMAGIC E10 and E10C universal earphones released back in 2011, the new E11 (£40) and E11C (£50) models aim to provide high-end sound and build quality at an affordable price. SoundMAGIC have retained the classic shape of the well-known (and apparently loved) E10, but have updated it with a new design, improved materials and what is said to be a "more mature listening experience". Thanks to new high-precision cutting processes, the E11 housings are constructed from aluminium for longevity.

SoundMAGIC has used this metal to house not only the speaker drivers but also the cable-yoke, the angled 3.5mm jack plug and - exclusive to the more expensive 'C' variant - the 3-button microphone/control for Apple and Android devices. Both models are supplied with silver-plated copper cables, jacketed in a flexible and tough high-purity TPE material that is reckoned to be of reduced environmental impact relative to other plastics. Two more versions - the E11BT Bluetooth earphones and the E11D Digital USB-C earphones - are expected to follow shortly.

Contact: KS Distribution, (01903) 768919. www.ksdistribution.co.uk



GRADO BLUETOOTH HEADPHONES

Headphone specialist Grado has launched its first set of Bluetooth headphones.

Priced at £200 the GW100s over-ears feature an open-back design with the same drivers as used in the brand's wired models.

However, these new headphones have a redesigned enclosure to maximise sound quality. Aptx Bluetooth is included and Grado claims these are the first open-backed Bluetooth headphones on the market.



VINYL CLEANER

From Spain comes the Winyl Pro Clean 6 - a concentrated alcohol-free record cleaning solution designed to work on all the records in your collection. It removes dirt so is said to increase bass response and improve soundstage clarity from LP playback. The mixture is compatible with most cleaning systems such as vacuum cleaning machines (RCM), Knosti-type machines, manual washing and ultrasonic cleaners. Pro-Clean 6 comes supplied with a pair of syringes for accurate measurement when making batches of cleaning fluid. Priced at £27.95 it could be a go-to for vinyl fans. Look out for a review in Hi-Fi World soon.



SILVER SERVICE

Although gold is generally perceived to be the best plating material for high-quality connectors, it is - according to Wiltshire-based The Chord Company - only the third most conductive metal available. Gold is outperformed by both copper ("140% better") and silver ("148% better"). Thus the silver-plated ChordOhmic loudspeaker plugs, which have been developed from the flagship ChordMusic and Sarum T speaker plugs. They are now being fitted to all of Chord's factory-terminated loudspeaker cables, from the entry-level C-Screen (£5 per metre) to the flagship ChordMusic (£3,300 - and up!).

For the benefit of those who prefer to make their own cables, ChordOhmic plugs are available separately - for £8 (4mm banana) and £25 (spade) each. In both cases, the plug body is constructed from high-quality ABS. The plugs themselves UK-manufactured from a high-quality brass alloy sourced from Germany. Machined in the UK, on precision lathes more commonly employed in machining watch parts and high-tech Formula 1 components, are the metal contact pins of the banana-plugs. The silver-plated spade connectors, meanwhile, are constructed from pure copper bar that is heavily plated with silver to provide optimum contact. Visit The Chord Company, +44 (0)1980 625700. www.chord.co.uk.



DEVIALET REACTOR

French hi-tech manufacturer Devialet has unveiled a new, cheaper version of its groundbreaking Phantom loudspeakers.

While the up-market models – which can be heard in venues such as the Royal Albert Hall in London as well as Palais Garnier in Paris – are expensive, the new Phantom Reactor brings the cost of ownership down to £990.

Smaller than its siblings the Reactor retains the push-push woofers on the side with a forward-firing tweeter.



ELEGIACS ANONYMOUS

Here at HFV, we have been wowed by reference-class headphones from French audio powerhouse Focal. Unfortunately, Focal flagship 'cans' like the Utopia are expensive. But now we have something a little different – the £800 Elegia, which distils Focal's technology and 40 years of experience into a pair of closed-back circumaural headphones, enabling listeners to experience "absolute sound anywhere" Focal say.

The Elegia's robot-built, full-range drivers have a lightweight M-shaped aluminium/magnesium domes, 110-micron half-roll NBR surrounds and frameless copper voice-coils. Mounted within dual-vented cups, they are claimed to provide a listening experience comparable with the "best acoustic loudspeakers". Focal mark out as key Elegia benefits the tonal balance, reproduction of detail, ambient-noise soundproofing and ergonomics. Other features include the use of memory-foam for the microfibre-fabric earpads and yoke to ensure comfort, 35-ohm impedance, 23kHz upper response, carrying case and 1.2m of cable terminated in a 3.5 mm plug.

Visit, Focal, www.focal.com/en/home



THE WHITE STUFF

Pro-Ject has in recent times produced a number of 'special edition' turntables associated with musical icons like the Rolling Stones, Hard Rock Cafe and Dutch blues guitarist Hans Theessink. But The Beatles have received most attention, just under half of the 'Artist Collection' being influenced by Yellow Submarine, Sgt. Pepper, the Fab Four generally and guitarist George Harrison. Now it's the turn of The Beatles eponymous double LP, usually known as 'The White Album', to get the Pro-Ject treatment. What better way to celebrate its 50th birthday?

The £1,300 2

Xperience The Beatles White Album turntable takes "the iconic design of the record's minimalist artwork", transforming one of Pro-Ject's most popular high-end turntables into "something truly unique". Limited to a production run of 500 worldwide, the turntable features an audiophile grade 9in.



EVO tonearm fitted with a special Ortofon 2M White MM cart, a rigid MDF chassis and an acrylic platter belt-driven from a decoupled DC motor with diamond cut pulley. Speed-change is electronic, and a matching record-clamp (white, natch) is supplied.

Contact: Henley Audio, +44 (0)1235 511166. www.henleyaudio.co.uk



GOOD EGGS GO FURTHER!

A few issues ago, we reviewed the unconventional TD508 MK3 speakers (£960) from Kobe-based loudspeaker specialist Eclipse. These compact alternatives to box-shaped speakers, currently available from Richer Sounds, feature full-range drive units for coherence, clarity and waveform fidelity. A series of innovative proprietary technologies are harnessed to deliver the required accuracy. Available in black, silver and white finishes to suit a range of home décor, the TD508 MK3s can now be discreetly wall or ceiling mounted thanks to Eclipse's innovative CBI bracket system (£80/pair).

The CBI, the angle of which can be adjusted over a wide range so that its sound fires towards the optimum listening position, can also be used with Eclipse's TD510MK2 (£1,920) speakers. From lounges and bedrooms and home offices to kitchens, it's now possible to enjoy high-quality sound where bulky boxes cannot go. Eclipse's innovative egg-shaped loudspeakers are also used as monitors by recording and mastering studios around the world.

Contact: Eclipse, +44(0)207 328 4499. www.ECLIPSE-td.com/uk/



Play More

Quad's new Atera Play+ CD player and preamp will make you play more thinks Noel Keywood.

Everyone has a big CD collection. Thinking about it reminds me of walking into the Virgin megastore on London's Oxford Street to see thousands in racks stretching away into the distance. That was yesterday of course: the store and its racks have long gone, but people have thousands apiece and a need to play them – preferably in better quality than ever before. Budget CD players are now increasingly rare but new premium quality CD players – with added bits – are becoming common and here I'm reviewing Quad's Artera Play+, price £1199.95.

We've reviewed the original Artera Play in our January 2016 issue and were impressed. As before this is a CD player and preamplifier combined, built around the ES9018 Sabre32 series DAC from ESS of California – renowned for its sound quality. Moreover, it has a smoothness of sound in keeping with the Quad tradition. A chip tried and tested – and all but famous for getting great

sound from CD.

Measurement revealed some small inconsistencies on the original Play, none of any great consequence, but they've been expunged from the updated Play+ by changes in filtering. A new addition – the + bit – is Bluetooth short range radio reception, with aptX, explaining the appearance of a small, screw-on rear stub aerial. Play music from your mobile 'phone via Bluetooth.

That's the outline. In finer detail the Play+ has analogue phono socket (unbalanced) inputs labelled Aux 1 and Aux 2 that run through the volume control and to the output sockets. By default there is no gain (x1) so what goes in comes out almost unaltered, except in volume but this allows two other analogue sources to be hooked into the system – even a Phono stage. When I say "no gain" that is from phono socket input to output; from phono socket input to balanced (XLR socket) output there is a gain of x2 (+6dB) but this will only come into play

if the XLR outputs are used to feed a power amplifier with XLR inputs, such as Quad's own matching Artera Stereo power amplifier (140W). Also, gain (or attenuation) can be dialled into the system – up to x2.3 (+7dB) – and this could be useful to match in low gain external Phono stages.

Yes, the Play+ can be used as a general purpose analogue preamplifier in effect, with say a turntable Phono stage connected into Aux 1 and a Blu-ray player into Aux 2. Additionally, there are S/PDIF digital inputs, optical and electrical, with optical working all the way up to 192kHz. And there is a USB input too for computer connection, with an upper limit of 24/384kHz according to the data sent to my MacBook Pro running Sierra – but the limit with a PC and Quad's driver is 32/384kHz.

With regard to DSD, PCs must have Quad's driver loaded (available on-line), which they also need to run PCM at



192kHz. Macs can only handle DSD within Audirvana Plus, a paid-for hi-resolution player (€60), because Mac core audio is PCM only. Audirvana sends DSD packaged over USB to look like PCM and in this form (DoP) the Play+ can handle DSD64, 128 and 256.

I suspect most people will be interested in the Play+ as a high performance CD player and what you get here is a slot loading mechanism and CD digital (16/44.1kHz) passed through the ES9018 DAC chip. The Play+ has four digital filters but only three work with CD I found – more later. Digital filters are commonly tokens to adjustability, having little affect upon the sound, but Quad's filter set on this player is gently influential upon sound quality. Quite right too – Peter Walker, Quad's founder – specialised in complex filtering so this is in keeping with brand values

The digital filters are Smooth (default), Fast, Wide and Narrow. Measurement showed Smooth was

a conventional wide bandwidth filter – what you usually hear, in effect, because it offers the best measured result. Fast and Wide were neither fast nor wide, but offered slow roll offs with good time domain damping. Narrow (with a 44.1kHz or 48kHz sample rate) was drastic, chopping off all frequencies above 6kHz.

Now to an apparent anomaly that had me puzzled. All four filters worked when using the digital inputs, but when playing CD only three filters were available; Narrow was missing. It could be selected, but wasn't applied, the player defaulting to Smooth. I was told by Quad the 6kHz cut-off of Narrow was felt to be drastic so had been left out, but there was some "discussion" about this situation in IAG's HQ. Odd. It is simply an option and in keeping with Quad filtering; worse, the handbook fails to mention any of this. It needs an addendum at least, because offering Narrow on the display but not providing it is misleading. Of these filters I'd use Fast or Wide

from my experience and preference for a sound that is not sharp, bright or ringy – as digital can be due to brick wall filtering that introduces pre and post ringing.

Changing filters could have been easier, without reversion to original after only seconds that made switching between them casually to compare their sound impossible. Each setting must be saved first. The remote control's Prog button must be held down to reveal the filter menu. Also on the remote control unit are all play functions and volume adjust on a scale 0-100. The remote will also select inputs.

Quad have kept the user interface simple enough. The mains supply is a big linear jobbie on board – no switch mode wall-wart here. As a result power input is through the usual IEC mains lead and there is a rear on/off rocker switch. Power on (standby, less than 1W) is shown by a small red LED on the front panel and switching on lights the display at left a dull blue. Surprisingly, this is





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Central to the Artera Play+ is a big linear power supply fed from a large toroidal mains transformer – the shiny round thing. Most manufacturers use cheap switch-mode supplies nowadays; Quad have put audiophile effort into the Play+.

a touch display panel able to select inputs, explaining why there are no other buttons on the fascia, except disc eject. There are two touch zones, one above the blue alphanumeric display and one below. Volume and input can be selected, but not filters etc. A 1/4in (6.3mm) headphone socket is fitted too. Size wise this is a compact package, measuring 320mm wide, 320mm deep and 105mm high, weight being a solid 9.04kgs due to sturdy build quality and the large

Slow for low quality noisy sources where lock may be lost (causing stuttering).

SOUND QUALITY

The Play+ was connected direct to our Icon Audio Stereo 30SE amplifier driving Martin Logan ESL-X hybrid electrostatic loudspeakers. All items were run from an Isotek Evo 3 Mosaic Genesis re-generated mains power supply. I fed in hi-res from an Astell&Kern AK-120 portable player

"a strenuous keyboard sequence from Arcadi Volodos playing Schubert's Sonata in E Major (II Andante) made me jump"

internal power supply.

Pressing and holding Prog on the remote also brings up adjustment of Gain, DSD bandwidth, balance and display brightness. Not mentioned in the handbook are Fast and Slow Phase Lock Loop (PLL) settings available by pressing and holding the digital input buttons. Fast is standard,

connected optically.

It was very easy to review this player because its sound is so well honed it is distinctive. Pushing in a CD of Arcadi Volodos playing Schubert piano works (Sony Mastersound recording) to provide a pleasant start whilst I readied to write up listening notes, a sudden

and strenuous keyboard sequence within Sonata in E Major (II Andante) made me jump. I know the CD well and how it plays and the Play+ showed no restraint in sending this out through the Martin Logan's with force. But equally important and obvious too was a lovely sweetness of tone. Amplifiers and digital+analogue assemblages have characteristic tone and mostly it is fairly monochromatic. The Play+ got well past this, displaying a convincing range of tonal colour that had a sweet flavour to it, sunlit in fact. This lured me to sit, listen and enjoy straight away because Mr Volodos is a sublime pianist and the delicacy of his touch seems so often to get lost in the rather bland mechanical nature of CD replay.

The sudden contrast that caught my attention and the breadth of tonal colour I attribute to the use of a very high quality linear power supply, as well as audiophile honed circuitry of excellent design sophistication. What I heard as I sat entranced by Volodos was a 'lovely' performance from the Play+ – meaning dynamically engaging but also gorgeously rich yet openly lit. Methinks there was a little less of the darkness of tone I usually hear from the ES9018 chip, possibly due to Quad using their own filters and support circuits rather than those from ESS design data. I heard the same convincing breadth of tonal colour and strong dynamics from Korsakov's The Snow Maiden: Dance of the Tumblers, played by the Minnesota Orchestra (24/96); the orchestra sounded lively and engaging, again seeming more clearly lit – a tad less dark – than is often the case from the ES9018.

As a check I played Otis Redding's Respect to ensure no problems in real life playing a 24/192 WAV file via the optical S/PDIF input, since at 192kHz sample rate, data rate is right at the limit for TOSLINK. All went well here, Otis clear at one microphone and the Memphis horns strong in the other (dual channel mono!).

Interestingly, Bluetooth from an Onkyo player on an iPhone



ortofon

accuracy in sound



2M

The 2M Series, named after the abbreviation of Moving Magnet (MM) technology, is an affordable range of pick-up 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.



The busy rear panel gives a good idea of what Quad cram into this 'CD player'. Note the balanced XLR audio output sockets, with phono socket outputs and inputs to their right. At left are S/PDIF inputs and an output (for external DAC if need be).

running iOS 12 had much the same sonic qualities as CD I found, with little obvious difference between them. But then Bluetooth with aptX compression on the Play+ measured 98dB Dynamic Range our measurements showed – not far off CD at 101dB. This explains why Bluetooth introduces so little audible degradation and why I was happy to sit and play no end of tracks from my iPhone. Queen's 'Radio GaGa' (24/96 source code) with its stabbing synth sequences underlined the dynamic punchiness and strong bass provided

by a big linear power supply on board. Benjamin Grosvenor playing Chopin Piano Concertos (24/96 source code) was gracefully calm and melodic in presentation, reflecting the deep yet smooth resolution of ESS's DAC in what is the fine electronic environment of the Artera Play+.

CONCLUSION

The new Atera Play+ is superbly engineered, in its physical form, its facilities and its underlying electronic architecture. Finely honed with a useful filter set, big linear power

supply on-board and easy to use CD player plus comprehensive remote control that was not overly complex but still full featured (if with small, dull legends) I found it one of the best CD players – with added bits! – I have used and heard. Pity that the Narrow filter doesn't work with CD but it's not a big issue I feel. Bluetooth connectivity is a useful addition, providing sound quality from a mobile 'phone that was all but as good as that from CD. What this player offers at the price is more than impressive.

MEASURED PERFORMANCE

The new Artera Play+ measured 119dB EIAJ Dynamic Range via its analogue balanced XLR outputs and the unbalanced phono socket outputs – a very high figure that imparts depth and translucency, rather than the papery flatness of much digital. With CD (16bit) Dynamic Range was limited by the quantisation noise floor of 16bit (not the player) to 101dB – still good result.

Unsurprisingly, digital distortion was very low at 0.02% with a 24bit input and 0.2% from CD, the latter figure being as good as it can get from 16bit. Bandwidth with CD measured flat to 21kHz where with the original player it rolled down early. With a 192kHz sample rate input response extended to 52kHz (-1dB) with Smooth filter, rolling down slowly to the 96kHz upper theoretical limit to ensure no sharpness in the sound. Wide and Fast filters provided earlier roll offs but better time domain impulse damping, whilst Narrow was drastic at 44.1/48kHz sample rate, having a 6kHz upper limit.

Output was on the high side at 2.2V (phono socket) and 4.5V (XLR socket) at full volume.

USB is now also consistent in its performance, offering identical results to S/PDIF digital in terms of frequency response, distortion, dynamic range and noise.

The preamplifier has no gain from phono input to phono output (i.e. unbalanced) as standard but +10dB of gain can be dialled in. However, the XLR output has double the output of phono so a gain of x2 is available from phono in to XLR out as standard.

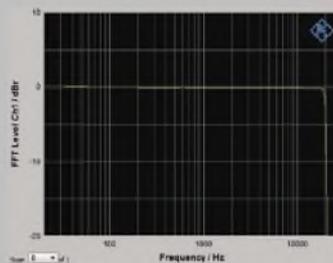
Frequency response measured flat to 80kHz, distortion was low at 0.003% (1V out) and noise low at -105dB. Maximum input/output is 2V, just adequate to accept analogue from an external silver disc player.

The Artera Play+ measured very well all round. It has been honed to give superb digital. The analogue input/output overload could have been higher and Narrow filter made operative with CD. NK

Frequency response (-1dB)	4Hz-52kHz
Distortion (24bit, -60dB)	0.02%
Separation (1kHz)	112dB

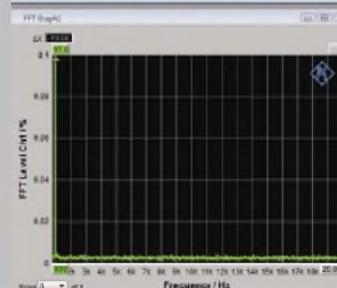
Noise (IEC A)	-117dB
Dynamic range	119dB
Output (Phono/XLR)	2.2/4.5V

FREQUENCY RESPONSE



DISTORTION

THD @ 10	Level (dB)	Frequency
ON	0.0235 %	4.4125 mV
CD	OFF	997.00 Hz



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OUTSTANDING - amongst the best.

VALUE - keenly priced.

VERDICT
A CD player and preamplifier – analogue and digital – with broad ability and superb sound quality. Impressive, especially at the price.

FOR
- sound quality
- ease of use
- facilities

AGAINST
- no Narrow filter with CD
- awkward filter selection
- incomplete user manual

Quad
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-Matej Isak, Mono & Stereo

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Majestic M-Ears

Audiolab's new M-Ear in-ear headphones are something special, says Jon Myles.



Audiolab M-Ear 2D

Audiolab is best known for its highly-regarded DACs (such as the M-DAC+) and amplifiers so the addition of a pair of in-ear monitors to its range is something of a surprise.

And they are certainly different. Audiolab has collaborated with ACS to develop its new M-Ear 2D and 4D headphones.

For those not in the know, ACS has a huge reputation in the pro audio world. Founded more than 20 years ago by musician Andy Shiach, its products are used across live music, broadcasting, motorsports and more. The company's custom-made in-ear comms and hearing protection equipment is used by a host of big names, from Little Mix to

U2 to Formula 1.

The M-Ear 2D (£429.95) is a two-way, two-driver design, with one driver handling mid/high frequencies and the other dedicated to bass. Alternatively, the M-Ear 4D (£699.95) boasts a three-way design sporting four drivers – one for high frequencies, another for midrange and two for bass.

Both M-Ear models incorporate balanced armature drivers. The main difference between these and the dynamic drivers is that these use an electronic signal to vibrate a tiny reed suspended between two magnets; this movement is transferred to an aluminium diaphragm that generates the soundwaves.

Additionally, both M-Ears feature

ACS's patent-pending Iris (Intelligent Resonance In Silicone) technology that is said to maximise the musical potential of balanced armature drivers. Iris construction methods are said to allow precise acoustic tuning fusing the crisp, open detail that characterises high-performance balanced armature IEMs with a musical warmth and fluidity.

The M-Ear 4Ds also feature a ported cavity for the bass drivers - said to create a more accurate low-end response.

So, as in-ear monitors go these are clearly rather different to most other designs.

Both models come with six pairs of eartips in three different sizes to get the correct fit, as well as a high-quality 1.45m detachable cable



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that is terminated with a standard five-pin connector to plug into the earphones. An in-line microphone is also included for hands-free convenience when making calls.

Construction-wise the M-Ears live up to their price-points, being sturdy and with a – thankfully – tangle-free cable. Over a long listening period both sets stood up to being pulled in and out of pockets and their basic sound quality never varied once the right eartips were selected.

SOUND QUALITY

These are exceptionally smooth and articulate 'phones. Plugging them into a FiiO X5 MkIII player - which has excellent resolution - the first impression was of a wide soundstage with excellent dynamics.

Starting with the 2Ds, the drums and bass on New Order's 'Bizarre Love Triangle' (24/96) came over with exceptional punch but were never over-emphasised - meaning the electronic melody line floated freely above.

It was the same with St Etienne's 'She's On The Phone' where Sarah Cracknell's haunting vocals hung well above the backing track.

There's an air of presence around the instruments that means it's easy to track the individual players - so on The Pixies rendition of 'Head On' the twin guitars of Black Francis and Joey Santiago were easy to delineate.

Switching to the 4Ds there was an obvious and pronounced difference. The New Order track developed a more physical low-end and overall sound quality improved. I could clearly discern how the extra drivers make a step-up in quality. While the overall sonic signature is similar there's a greater amount of detail on offer with the 4Ds.

Compared to my reference

"There's an air of presence around the instruments that means it's easy to track the individual players"

Noble K10 in-ears the 4Ds have a slightly warmer quality but don't lose out in terms of overall quality. In fact, the 4Ds were rather better at getting the best out of some more compressed recordings with a slightly smoother sound overall.

That said, they don't leave you missing out on anything. With The Pet Shop Boys' 'West End Girls' I could clearly hear the early 1980s production - but the track still had immense verve and body to it.

Where the 4Ds really shone was with Classical music. Listening to 'Mahler's No4' through these was rather special - violins expertly represented while piano and brass

had substantial power. Switching to the gentler tones of Arvo Part's 'Tabula Rasa' (24/96) with its two violins and prepared piano I could clearly define the tone and key changes between the instruments - not something all in-ear monitors manage to capture.

There was air and space on offer and a sense that the 'phones are getting the most from the music.

Playing the same track on the 2Ds there was not the same spaciousness to the sound - but, to be honest, that's only evident when you compare the two.

CONCLUSION

There's no end of in-ear headphones available nowadays but these new Audiolab offerings are amongst the best. The 2Ds are smooth and detailed with good bass presence - but the 4Ds take all this and add an extended low-end. There's tough competition at this price from the likes of Sennheiser, Noble and others but these Audiolabs should be auditioned.



Audiolab M-Ear 4D

AUDIOLAB M-EAR 2D £429.95



OUTSTANDING - amongst the best

VERDICT

Comfortable, well-constructed in-ear monitors that major on a smooth, balanced soundstage. Recommended.

FOR

- natural balance
- construction
- tonality

AGAINST

- nothing at the price

AUDIOLAB M-EAR 4D £699.95



OUTSTANDING - amongst the best

VERDICT

Builds on everything the 2D offers but with a larger soundstage and greater low-end presence. Dearer but definitely worth the money.

FOR

- exceptional bass
- superb soundstage
- presence

AGAINST

- tough competition

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Has Pioneer updated a classic? Martin Pipe assesses its budget A-40AE integrated

Taking the A-40 route

Getting on for thirty years ago, a DJ's dedication at an evening post-Bristol Hi-Fi Show disco allegedly elicited jeering from the crowd. The song was dedicated to the UK team of Pioneer, then riding high on the enormous success of the A-400 budget integrated amplifier. A stripped-down design, free of the fripperies that had given Japanese amps a bad name in the prevailing 'minimalist' circles, the A-400 had an enormous impact on the sales of rival products from the UK and elsewhere. One reviewer claimed

that the game-changing £240 A-400, built specifically for Britain, sounded as good as anything you could buy for a grand. It is estimated that at one point, the A-400 accounted for more than an eighth of the entire UK amplifier market!

It's probably quite intentional, then, that Pioneer's new budget amp is called the A-40AE (the A40 was a nondescript Pioneer amp of the mid-1980s). Like pretty much every good integrated design nowadays the £400 A-40AE has a phono stage, but it's MM-only (the A-400's, on the other hand, could also accept MC types).

The classic A-400 may have rejected tone controls on ideological grounds, but they're present and correct on the A-40AE – albeit with a 'loudness' compensator (bass/treble boost at lower volume levels, compensating for hearing characteristics) and 'direct' function that bypasses them altogether. In 1991, tape decks were 'in', and so the versatile yet affordable A-400 gave the user separate source and recording selectors (complete with cross-dubbing functionality).

Sadly, the A-40AE doesn't give you a single tape loop. But what of the supposed renewal of interest in

cassette and tape? Pioneer's wonderfully-candid UK PR assured me that "there really isn't a revival going on in analogue tape...tis pure hype", adding that there's "absolutely no justification for the inclusion of a tape loop on an amplifier of this sort, I'm afraid." Ah well.

Pioneer has however accommodated the explosion in audio sources that has occurred since 1991, providing no fewer than five line-level inputs. On top of this is the internal DAC, which can accept PCM audio all the way to 192kHz/24-bit via coaxial or optical connectors.

Your chosen source can be selected with a rotary knob on the aluminium front panel, but Pioneer also allows you to do the job with a remote handset of the sort that A-400 owners could only dream of. The A-400 was pure analogue, but this distant relative has a microprocessor buried in its solid-state innards. This also facilitates control over volume, which is implemented using a motorised (analogue) potentiometer. Control over stereo balance is given via a front-panel control, rather than the A400's concentric left and right controls.

The A-40AE has independently-selectable (pair A, pair B or both) loudspeaker outlets via a front-panel control, but not the remote. Plugging in headphones – sensibly, Pioneer has specified a quarter-inch jack - mutes the speakers; this, confirmed our Pioneer guy "is driven by a separate independent amp, as with most such products these days".

Also microprocessor-driven is the unusual way of specifying the impedance of the speakers you've attached; you have to hold down buttons and monitor the input-select LEDs. Other unusual touches are auto power-off (the amp goes into standby shortly after the music has stopped) and the 'p.amp direct' feature, which allows you to use the A-40AE as a power amp – the unit has a dedicated input on the rear panel. This feature could be useful if the amp is to be integrated into a home cinema setup.

Pioneer may give short shrift to tape loops, but the selected source is available on a rear-panel 'line output'. Be careful not to select the input to which the 'play' outputs of your tape machine are attached, as in its



To the right can be seen the large mains transformer. Next to this is a finned heatsink on which are mounted the output transistors of the Class A/B power amplifier. This is fed, via a motorised volume control, from a preamplifier with electronic source-selection for long-term reliability. Visible in the bottom-left corner is the digital module with Wolfson 192/24 DAC chip.

'record' mode a potentially-damaging positive-feedback loop will be set up. Note that the connection is not for external power amps, as the volume and tone controls have no effect on it! All of which points to a half-baked attempt at catering for recordists.

Construction is fairly typical of mass-produced audio gear with "anti-standing wave" feet, a good-sized mains transformer of traditional (non-toroidal) design, specially-developed Elna power-supply reservoir capacitors and a generous heatsink for the Class AB output stages – each of which is claimed to deliver just over 50W to an 8-ohm speaker (75W for 4 ohms) with less than 1% THD. The audio circuitry is based around Pioneer's Direct Energy Concept, or the "lossless transfer of energy from the amplifier to the speakers". Amongst its elements are

"optimised power supply/output circuit blocks and parts layout", and the "shortest possible power supply path". Claimed advantages include "excellent signal transfer, high S/N ratio, wide soundfield and clear sound image".

SOUND QUALITY

I listened to the A-40AE in conjunction with a pair of Rogers GS5 floor-standing speakers, a Pioneer Direct-Drive turntable (with Shure cartridge), Cambridge CXN streamer and Oppo PM3 headphones. Most of my time with the amp was spent in 'direct' mode, but I can say that on occasions those tone controls could be beneficial. 'Squashed' compilation LPs (like my 1980s-vintage Streetsounds 'Dance Decade' albums) could be given a tad more subjective impact at lower



The A-40AE has five line-level inputs, an MM phono input (with ground terminal) and optical and coaxial digital inputs. Two pairs of speakers are accommodated and a dedicated input enables the A-40AE to be used as a power amp. A 'control' jacks allows the amp to control (or be controlled by) contemporary Pioneer gear.



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frequencies; likewise, music digitised from sub-standard sources could be brightened (if too dull!) or tape hiss made less prominent. Just don't tell the purists...

On which subject, I found the phono stage to be rhythmically-competent, capable of a believable stereo image and fairly revealing in terms of detail – as plays of the first Mike and the Mechanics LP and a Decca LP of Ernest Ansermet and L'Orchestre de la Suisse Romande playing Stravinsky's Rite of Spring demonstrated. The downside, though, is a presentation that's curiously flat and lacking in involvement. But then again, the A-400's phono stage wasn't its greatest asset. By 1991, digital was beginning to take over – today, it all but has! As with most of the preamps built into budget gear, it will serve as a acceptable introduction to the joys of vinyl. You can then use an external phono stage, connecting it to one of the A-40AE's numerous line inputs.



With Pioneer's handset you can change volume, place the amp in or out of standby, switch between sources (each is given its own button) and engage loudness compensation or its 'opposite' - the purist-pleasing 'direct' mode.

It's a testament to Pioneer's basic amp design that such an upgrade is worthwhile; I could hear the improvement with a decent off-board preamp (in my case an Avid Pellar) in circuit. And with line sources like the CXN the true potential of the A-40AE indeed became apparent, listening via headphones or speakers. Bass was dry and tight, never losing control of my woofer cones. The prominent bassline of classic Latin-tinged house cut Give It Up (CD FLAC rip), by Dutch production duo The Goodmen, was as a result conveyed with depth and tunefulness. Also faring well were the complex rhythms, which borrow heavily from a composition by the legendary Brazilian musician Sergio

Mendes. Their percussive components were fast, but started and stopped cleanly, with no overhang.

I connected the coaxial output of the CXN to the A-40AE's corresponding digital audio input, so I could compare the Pioneer's DAC with the Cambridge one. In DAC terms the A-40AE was notably more exciting and 'forward' than the CXN, although a play of Public Service Broadcasting's Every Valley album (24-bit, FLAC) revealed that more delicate touches remain buried in the mix.

CONCLUSION

On the whole there's much to recommend Pioneer's attractively-priced A-40AE amplifier. It has digital inputs, remote control, two loudspeaker outputs that are switchable, a headphone output and even a now-obligatory moving magnet (MM) phono stage. Displaying a clean and tidy sound via its analogue Aux inputs and decent results from digital and turntable (Phono) inputs it echoes its A-400 predecessor of yesteryear, if not fully matching it.

MEASURED PERFORMANCE

Power from Pioneer's A40AE measured 66 Watts into 8 Ohms and 110 Watts into 4 Ohms (one channel driven). By the traditional 8 Ohm rating standard this is a 60 Watt amplifier, Pioneer use 4 Ohms for higher claimed power. All the same, loudspeakers are nominally 6 Ohms nowadays, into which the unit can deliver 80 Watts easily.

Frequency response measured flat from a low 2Hz up to 70kHz in Direct mode.

Distortion measured 0.3% at very low levels (below 1 Watt). Level fell to a reasonable 0.1% much above 1 Watt. Our analysis at 1 Watt 10kHz shows 0.15% with extended crossover components – not good. At -1dB below full power distortion measured around 0.1%.

Switching in tone control resulted in a 10dB gain drop at full volume – unusual if with a logic. At half volume there was no gain difference between Direct or Tone Controls.

The Phono stage had flat frequency response, low distortion and noise; it was also very sensitive but free from overload. No problems here.

The electrical ('co-axial') and optical digital inputs (S/PDIF) both accepted 192kHz sample rate PCM, frequency

response measuring flat to 40kHz (-1dB) before roll off to the upper theoretical limit of 96kHz.

Distortion from 24/96 hi-res PCM measured a mediocre 0.1% but this was affected by output stage distortion. EIAJ Dynamic Range was a reasonable 110dB with 24bit digital. Via Line Out, avoiding output stage distortion, Dynamic Range was 111dB and distortion 0.06% – so no great improvement.

The A40AE was not linear by today's standards and may lack some smoothness. Digital performance was lacklustre too. **NK**

AMPLIFIER

Power	60W
Frequency response (-1dB)	2Hz-76kHz
Distortion (10kHz, 1W)	0.15%
Separation (1kHz)	96dB
Noise (IEC A)	-98dB
Sensitivity	200mV

DIGITAL

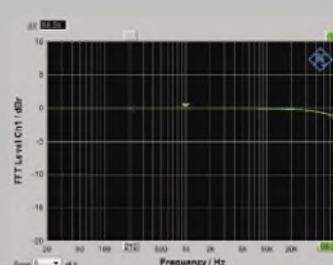
Frequency response (-1dB)	5Hz-40kHz
Distortion (-60dB, 24bit)	0.1%
Dynamic range	110dB
Noise	-108dB

PHONO

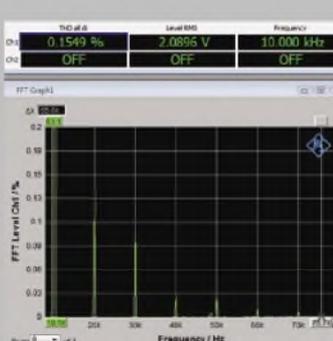
Frequency response (-1dB)	5Hz-20kHz
----------------------------------	------------------

Distortion (1kHz, 5mV in)	0.1%
Separation (1kHz)	68dB
Noise (IEC A)	-80dB
Sensitivity	3mV
Overload	80mV

FREQUENCY RESPONSE



DISTORTION



PIONEER A-40AE £400



GOOD - worth auditioning

VALUE - keenly priced

VERDICT

Well-engineered and versatile. It's particularly recommended if your sources are analogue and line-level – the onboard DAC and phono stage are competent and nice to have, but outclassed elsewhere.

FOR

- plenty of inputs
- impactful and detailed
- remote control

AGAINST

- no tape loop or front-panel audio input
- no Bluetooth
- disappointing phono stage

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Jon Myles sits down with Klipsch's big, bold but affordable R-820F Reference loudspeakers.

Klipsch 'speakers are designed to be big, bold and go loud with very few Watts. They don't cost the earth and feature some interesting technology. Hence the fact that the brand has a loyal following both in its home country – the USA – and across Europe and the rest of the world.

The R-820F Reference floorstanders I am reviewing here are a case in point. They are large – standing over 107cms tall (3.5ft) with a depth of just under 43cms (17in) and weighing in at 28.35kg.

But their most interesting feature is the driver array. Klipsch use a horn loaded tweeter with 1" (2.54cm) titanium dome inside the assembly. It looks and is large, designed to give a wide dispersion area and project high frequencies well into the room.

This is allied to two 20cm (8in) woofer/mid-range units constructed from spun copper and – with the full-length magnetic grilles removed – look distinctive.



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ROON
ready



MQA



TIDAL

qobuz



Spotify



napster



DEEZER



At the back there's a reflex port which looks large in outside area but further investigation reveals it's also flared and shallow at the interior of the cabinet, shaped for smoother airflow.

The supplied spikes for the base are of different lengths front and back to give a slight tilt upwards at front to aid driver alignment.

Construction-wise the Klipschs are well-built with no obvious flaws – but a solid rap on the cabinets with my knuckles revealed some hollowness. Not perfect but at £900 for a loudspeaker of this size arguably acceptable. The R-

"When the lowest octaves kicked in I could physically feel it, contributing to a truly visceral experience".

820Fs also look good – those twin copper-coloured woofers giving them a purposeful air.

SOUND QUALITY

With their sensitivity (see Measured Performance for full details) I started using the Klipschs with an Icon Audio Stereo 30SE - a valve amplifier with good detail and a smooth sound.

Playing Peter Schneider and The Stimulators cover of 'St James infirmary' from a Dali CD the vocals had a Tom Waits-like growl. The trumpet was also well to the fore and projected nicely into the room. The word atmospheric kept appearing on my listening notes as that was just how the track sounded.

Eleanor McEvoy's 'Yola' album (24/96) fed into the DAC of our Oppo UDP-205 player via an Astell&Kern AK-120 digital audio player reinforced this capability. There's great frequency range on offer, McEvoy's voice sounding crystal clear plus high, wide and pristine. The backing section also had delicacy with a good sense of timing. Playing the song again with the volume turned higher the Klipschs didn't break a sweat. 'I've Got You To See Me Through' flowed into the room enveloping me in its superb production and excellent instrumentation. The midrange was also clean and rather refined having a sweet, even and refined air to it.

Moving on to James Blake's 'Limit To Your Love' – one of my favourite test tracks for bass – subsonics were apparent. They had the ability to shake the room – without sounding boomy. Instead the Klipschs kept the track under control, the bass line underpinning Blake's keening vocals to produce an all-involving soundstage. What struck me most though was the sheer power of these loudspeakers. They have great presence and kick. When the lowest octaves kicked in I could physically feel them – making for a truly visceral experience.

The only downside was a slight boxy sound at times, giving the impression I was hearing more of the cabinet than is ideal.

Experimenting, I pointed the 'speakers inward to fire towards the listening seat. It did not quite work. That horn tweeter demands to be pointed straight down the room to get the best out of it – unless you really enjoy extra-extended treble.

Positioned this way I swapped the Icon Audio amplifier for a Creek Evolution 100A integrated. This transistor amplifier proved an ideal match for the Klipschs – grabbing hold of those twin woofers to provide a tight, focussed sound.

The funk disco shimmy of Elvis Costello and The Imposter's 'Burnt Sugar Is So Bitter' from his latest 'Look Now' album rolled along with ideal pace. The rhythm section was taut with an excellent crack to the drums. Above, Costello's nasal vocals were anchored between the 'speakers and totally intelligible. Even better was the gentle ballad 'Don't Look Now' where the piano sparkled. Notes rose and decayed realistically with excellent timbre and body and no hint of harshness. Closing my eyes it was as if the band were playing right in front of me.

The entire presentation put me in mind of some loudspeakers costing significantly more than £900.



A Tractrix bass reflex port at the rear gives the R-820F Reference loudspeakers a highly-controlled low-end.

Another plus is that these 'speakers are not fussy about positioning. Even placed relatively close to a rear wall the low end definition remained stable and free of boominess.

With New Order's 'Bizarre Love Triangle' Peter Hook's descending bass line stayed firm and tuneful, providing an ideal foundation for the soaring electronic melody line that drives this track along. Yet again the upper registers were bright but not so much as to be overly intrusive or harsh.

Klipsch's engineers have balanced the R-820Fs well. Their deep bass is offset by an extended

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The horn-loaded tweeter provides extended treble that pushes musical images way into the room.

high-frequency response that delivers strong detail above a fulsome, muscular sound. It's the sort of performance that makes you want to play track after track because of their toe-tapping ability to bring music alive.

There are some caveats, though. Those looking for a totally accurate sound might find them a tad bright up top. These loudspeakers are not for listeners who value a completely even presentation above

all else.

The Klipschs, instead, plough their own furrow. But it's a totally

"What struck most, though, was the sheer power of these loudspeakers. They have a real presence and kick to them."

entertaining one that will enthrall and beguile many listeners. They have the ability to make some rivals sound rather bland and unexciting with their superb bass performance and sparkling treble. That horn-loaded tweeter really does throw images into the room like few others.

Not everyone will like them but I certainly did. They make music sound alive and punch out a tune with verve. Big, bold - but most importantly totally enjoyable. Give them an audition and I doubt you'll be disappointed.

CONCLUSION

In typical Klipsch fashion the R-820F Reference floorstanders are aimed at those who want to hear their music in all its glory. They'll go loud with minimal amplifier power so suit valve amplifiers, yet with our smooth Creek Evolution 100A I loved them. Give them an audition and you may well be seduced.

MEASURED PERFORMANCE

Our third-octave frequency response using pink noise shows the R-820F's big treble unit has obviously raised output, some +5dB or so above the bass/midrange units, when measured 20degrees off-axis. Moving the mic laterally didn't change things much as the horn flare gives broad dispersion. The speaker will sound obviously bright in balance as a result, but detailed and revealing. There is no dip at crossover and this will also reinforce detail retrieval.

Further down the frequency band output is reasonably even in basic balance, if not too smooth, suggesting small local resonances and minor colourations. But the big cabinet of the Klipsch comes into its own lower down, reaching a low 30Hz from forward radiation, the rear flared vent delivering extra output from 60Hz down to a low 20Hz, meaning the R-820F will deliver subsonics - audible in a room of 18ft-25ft long. Bass damping is good, avoiding boominess and enabling good note

definition, even positioned close to a rear wall.

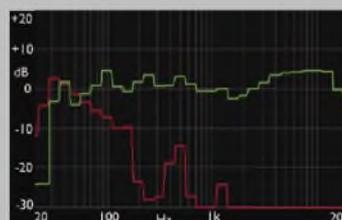
Klipsch specialise in high sensitivity and the R-820F was no exception. It produced a massive 92.5dB Sound Pressure Level (SPL) of 92.5dB - very loud - from just one nominal Watt of input (2.8V). This means it needs very little power to go extremely loud and anything from 2W to 40W will do. The only caveat here is that Klipsch claim it is an 8 Ohm loudspeaker when it is not, measuring 5.4 Ohms overall with a music-like pink noise test signal. The DCR measured a low 3.2 Ohms and our impedance trace shows 4 Ohms at 10Hz and the port tuned to 40Hz (low bass). It is best viewed as a 4 Ohm loudspeaker that draws current to achieve high sensitivity. This is a common design approach where manufacturers strive for high voltage sensitivity, meaning high volume from a low volume control setting.

The R-820F needs little power to

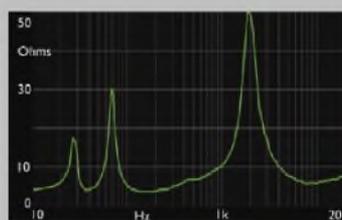
go very loud. It offers very deep but unemphasised bass that is well damped. Treble output however is very strong so the 'speaker will be bright. **NK**

FREQUENCY RESPONSE

Green - driver output
Red - port output



IMPEDANCE



KLIPSCH R-820F £900



EXCELLENT - extremely capable.

VALUE - keenly priced.

VERDICT
A value-for-money floorstander with big, controlled bass and extended treble. Will suit those who like to play music loud.

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LETTER OF THE MONTH PRIZE

Visit our website at www.hi-fiworld.co.uk or send your emails to letters@hi-fiworld.co.uk. Letter of the month wins a pair of B&W P5 headphones.

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



B&W P5 HEADPHONES

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

A pair of B&W P6 headphones are on their way to MIKE BICKLEY, Letter of the Month winner in our NOVEMBER 2018 issue.

Letter of the Month



Sugarcube SC-1 digital click remover, reviewed in our November 2018 issue. "Why would anyone who appreciates vinyl seriously consider purchasing this item?" asks Steve Allen.

BAD DIGITAL VINYL

With reference to the review last month of the Sugarcube SC-1 Digital click remover. Whilst, I can understand the rationale behind such a piece of kit, I struggle why anyone who appreciates vinyl would seriously consider purchasing this item. My system is analogue (valves for all amplification), so why would I want to introduce a digital component to remove clicks and pops from my vinyl?

Like many vinyl enthusiasts, I purchase quite a few albums from record fairs, boot sales, etc; however, before I get my wallet out the vinyl is inspected very closely. If there are

significant scratches on the surfaces, I walk away, but if it's just a bit of dirt/dust and generally the surfaces look good, the deal is done.

A good deep clean on a record cleaning machine (RCM) is all that is needed to restore the vinyl to its former glory, the result being the odd minor click/pop on the entire side. The worst case scenario is you may have to clean the album a few times with varying types of cleaning solutions (as per Paul Rigby's excellent article on cleaning vinyl) but it doesn't take long.

It would thus make far more sense (to me) to purchase a record cleaning machine to remove clicks and pops at

source rather than introduce a click remover. The price of £1500 for the SC-1 is not exactly cheap compared to £500-ish for a Project, Moth, or Ok-Nokki RCM with plenty of change to purchase more albums.

I was a little surprised the review did not make a comparison between a record that had been purchased and stored from new (but never cleaned with an RCM), to the same record cleaned with an RCM. Looking at the review data, I bet an RCM cleaned record would easily exceed the results compared to the click remover.

Best Regards,
Steve V Allen.

Hi Steve. You make an interesting point: clean your LPs to remove clicks rather than buy a digital click remover. My experience is that cleaning removes dirt and the noise that arises from it but does not remove mechanical groove damage.

The LPs I used in the review did not look obviously damaged – and especially not to the extent that was highlighted by the SC-1's output of clicks being removed: it was a rapid stream of them, not correlating with obvious visual damage.

Whilst budget 16bit Analogue-to-Digital Convertors (ADCs) used in low price turntables measure poorly and deliver digital files that sound slightly coarse, dynamically flat and 'grey' in tonality, decent 24bit ADCs have very little impact on sound quality – they are no disaster sonically. The Sugarcube SC-1 has 24bit resolution and I heard little difference switching between click removal and direct, other than the obvious removal of subsonics introduced by the warp filter. And it can be argued that this is no bad thing.

LP cleaning is important in lessening noise of various sorts but the SC-1 did at times offer a massive degree of click reduction that even cleaning could not match and for some – perhaps many – I think it offers a worthwhile improvement, especially with classical music. **NK**

GOOD DIGITAL VINYL

I enjoyed NK's review of the Sugarcube SC-1 click remover. I've lived with mine for some weeks now and think it's a brilliant device. I just took mine straight out of the box, connected it between my Icon phono stage and my Musical Fidelity pre-amp and played with it to see what it could do. I didn't bother with all that internet mumbo-jumbo although I did read the instructions.

I haven't felt a need to start messing with downloads and upgrades but I did find NK's account of trying to do all that interesting and I'll keep his trials and tribulations close at hand if I feel the need to give it a go myself on a rainy afternoon.

I've got a big LP collection, mostly classical, and the SC-1 does a brilliant job. I have mine at the processing default setting of 5 and use it all the time. Anyone whose curiosity is aroused should arrange a home demo without delay. This Sugarcube is a game changer.

Michael Wilcox.

Hi Michael – thanks for the timely backup! The thought of turning LP to digital to remove clicks is sacrilege to some – perhaps many. But I thought the SC-1 offered a useful service in silencing LP and am glad to hear you find this too. **NK**

AVOIDING GRAVITY

With the resurgence of vinyl, a plethora of new turntables has been introduced to the marketplace. The degree of choice must mystify many new explorers of the vinyl frontier!

Hi-Fi World has done more than most to demystify these mighty

mechanical devices. However, there's probably enough lost knowledge about turntables out there to fill several more pages!

A prime illustration of the mechanical nature of a turntable is its pick-up arm.

The majority of pick-up arms encountered today are of the Static Balance variety like the one on the popular Rega Planar 2 turntable. The arm is first balanced using the counterweight. By then moving the counterweight fractionally towards the pivot the arm is put out of balance until gravity provides the required down force.



Over the years many vertical turntables have appeared. Here's two, the Mitsubishi LT-5V and the Pro-Ject VT-E. Springs are commonly used to apply tracking force in this situation.



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The advantage of statically balanced arms is their simplicity. Nothing can go wrong with the down force setting once it is set. The disadvantage is the need to ensure that the turntable is absolutely level. Gravity supplies a down force which always acts vertically downwards and tilting the turntable will result in unequal contact force on opposite walls of the record groove. This militates against accurate tracking of the groove.

Some pick-up arms are of the Dynamic Balance variety. In these the arm remains balanced by the counter-weight. The required down force is applied by a spring without unbalancing the arm. The advantage of dynamically balanced arms is that they don't depend on gravity for the down force. The spring force always acts at right angles to the record which means that equal contact force is maintained on both walls of the groove regardless of turntable level. Such arms have been demonstrated to track perfectly on extremely tilted turntables, and can even operate vertically as

compliance that together form a resonant system, one that gives out sound vibrations over time, after excitement – like a church bell. This is exactly what is not wanted in the delicate and sensitive mechanical assembly comprising cartridge in pickup arm.

That is the argument against using springs: they store music energy and release it over time, smearing the sound.

All the same, as you note, they are used to avoid the gravity thing in many turntables, allowing them to work in all sorts of positions, the vertical ones being especially intriguing. **NK**

CD TRANSPORT

I am looking to replace an Arcam I92 which I am using as a CD transport, to go with a Lector Digicode 704s (with a 3t psu). It needs to be able to play CD-RW or CD-R discs as I occasionally buy odd MP3 tracks from Amazon and pop

Hi Dave. The go-to CD transport of today is Cambridge Audio's CXC. If your Lector has an optical or electrical S/PDIF input (optional) in addition to its balanced AES/EBU input then no problem (the CXC lacks balanced AES/EBU output).

Like most audio CD players the CXC will only play an Audio CD possessing a Table of Contents, but this is added by Windows Media Player and all other audio CD compilers when burning an Audio CD (rather than a data CD). You will have to convert MP3s to standard 16/44.1 WAV format beforehand but Windows Media Player does this too, or use dBpoweramp that is a free download. Have fun! **NK**

INTERNET OR VHF/FM

I was surprised to read Martin Pipe's sweeping assertion that the internet offers the best way to listen to BBC Radio 3 – without any reference at all to the equipment he uses!

I listen to Radio 3 a lot. Until recently I lived for several years in an area without a usable FM signal and with deep regret had to sell my tuner and rely upon the internet (using a Naim streamer). I've just moved to an area where I can revert to FM, and I've promptly done so, tracking down an aerial fitter who managed to source a 5 element uni-directional aerial and point it at the BBC signal some 35+ miles away to get a damn good signal.

The result? Having (repurchased a relatively old but magnificent used Magnum Dynalab 801 valve tuner, I am in no doubt about the superior quality, a larger, deeper and warmer sound/sound stage, a bigger aural picture. Yours etc.

**John Crawley,
Yorkshire.**

Hi John. Thanks for your experience. It brings back memories of my now semi-retired Leak Troughline. There's nothing quite like a valve tuner, ignoring the Leak's poor selectivity which I partially compensated for by using a very high gain, directional aerial pointed at Wrotham to suppress signals from other transmitters, as you have done with a directional 5 element in similar fashion. Then, as you say, it's difficult to better the overall sonic delivery possible from VHF/FM, especially from live broadcasts. The 'net gives a different result altogether – but it's clean and easy for modern man!

However, there are background technical issues little talked about,



Cambridge Audio CXC CD transport that comes with remote control. It plays Audio CD only, but both PC and Mac can burn them. Use it with a high quality external DAC, like the valve equipped Lector Digicode used by Dave Enfield.

on the Pro-Ject VTE turntable. The disadvantage is that the down force spring may weaken over time and become in need of adjustment. Regards,

Alan Scott

Hi Alan. Most people live in a horizontal reality because their ears also react to gravity to give an innate sense of what is and is not horizontal. The hi-fi business backs this up with spirit gauges that you put on a turntable to get it horizontal to perfection. As you say, this is a very simple system based on gravity – surely one that would have appealed to Newton – and in simplicity there is high fidelity truth methinks.

Ping a spring and it will ring. That's because it has both mass and

them on discs.

I quite like the balance of the system, but an upgrade rather than a straight replacement would be fine too, for future proofing. Space is at a premium for the transport, so would rather not have additional PSUs if possible, but if necessary then so be it.

So I wonder if you can give me some options for likely candidates to take the place of my Arcam, which will be a good fit for the Lector.

The rest of the system comprises: Pathos Logos amp and Focal Aria 926 speakers and good quality interconnects and speaker cable too.

Your help would be greatly appreciated, I really don't know what my choices are!

Many thanks and warmest regards,
Dave Enfield.



"I purchased a relatively old but magnificent used Magnum Dynalab 801 valve tuner" says John Crawley. "I am in no doubt about the superior quality" compared to internet (pictured here is the MD108 triode valve tuner; the MD801 is solid-state).

yet fundamental (brutal!) truths, that Martin Pipe clearly outlines below.

NK

Hi John. The equipment I use on a regular basis is a Cambridge CXN for accessing the BBC's 320kbps streams. It feeds the rest of my gear via Chord or Prism DACs. My speakers are Quadral Aurum Wotan Vllls, with ribbon tweeters fully able to reveal finest details.

Although lossy (AAC) compression is employed by the BBC, the source is 16-bit audio, at a 48kHz sampling rate. When the BBC trialed lossless streaming last year (a FLAC-encoded 16-bit/48kHz source), we arguably heard Radio 3 at its finest ever, although the BBC's insistence on listening via a computer robbed these streams of their potential (there were however get-arounds).

there are good technical reasons for this. The frequency response of FM broadcasting is restricted to 15kHz, the theoretical separation of stereo channels is restricted (parallels with vinyl there!) and, unless you have an 'ideal' aerial system, reception and sound quality can be impaired by noise and multi-path distortion.

There is something quite enjoyable about sweeping the dial of a tuner for something you haven't heard before – whether a 'pirate', a local broadcaster in another area or even (when propagation conditions are favourable) overseas stations.

As a system, FM radio is not completely analogue here in the UK – or for that matter elsewhere in the world. The basic transmission may be analogue, but the BBC uses ancient NICAM-3 technology (14-bit, sampling rate 32kHz, i.e. significantly

in/2NLMEnR. For those who would like to learn more about NICAM, you could do worse than the BBC's own white paper: <https://bbc.in/2EDuK7N>.

Could it be that FM transmission 'smooths over' the rough edges of a 14-bit system (16384 possible 'steps', as opposed to 16-bit CD's 65536)? An analogue tape copy of an early CD usually sounds more acceptable.

Distribution of audio to FM transmitters has been digital since 1972, when the BBC started using linear PCM (13-bit - a mere 8192 steps! - 32kHz) links to replace the problematic (noisy, distortion-prone and subject to phase errors) analogue landlines it was renting from the GPO. In the 1980s, the BBC switched from PCM to the more efficient NICAM-3, (14-bit, companded digitally to 10-bit) as this gave better performance combined with a lower



Yamaha T-S1000 FM tuner. "It sounds just great. Some of the BBC's Promenade Concerts were wonderful" says Pat Rickwood.

As discussed, not everyone can get reliable streaming in the UK. BBC Radio 3 does sound good on FM – indeed, it's probably the only decent FM service left in the UK.

FM is my second choice of listening, via classic tuners from Pioneer and Revox amongst others. As regular readers will know, I am opposed to the shut-down of FM broadcasting. Whether we listen to FM or digital, it should be our choice! But in my view, high-quality streams (as opposed to DAB ones) have a subjective edge over FM – and

lower than CD quality) for the network that distributes audio to its transmitters. Basically, it's turned from analogue to digital for the transmission network, courtesy of an equipment rack in the bowels of Broadcasting House. Many miles away, in buildings shadowed by tall masts, those NICAM streams are then converted back to the analogue form needed by the stereo coder and transmitter.

This article in BBC R&D details the latest generation of its NICAM gear, installed in 2015: <https://bbc>.

bitrate – important considering it anticipated growth in the number of radio services that needed to be carried across the network. Further historical and technical details on the national distribution network that the BBC uses to get its audio from studios to transmitters can be found here: <https://bit.ly/2AfH8Xk>. **MP**

ON TUNE WITH YAMAHA

At 83 I decided that it was time to stop sticking my fingers inside boxes with H.T. potential in them and purchase some modern equipment that worked



The Beatles in Mono box set. "A modern mono pressing which transported us to those '60s recording sessions, when played with an Ortofon Quintet Mono MC cartridge" says Phil Rigby. "60+ year old pressings sound as fresh as ever" too.

at switch on. My local Audio Visual shop – more visual these days – had some Yamaha hi-fi on sale so I purchased an A-S1100 amplifier, CD-S1000 CD player with SACD setting, and the T-D500 tuner. Domestic happiness. When we pushed tuner button on the remote control it worked. Reminded the wife of our Quad 34 and FM 4 system that automatically

automatically selects your choice. But she did not have to work out how to pre-tune the damn thing!

With FM I think Yamaha know how to design a good FM tuner so I do not include any tech. comments, but it sounds just great. Some of the BBC's Promenade Concerts were wonderful. Also you have to turn a tuning knob to select stations. This is a reminder of my national service days in a Tank Regiment – which again suits me.

I do not smoke a pipe but my daughter is threatening to buy me fur lined slippers. So please BBC do not switch off FM for a few more years. I need to get my money's worth out of the FM tuner!

Best Regards,
Pat Rickwood.

MONO MAGIC

I wanted to thank you for your review of the Hana mono cartridge and article relating to the playback of mono recordings and share some of my own experiences.

When the Beatles in Mono box set came out I wanted to enjoy them in optimal fashion (within my budget and suiting my World Designs MC phono preamp) and so purchased an Ortofon Quintet Mono. This proved to be a wonderful way to experience the fantastic work done by the team at Abbey Road in producing a modern mono pressing which transported us to

those '60s recording sessions.

But what about early mono pressings from the 1950s? I have some of my Dad's records featuring the likes of Eyring and Gigli and I have to say that these 60+ year old pressings sound as fresh as ever with my set up. Knowing that the Ortofon has a modern elliptical tip and would sit lower in the groove than cartridges from the likes of Hana and Miyajima I wondered if a record that in its 60 years had suffered the abuse of a worn early spherical type stylus may indeed offer better playback with a stylus tracking a hitherto undamaged (lower) part of the groove wall?

Sincerely,
**Phil Rigby
Brisbane,
Australia.**

Hi Phil. Well, if your Ortofon Quintet Mono with its 0.7mil (18µm) tip makes your Dad's early records sound "as fresh as ever" then it seems they can give a fine result in 1mil mono grooves. The only issue is not hitting the bottom of the groove where dirt can lie, but there is a bottom clearance radius to prevent this and it would appear to sufficient in your set up, with the LPs you play. Good to know you get excellent results from such a tip when spinning old mono classics.

NK



Ortofon Quintet Mono MC cartridge.

switched to radio at switch on.

Then as always with our hobby, Satan came calling with the offer of the matching Yamaha T-S1000 FM tuner. I sinned and purchased the tuner. So I am able to compare the two systems.

DAB is 100% perfect for my wife. You press a button and the tuner

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WIN NAD'S SUPERB C338 HYBRID DIGITAL INTEGRATED AMPLIFIER WORTH £600 IN THIS MONTH'S GREAT GIVEAWAY!

Here's your chance to win the superb NAD C338 amplifier we reviewed in the August 2018 issue. Read the review excerpt below and answer the questions.

"With the C338 NAD have packed in as much as possible, with seemingly little compromise since – on paper at least – this unit has a performance few rivals can match.

Described by NAD as its most versatile amplifier yet, it is also one of the most feature-packed and flexible I've come across at

the price. Alongside three analogue inputs (including an MM phono stage) there are coaxial and optical digital connections, plus Bluetooth and wi-fi via supplied screw-in antennae.

But that's not all. It can also stream Spotify, Tidal and even Google Play with a simple tap from your smart device – 'phone or tablet.

That's a lot to pack in to a unit measuring a slim 70mm x 435mm x 285mm (H/W/D) and weighing a lift-friendly 4.86kg (10.7lb). The rear is a bit tightly packed, but not so much as to make connecting everything too fiddly.

The front panel though is a

model of simplicity – supporting a 6.3mm headphone jack, source selection buttons, a small display screen and the volume control.

Those slim dimensions are explained by the fact that the C338 uses Class D amplification based around a proprietary design dubbed HybridDigital which uses a customised Hypex UCD module at its heart.

A free NAD Remote app (available for iOS and Android smartphones and tablets) will change volume and switch sources".

For a chance to win this great prize, just answer the four easy questions at right. Send your entries on a postcard only, by 7th December 2018 to:

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QUESTIONS

[1] What lies at its heart?

- [a] cathode ray tube
- [b] Cray computer
- [c] Hypex UCD module
- [d] Intel Celeron chip

[2] How many analogue inputs?

- [a] three
- [b] six
- [c] none
- [d] thirty three

[3] The weight is?

- [a] 4.86gm
- [b] 4.86lbs
- [c] 4.86tons
- [d] 4.86kg

[4] The rear is?

- [a] gold plated
- [b] tightly packed
- [c] well lit
- [d] inaccessible

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SL-1200G	SL-1200GR	SL-1210GR					
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GOLD NOTE

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GOLD NOTE

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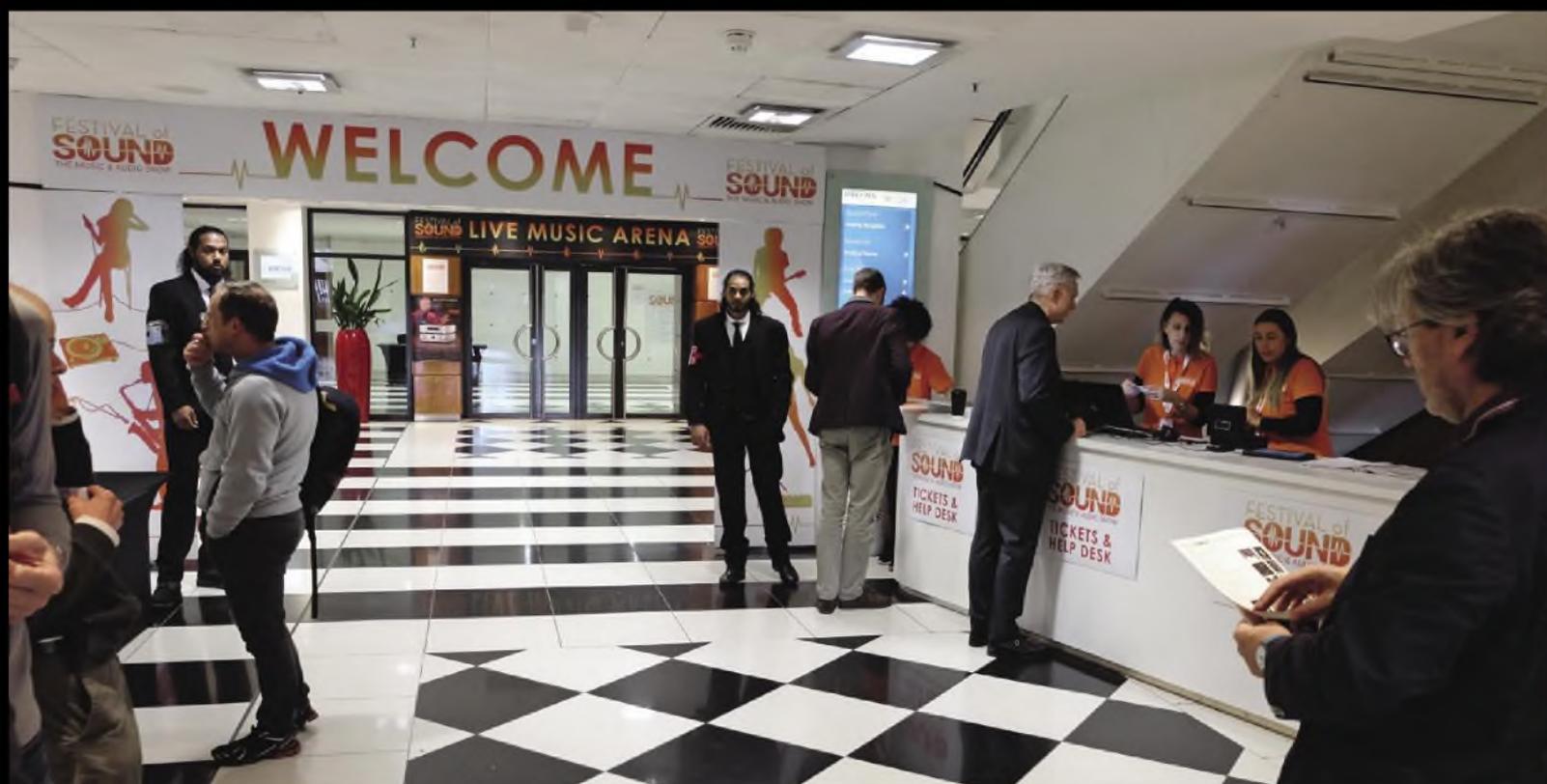
- Moving coil



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GOLD NOTE

Festival of Sound 2018



Held in the Novotel hotel, Hammersmith, West London, this year's Festival of Sound audio show held over 28th-30th September had interesting exhibits, talks and live performances. Noel Keywood and Martin Pipe report.

Festival of Sound is a relatively new London show. Previously called The Indulgence Show it has worked well, with good attendance. This year's event, complete with name change to strengthen identity, was again well supported by manufacturers and had a very wide range of music events. We exhibited as always 'cos it's just down the road – and plenty of people came. Here's a run down.



Russ Andrews were showing for the first time their new BMU 1500 balanced mains supply, designed for 220V-245V mains input. Inside there is a massive toroidal transformer capable of delivering 1500 Watts I was told, enough for just about any system. Balanced greatly reduce leakage currents, improving sound quality. NK



There was more to the show than just gear. In addition to talks, where established industry insiders shared their experiences with showgoers, one could find live music! Friday attendees prepared to stay until the evening heard former members of the Art of Noise performing and 'playing raconteur'. They were helped by digital technology far more advanced than the stratospherically-expensive Fairlight that was a key element of their sound.

Also playing a role here were B&W's awesome £1m 'Sound System' - 32 woofers, 48 mid-range drivers and 64 tweeters backed up by 120kW of amplification. Earlier on, though, you could have caught this acoustic set with 'Boo' Hewerdine, from classy '80s outfit The Bible, and ex-Squeeze man Chris Difford (who also ran a songwriting workshop on Sunday).

MP



KEF had a prominent position on the second floor, with an open but working display area (at left) demoing their smaller loudspeakers, a Reference Series R11 (centre) with its side removed to show the complexity of the internal bracing and drive unit loading scheme, a small headphone bar and a closed demo room for the louder stuff! NK

I was fascinated – like a lot of others – by this talk given by the authors, Dave Lewis and Mike Tremaglio, of their book *Evenings with Led Zepelin – The Complete Concert Chronicle*. Apparently they played no fewer than 500 concerts in all and just trying to pin down where they did and did not appear was made difficult by shows advertised and then cancelled at the last moment, and such like, the authors explained. Incorrect name spelling (Lead Zepelin and plenty others) make internet searches unreliable too; original sources had to be found for this definitive record. NK



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PMC put on a display of the technology they use to measure vibration in the structure of their cabinets. Here the signal from a vibration transducer on the front dome of a midrange driver mounted on a massive alloy frame is compared with that from a transducer on the panel behind. The frame, mounting a dome midrange and tweeter, are part of PMC's massive Fenestria 3 (£45k) – designed for larger homes and pockets. **NK**



Newcomer NODE were showing an innovative new loudspeaker, the Hylixa, that was more than it appeared. The cabinet contains a long acoustic line coiled behind the bass unit to provide deep bass from a compact shape, they told me. The midrange unit is a BMR – a flat panel driven to excite it across a broad frequency range – and it is augmented by a small tweeter. The Hylixa sounded superb – full bodied with strong bass and great imaging. **NK**



B&W were showing their new budget 600 Series loudspeakers, the 607 (£400), 606 (£550) and 603 floor-stander (£1250) lined up for us neatly here. They use a Continuum metal cone bass/midrange driver that replaces the distinctive yellow Kevlar units of old, plus an aluminium double dome tweeter (ring dome?). The floor-standing 603 has paper cone bass units we were told. **NK**



Head master

Martin Pipe plugs into the Neve RNHP – a headphone amp from the man behind some legendary mixing consoles.

Chances are that you've already heard a Rupert Neve product. His British-made consoles, installed in recording studios around the world. Now living in the US, he formed a Texas company – Rupert Neve Designs – to “craft timeless musical tools for the 21st century” including the device that concerns us here – the £469 RNHP “precision headphone amplifier”.

Using the RNHP is simplicity itself. On the unit's front panel are quarter-inch (6.3mm) headphone jacks (no balanced cans here!),

a volume control and three illuminated buttons labelled 'A', 'B' and 'C'. These select the rear-panel connectors to which you attach sources – respectively +4dBu balanced inputs (the Neutrik sockets accommodate XLR or quarter-inch TRS plugs), phono line inputs and a stereo 3.5mm jack for portable gear. The rear panel also contains the power supply connector (24 volts DC) and a switch. We are told to power up the RHCP before attaching headphones.

Reflecting its likely buyer, the RNHP has a robust and functional

metal enclosure with VESA-compliant mounting holes on its base. What's inside is interesting too. Input selection is electronic, using high-quality DG413 analogue switches that won't wear out and go noisy. The selected signals are passed, via an excellent-quality ALPS pot, to the headphone amp proper. This is – appropriately enough! – a Texas Instruments TPA6120 Class-AB device with current feedback. Plenty of capacitors are evident; I suspect that the RNHP holds the analogue signals at half-supply potential (the DC input is single-rail)



and uses AC coupling. That would certainly explain the manual's power-up recommendation, as the charging of capacitors in a signal path can result in audible 'pops'

Supplied with our review sample of the RNHP were a couple of 'goodies' from the unit's importer Russ Andrews. One is the £449 'Supplier' mains unit, which is designed to replace the inexpensive wall-wart supplied with the RNHP. It's rated at 60 watts – more than four times the capacity of the bundled unit. Like the latter, the Supplier is a switched-mode design. I had a lengthy chat with Russ Andrews, who told me that the Supplier's internal supply module – the best of many he had evaluated – was the closest he could find to a conventional linear supply in terms of sound quality.

Even then, many of the components – among them, electrolytic capacitors – are replaced for improved performance. There is also additional mains-side filtering, mounted on a separate circuit board, to remove line noise and other nasties. To connect the Supplier to the mains, Russ Andrews sent us a 1-metre YellO IEC mains lead, constructed from Kimber Kable.

SOUND QUALITY

I partnered the RNHP with both Neve and Russ Andrews power supply chains, a Chord Qwest DAC and two pairs of headphones – Focal Utopias and Oppo PM3s. Sources included a Windows 7 laptop running Foobar2000, a Cambridge CXN streamer and a FiiO X3 personal player with digital output. The first thing I noticed, regardless



Inside is a TI TFA6120 headphone amplifier 'chip' – the rest provide support in terms of input switching and signal conversion. Neve has specified a high-quality ALPS potentiometer for the RNHP's volume control.



A pair of Neutrik connectors will accept balanced sources via XLR or quarter-inch TRS plugs, while unbalanced sources can be fed to the phono or 3.5mm jacks.

of the power supply or headphones being used, was just how much energy the RNHP puts out. It can go very loud! Hardly surprisingly, Neve's documentation warns us to avoid "extremely high noise levels"

"An insightful and musical headphone amplifier with plenty of drive."

which could cause "permanent hearing loss". Loud, yes, but the sound remains clean and clear. And it retains this clarity even with dense recordings.

With Mogwai's Party in the Dark (CD rip, FLAC) for example, the upper percussion was clearly audible – with lesser gear, it tends to disappear into a 'wall of sound', along with any other subtlety. Indeed, I'm very impressed with the sheer delicacy of which the RNHP is



The Supplier has a bought-in switched-mode power supply at its heart. It is then modified by Russ Andrews.

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capable. Whether I was listening to Christine and the Queen's Girlfriend, the Stranglers' Just Like Nothing on Earth or Bodega's Name Escape (all CD-quality FLAC), the guitar playing could easily be followed. On other amps my attention may instead focus on the vocals, drums, keyboards, bass or production. Analytical then. Well, it has been pitched first and foremost at the recording industry -



Completing our Russ Andrews package is this one-metre 'Yello' IEC mains lead, which uses Kimber Kable in its construction.

The half-metre XLR 'DC link cable' that Russ Andrews bundled with our review Supplier, to power the RNHP. According to the website, though, a "1m cable is supplied as standard" with these units.

but its prowess in this regard won't stop you from enjoying the music.

Stereo imaging could not be faulted either. White Noise's An Electric Storm makes great use of those two channels, sounds panning around your ears to good effect. This early electronic album – an odd but compelling concoction that draws on elements as disparate as the Beach Boys and 1950s sci-fi soundtracks for its influences - goes back to the analogue age. Flaws like noise and distortion are often apparent, whether by design or owing to limitations of the prevailing technology. Thankfully, the RNHP added nothing to the grittiness of this distortion. Furthermore, I'm sure I could make out elements I had missed on previous occasions.

Underworld's Second Toughest in the Infants (CD rip, FLAC) shows that the RNHP can also deal deftly with rhythms and the 'groove' of electronic dance music. With classical music – Trondheim Solistene's performance of Britten's string-laden Variations on a Theme of Frank Bridge (2L DSF256) and the same composer's War Requiem (Noseda/LSO/Eltham College Choir,

24-bit) I was taken into the heart of the music with an enveloping soundstage, an innate grasp of

dynamics and a tonally-neutral presentation. And all of this is with the standard power supply; substitute the Supplier and Yello, essentially doubling the price, and there are subtle but tangible benefits in terms of depth and weight.

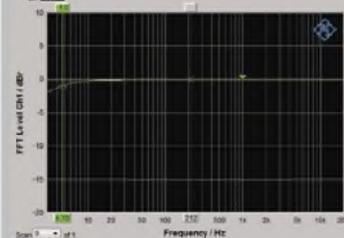
CONCLUSION

Styling may be functional rather than elegant, but the Rupert Neve RNHP is an insightful and musical headphone amplifier with plenty of drive. The benefits of the accessories supplied by Russ Andrews are slight, but tangible. Well worth considering.

MEASURED PERFORMANCE

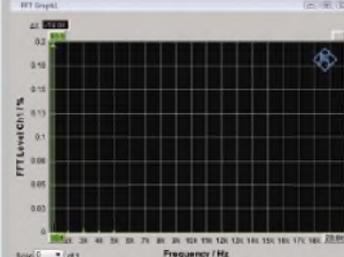
The Rupert Neve RNHP headphone amplifier had a gain of x3.4 (10.6dB)

FREQUENCY RESPONSE



DISTORTION

THD at 0.1	Level 80dB	Frequency
0.0070 %	3.3640 V	1000.0 Hz
OFF	OFF	OFF



from input to the front headphone output. Since headphones need around 1V maximum to go extremely loud an input of 300mV is needed and this can be supplied by most external sources, such as mobile 'phones or perhaps Phono stages. A maximum output of 7V is more than enough.

Distortion in the mid-band (1kHz) with a high 1V input measured a very low 0.007% so no problems here.

Frequency response was very wide, stretching from a low 5Hz up past 100kHz.

Noise (hiss) was very low at -98dBV, so the unit will impose no limit upon hi-res digital reproduction.

The Rupert Neve RNHP possesses an excellent measured performance. **NK**

Frequency response	5Hz- 100kHz
Distortion (1V in)	0.007%
Separation	87dB
Gain	x3.4 (10.6dB)
Noise	-98dBV

**RNHP - £469;
SUPPLIER - £449;
YELLO - £60 (1M)**



OUTSTANDING - amongst the best.

VERDICT

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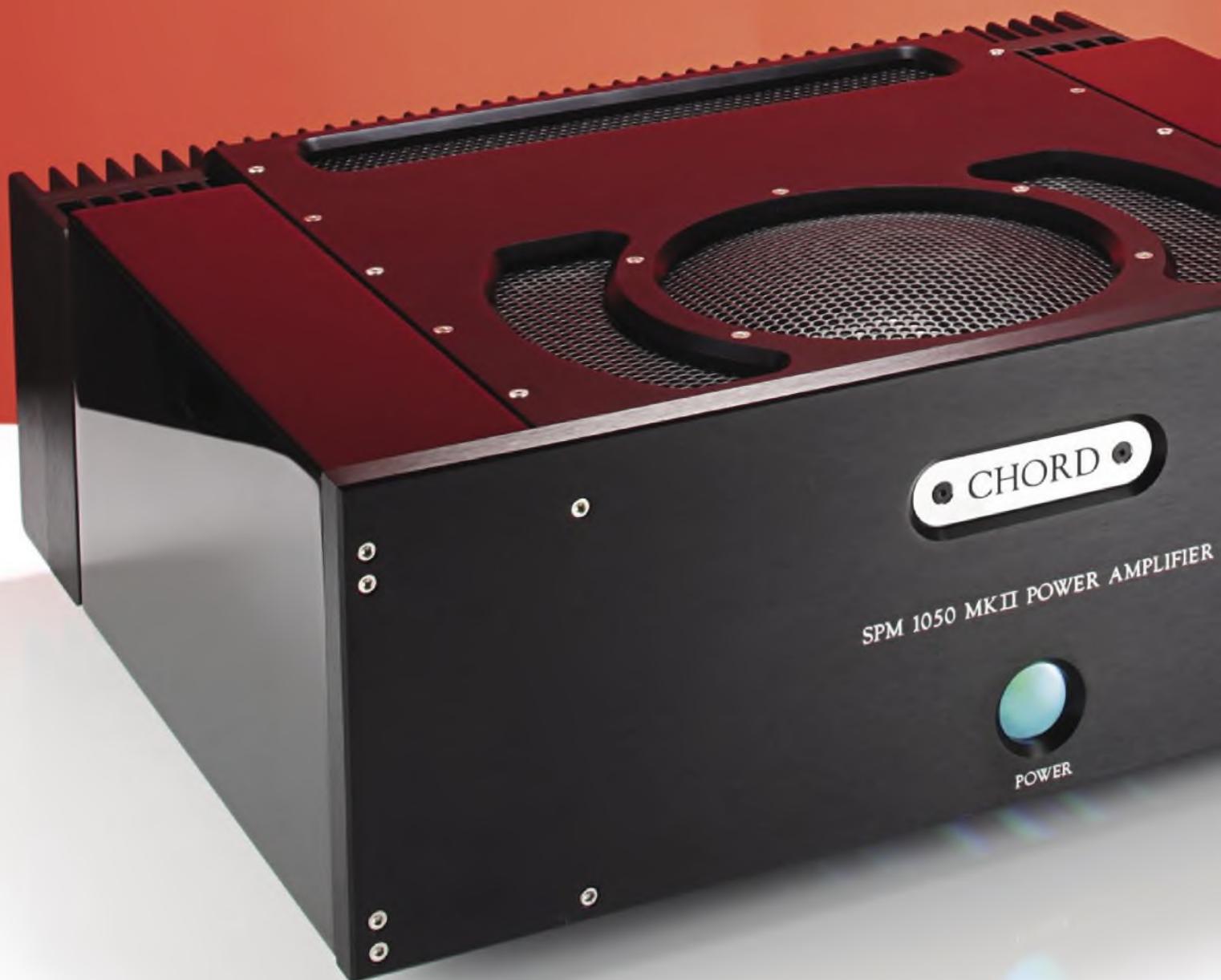
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Chord has upgraded its SPM 1050 power amplifier to MkII status. Jon Myles takes a listen.

Classic Chord

Chord Electronics has had impressive impact over the past few years with its range of DACs and streaming devices. So much so that the company's original products tend to get overlooked. But their superbly built and finished power amplifiers are worth listening to - and the latest SPM 1050 MkII is a case in point.

The new MkII version introduces Chord's latest amplifier technologies, plus some key aesthetic improvements. There is reduced output distortion, plus improved capacitance for cleaner power delivery.

In keeping with the original, the SPM 1050 MkII uses Chord's low-distortion amplifier circuitry and features four proprietary dual-

die Mosfet transistors per channel - eight in total.

As ever with Chord there's a switch-mode power supply inside while the rear panel features gold-plated balanced XLR and unbalanced RCA inputs and a sturdy single pair of loudspeaker binding posts.

Priced at £8590 it is not exactly cheap but it certainly looks impressive and has a distinctive

"Playing a variety of material - ranging from rock, opera, string quartets, indie and grunge - there was never one moment when the Chord let me down".

presence with its aluminium body and sculpted feet.

I used it with a (sadly discontinued) Oppo UDP-205D universal disc player with sources including CD, high-resolution digital audio and streaming from a MacBook Air.

SOUND QUALITY

Let's not beat about the bush - this is one massively powerful amplifier able to drive any loudspeaker with ease (see Measured Performance for the full analysis).

However, one of its main attributes is how clean it sounds. A good amplifier should never impart too much of its own character and the Chord certainly does not. It is one part of the chain that lets you hear exactly what the source and loudspeakers are doing. Using it with a variety of loudspeakers and inputs the SPM 1050 MkII always displayed an immaculately true character I found.

Connected to our reference Martin Logan ESL-X hybrid electrostatic loudspeakers via Tellurium Q Black II cabling there was a pristine quality to Leonard Cohen's 'I'm Your Man' CD. The electronic percussion on 'First We Take Manhattan' had depth, body and most importantly moved along with pace. Cohen's gravelly voice was also suitably gruff - the Chord projecting his vocals well

into the room.

On Nirvana's 'Smells Like Teen Spirit' the power of the amplifier was evident. The guitar notes spat with venom and decayed in a lifelike fashion. Even better was the way the amplifier managed to separate the instruments so each one could be tracked with precision. Again, the vocals stood out with Kurt Cobain's voice well to the fore.

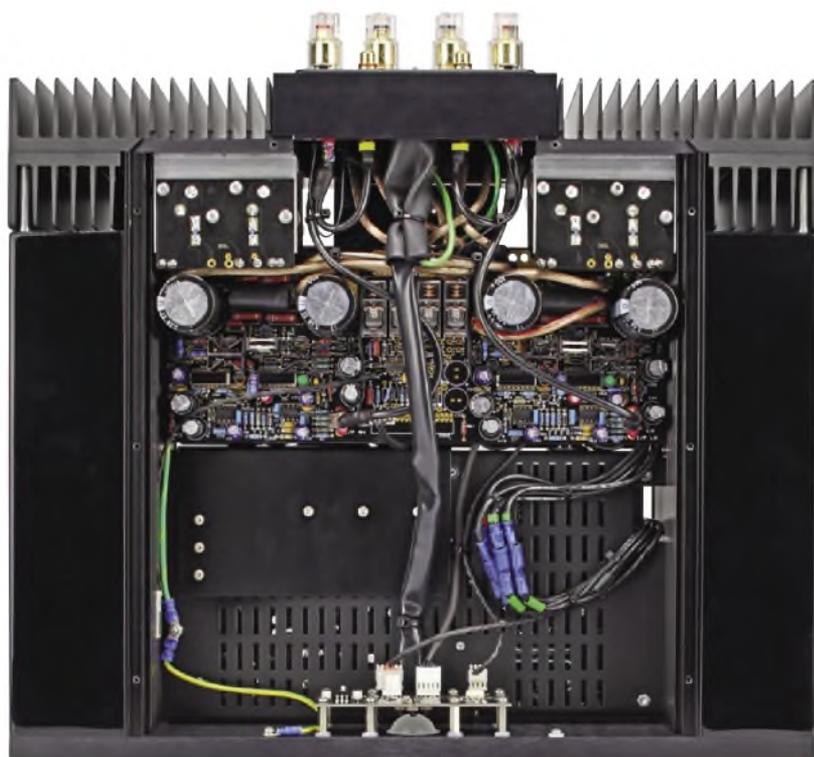
Moving to 'Mahler's No 4' by the San Francisco Symphony (24/96) displayed exactly what the power amplifier can do. Violins hung in the air in front of me - and they were natural, with a full body to them. Tracking the individual instruments was a joy, plus the crescendos were so powerful I almost fell off my listening seat. Every single piece of the orchestra fell into place with uncanny accuracy. I could track the kettle drums, string section, flutes and sleigh bells with ease.

What the Chord won't give you, though, is a sense of warmth. It just doesn't do that. Compared to a valve amplifier such as the PrimaLuna Dialogue Premium it sounds much more clinical.

But that is not a bad thing. Switching out the Martin Logans to a pair of Klipsch

R-280F Reference floorstanders (see review elsewhere this issue) brought the essential character of this amplifier into focus. Yes, it can pump out the Watts but there is also a delicacy on offer when needed. Sinead O'Connor's rendition of 'Peggy Gordon' from her Sean Nua album made the hairs stand up on the back of my neck. This is a deliciously produced track and the Chord replayed it in all of its glory. Playing it back a number of times I couldn't help but be struck as to how clean it sounded.

Essentially what I heard was the



Upgraded internals feature new circuitry and four dual-die Mosfet transistors per side.

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Audio Bacon review of Dual BNC Cables for the Chord Blu Mk2 MScaler

"The first thing I noticed about the **STORM Reference** was its bass extrusion capabilities. It has a huge bottom that protrudes into your listening space. It throws its weight outward with ease and authority. Kick drums have a chest-rattling impact (cannons from 1812 Overture) with tangible shape, tone, and tightness. **Definitely the punchiest out of all the cables I've heard so far..**"

(Actions speak louder than words as they say and after the review the reviewer bought a pair of **WAVE STORM Reference** Dual BNC cables for his own use.)

sound of the loudspeakers and the source - the amplifier coming out of the equation and being the ideal of a straight line with gain.

Playing a variety of material - ranging from rock, opera, string quartets, indie and grunge - there was never one moment when the Chord let me down. It is neutral, powerful and totally entertaining.

One of its main attributes is the lack of strain when you push the volume higher. With Nils Lofgren's 'Keith Don't Go' the Chord kept the leading edges of his notes totally clean no matter how high the volume through both the Martin Logans and the Klipschs.

It also revealed the essential differences between the loudspeakers - the Martin Logans sounding much more open and airy in their presentation while the Klipschs were more boxy.

The Chord will handle a big orchestral piece with aplomb. Should

there have been a better space around the instruments? Were the lower ranges a little muddled? Could we have had a little more from the mid-range? Actually it's not a fault of the amplifier here, it's what comes before and after that is making the difference.

But that's a testament to just what this power amplifier can do. It holds no prisoners but simply sits there and does its



A switch-mode power supply allows the SPM 1050 MKII to deliver massive power with ease.



The rear of the SPM 1050 Mk II has gold-plated balanced XLR and unbalanced RCA inputs, alongside sturdy loudspeaker outputs.

job with minimal fuss and maximum performance. As such it can be applauded.

CONCLUSION

The new Chord SPM 1050 MKII power amplifier is refined and special. Built to exacting standards it is massively powerful and ruthlessly revealing. Match it with good loudspeakers and sources to get the best out of it.

MEASURED PERFORMANCE

The Chord SPM 1050 MkII produced 300 Watts into 8 Ohms and 500 Watts into 4 Ohms. It's an amplifier with power levels aimed at Pro use. Big volume into a big room may need such power to avoid peak clipping.

Distortion in the mid-band (1kHz) measured a low 0.02% at 1 Watt to 0.05% just below (-1dB) full power output and at high frequencies (10kHz) rose little to 0.04% at 1 Watt and 0.05% just below full output - very low values. Our distortion analysis at 10kHz, 1 Watt, shows minuscule harmonic levels, if a 0.1% non-harmonic component at 75kHz that will not be produced by a loudspeaker.

Frequency response measured flat across the audio band, the upper -1dB limit being 58kHz, whilst the lower limit was 2Hz.

The Chord needs 1.5V input, via phono or XLR sockets, for full output

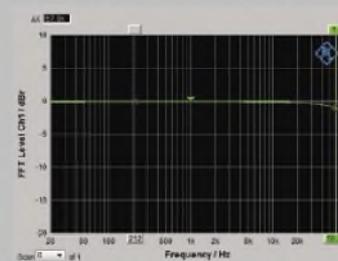
- a bit above the usual 1V value. Preamplifiers can deliver this easily. There's enough voltage gain to accept a low gain phono stage but volume will need to be turned up via a x1 passive preamp.

Noise (hiss) was very low at -103dB, making the Chord well able to pass on the sonic benefit of high resolution digital.

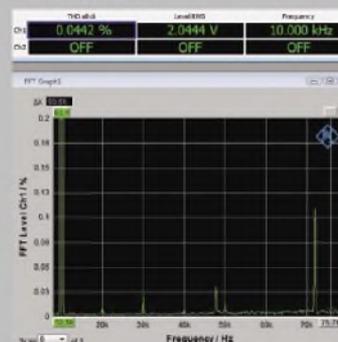
The Chord SPM 1050 MkII possesses a superb measured performance. It is vastly powerful yet fully able to deliver the benefits of hi-res digital due to low noise. **NK**

Frequency response	2Hz- 58kHz
Distortion	0.04%
Separation	87dB
Sensitivity	1.5V
Noise	-103dB

FREQUENCY RESPONSE



DISTORTION



CHORD SPM 1050 MKII £8995



OUTSTANDING - amongst the best.

VERDICT

Massively powerful amplifier that has a clean, clear sound that will benefit from good sources and loudspeakers.

FOR

- power
- construction
- clean sound

AGAINST

- lacks warmth

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Fun fair!

Martin Pipe pays a visit to the autumn Audiojumble.



A red letter day for audiophiles is the Tonbridge Audiojumble, two of which are organised every year. February's event was noticeably busier than the October one featured here. The smaller 'side' rooms of the Angel Centre, typically used for demonstrations, were bereft of activity. Its main halls were however packed, and the corridor outside the smaller of these hosted several stands – one of them manned by myself and my friend Adrian.

Uber-enthusiast and Quad restorer John Howes, who started the Audiojumbles, reckoned that "economic uncertainty" was behind the lower attendance figures. In my experience, though, the February Audiojumble tends to be busier than its late-summer counterpart. Winter or autumn, the Audiojumble in Kent is still great fun and well worth visiting. The Angel Centre is easy to reach by train or car – parking is plentiful and free!

Most of the stalls are manned by friendly enthusiasts, who are thinning out their collections. I sold some of the items featured in my Olde Worlde feature – my cherished JVC JA-S11 amp, an iconic Sony tuner, various tapes and two old Goldring GL75s in need of TLC have now gone to new homes – and with some of the money I bought a hi-res Firewire

tape recorder, speaker drive-units or electronic 'curio', there's no better place to indulge yourself. Also demanding your attention are the stalls – trade and enthusiast – selling new and used vinyl, CDs and tapes of various formats. Among them are spools of tape for quarter-inch open-reel machines, which seem to be enjoying a revival at the moment. Pre-recorded reels are surprisingly common, but you can also buy recorded media for re-use – exploring the contents of recorded tapes is, however, a hobby in itself (especially larger professional tapes, of 10.5in diameter).

There's also a terrific range of CDs and vinyl, all manner of musical tastes being accommodated. This October's event introduced



audio interface and a Pioneer quadraphonic receiver for restoration. Prices can vary from very cheap to wildly expensive, but that's the luck of the draw. If you have practical electronics experience, you can buy non-functioning equipment for next to nothing – indeed, by the end of the day some of it was being given away! Most items can be repaired if you've the time and knowledge, while others are for spare-parts only.

A typical Audiojumble runs the gamut from valved wireless sets from the steam age to hi-fi equipment from the stream age. If you're after valves, gramophones, microphones,

an additional 8.30 'super early bird' entry time, meaning that stallholders only had half an hour to get everything ready. Fortunately, only 40 or so people were prepared to pay £20 for the privilege – most filed in at 9.30 (paying £12) or 10.30 (£6 entry) – so sellers were not overwhelmed!

The next Audiojumble takes place on Sunday 17th February 2019 at the Angel Leisure Centre, Tonbridge, Kent TN9 1SF. www.audiojumble.co.uk Hope to see you there!



Two classic Leak TL12 amps in BBC LSM/8 clothing. The TL12's two KT66 beam tetrodes (GEC ones here) work in push-pull to deliver twelve watts with 0.1% distortion – pretty good stuff for 1948, when they were launched. These TL12s have been modified with phono inputs, enabling them to be used with any standard pre-amp. £1,500 was being asked for this pair!



Bang and Olufsen gear was always a treat for the eyes (as well as the ears) and this Beogram 4500 is no exception. Produced late 1992, it is a computer-controlled linear tracker with a belt-driven platter. The fitted MMC2 MI (moving-iron) cartridge drives an in-built phono stage. Unfortunately, B&O cartridges (and stylus) are proprietary and replacements are ludicrously expensive. The £100 asking price no doubt reflects this.



Most gear at an Audiojumble has practical value but the 1970s Telefi, from speaker manufacturer Celestion, is an exception. Providing high quality sound from TV, an 'inductive pickup' probe fits inside the TV and a box – seen here – converts the FM signals into audio for the hi-fi. A £5 museum-piece...



Personal cassette players. Many of the sorry-looking specimens in this box were on offer at 50p a throw, providing a source of spares or being a restoration project.

Some believe the Garrard 4HF turntable seen here led to the classic 301 – although the two are very different. It looks great, though; the styling shrieks 1950s (it was launched in 1957) and instantly transports you back to a time of jukeboxes, coffee bars and rock 'n' roll. This one, being offered for £195, was in need of servicing – expect dried grease and a failed rheostat...



Looks great, doesn't it? Graetz's Profi Studio 'casseiver'. This 1975 unit combines DIN connectivity throughout, FM/MW/LW tuner with presets, 50W per channel amp. and a basic cassette deck featuring piano-key controls, chrome tape compatibility and Dolby B noise reduction. In excellent working condition, the seller wanted £80.



Although it was getting on for 90 years old, this 1932 HMV 521 radio-gram was in surprisingly good condition and even came with the original paperwork. Clearly, it has been looked after and £45 was a very good price, but the ancient valve electronics and turntable mechanism were in need of restoration work.



A pair of Lowther Delphic loudspeakers, in good condition and offered here for £2,000 – the going rate. An imposing and heavy (25kg) yet elegant beast with two EX2 drivers (one firing upwards), the Delphic was a 1970s update of the classic Auditorium Acousta.



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From left to right, a rubber-keyed Sinclair ZX Spectrum home computer, a 1983-vintage British Telecom



(no 'BT' then!) Rhapsody push-button telephone and a Rigonda portable black-and-white TV from the late 1970s. The latter was built to almost military standards, in a Soviet Union desperate for Western cash.

A Chinese Shanling CD-T100SE from the late 2000s. The tubes (6N3P double triodes) form part of the player's analogue output



stage. The mechanism and associated electronics were from Philips, while the DACs are Burr-Brown PCM1704s in differential mode. In excellent condition and full working order this one was £600.

The most popular of the quadraphonic formats was the stereo-compatible 'SQ' ('Stereo Quadraphonic') matrix developed by CBS. To retrieve the rear channels, you need a SQ decoder like the Sony SQD-2020 (bottom) in all its metered glory. Above is the budget Sony SQA-200, which supports front-back logic and has built-in amps for the rear channels. The respective £70 and £50 being asked seemed reasonable.



A 1950s-vintage U.S. built Zenith stereo amplifier and tuner combo with UK step-down transformer. Tubed throughout, it had an FM/AM tuner and a modest 6BQ5 (EL84) single-ended amp with 'bass boost'. For £85 an affordable intro to the valve sound.



A Philips N7150 open-reel tape deck. This budget and rather plasticky three-head design, built around four motors, it can deliver surprisingly-good results when it's working properly. This rare 'black' version sold under the Aristona banner and had a 'minor fault' – hence the low £50 price.



Linear-tracking turntables were all the rage in the 1980s. This Sharp VZ-3500 has two cartridges, enabling both sides of the record to be played without human intervention. It also features a dial-and-pointer FM/MW/LW tuner, a front-loading Dolby cassette deck that supports metal tape and a 25W amplifier driving matching speakers. £100 was a good price, considering fine condition.



In the mid-1980s, Technics produced the SL-P1200 CD turntable, an enormous machine with search dial, pitch adjustment and top-loading disc drive designed to withstand the rigours of professional use. There's no digital audio output so you have to make do with the unit's own Burr-Brown PCM54KP-M 16-bit chips. Price just £395.



VARIOUS

The Last Mile Home for Christmas/Radiant Beams on this Christmas Eve Jasmine

I don't want to worry you unduly but it's not that far until Christmas. Obviously, for audiophiles, the most important aspect of the entire period is not the turkey, pressies or family but the accompanying music. Which is where Jasmine has come in as a sort of tinsel-bedecked Seventh Cavalry.

These two nicely mastered double CD packages are packed with Festive fare. 'Radiant Beams...' shakes things up a tad so, while 'White Christmas' is featured, it is not Bing Crosby singing it but Billy Vaughn & His Orchestra playing it while Crosby is present but singing Sleigh Bells and, more than that, The Andrew Sisters are present singing the same song. The first time on disc that this has ever occurred.

You'll find the frivolous here from Teresa Brewer ('Too Fat for the Chimney') and Song Spinners ('Jumpin' Jiminy Christmas') and the traditional from Roger Williams ('O

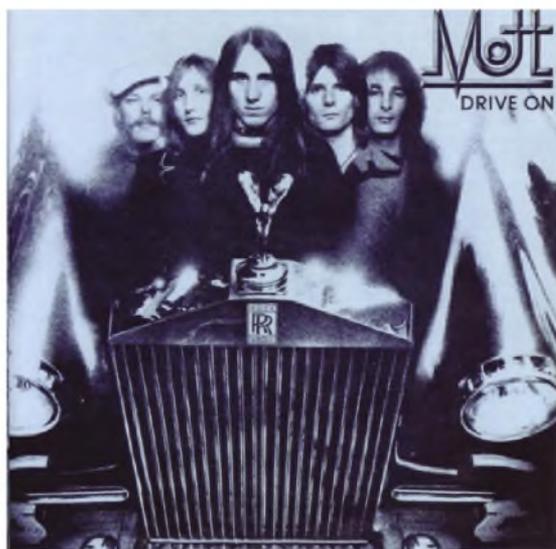
Come, All Ye Faithful') and Charly Tabor and Orchestra & Chorus ('Silent Night').

'Last Mile...' spans the 40s to the 60s in terms of singing talent with singing stars ranging from Pat Boone, Fred Waring, Sammy Kaye, Billy Eckstine and The Andrews Sisters, songs appearing on CD for the first time from the likes of Anita Kerr Singers, Kitty Kallen, Tommy Dorsey, Kate Smith, Johnny Desmond, The Lennon Sisters and Keely Smith.

There's little-known versions of popular ditties too, such as Good King Wenceslas from The Sportsmen Quartet, Sleigh Ride from The Melachrino Strings and Midnight Sleighride from The Sauter-Finegan Orchestra.

If you're fed up with the same old songs from the same old singers pumping from your rapidly tired speakers, try both of these volumes. Fifty-four tracks in all, they offer great value and no little interest.

AUDIOPHILE CD



MOTT

Drive On
Floating World

A derivation from the successful rock band, Mott the Hoople, beset by a revolving door of band line-up changes that was occurring before this incarnation began in 1975.

Mott consisted of Morgan Fisher (keyboards), Overend Watts (bass/vocals) and Dale Griffin (drums) formerly of Mott The Hoople with Nigel Benjamin (vocals) and Ray Major (guitar) joining at the time of the split.

When lead singer, Ian Hunter, left the band to begin a solo career, the rest of the band were in shock. They had no lead singer and only enough cash to keep them going for a few months.

Overend Watts would pen nine of the 11 tracks on this new release. Benjamin is an odd lead singer for the seasoned fan, his voice pitched relatively high, like a castrated Steve Marriott, lacking

a bit of the ol'gravitas at times. Despite that, he receives excellent support, no less from keyboard player Morgan Fisher.

This album was never the success that the band had hoped for, reaching No.35 in the charts. Despite the good will showed by the industry and fans, punk would later encroach on their sales and the sequel to this LP 'Shouting and Pointing'. Mott would shrivel and then morph into the British Lions, adding John Fiddler to their ranks.

Mastering is good, with loudness set relative low and an attractive clarity allowing all instruments to be heard easily.

Also available from Floating World is Buster Poindexter's self-titled album (1987) plus 'Buster Goes Berserk' (1989); The Buddy Miles Band's 'Chapter VII' (1973) and French rock band, Little Bob Story's four album 'The Collection'.

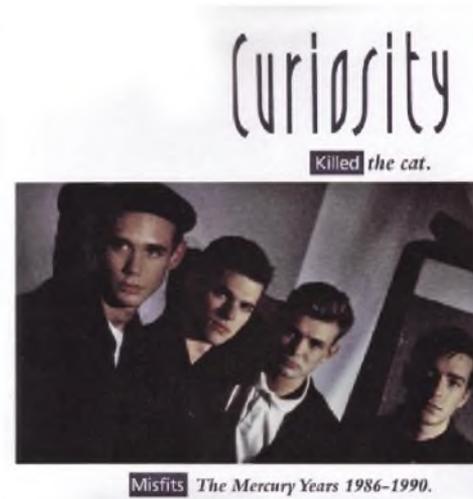
Launched in 1984, the band teetered on the fence labelled pop and funk - well, funk-lite - and added boy band looks that added teeny boppy trailing screams that affected their street cred further. That said, their chart hitting *Down to Earth* was toe-tappingly funky, adding smooth jazz accents. It was very easily digested and was bound to be hummed while navigating the fresh food section in Tesco's. Their other principle single, *Misfit*, was in a similar 'variation on a theme' vein.

These singles and more are now available in this 4CD box set that brings together the band's entire studio output. The first two discs feature the 'Keep Your Distance' and 'Getahead' albums in full, with bonus tracks, including 12-inch mixes, B-sides and non-album tracks. Two further CDs of rare remixes including previously unreleased versions of 'Down To Earth' and 'Cascade' sit next to twelve

previously unheard original demos, including five songs, never officially released

All have been sourced via the original master tapes at Abbey Road Studios. As for that mastering, the production values are obviously high here - it screams money and big label attention - with a large, expansive soundstage on offer. There is compression around the music but nothing too nasty and nothing that will damage long term listening too much. Upper mids move towards the edgy boundary at high volumes but, on the whole, the mastering is good with admirable midrange detail sitting nicely alongside responsive and punchy bass.

Also from Caroline are two more clamshell box sets, this time of a heavy rock nature. The first, 'The Mercury Years', include Cinderella's Four albums from 1986-1994 plus live cuts. The second, 'The Casablanca Years' from Angel features six albums including a live release, plus a rarities disc.



CURIOSITY KILLED THE CAT

Misfits - The Mercury Years
1986-1990
Caroline

AUDIOPHILE CD

A new wave outfit with synths, they were not from Berlin but Glasgow. Yes, that fair city might not retain the same krautrock clout but the presentation of the music certainly made up for that. In fact, krautrock was certainly an influence, late-period Kraftwerk krautrock at any rate (apparently Kraftwerk's 'The Model' was a favourite live outing). There's also elements of Roxy Music in there too.

Featuring Steven Bonomi (vocals), Robert Farrell (guitar, synth), David Rudden (bass) and Jim Spender (aka Jim McKinven) (keyboards & synths), the band would experience a few quick line-up changes in their short life.

The style of the band reminded me a little of the early eighties outfit, the Mobiles - remember their 1982 hit 'Drowning in Berlin'? The association has nothing to do with

the Berlin moniker but the almost Weimar Republic, slightly atonal, live for today, die tomorrow, moral breakdown, discordant atmosphere. Playing 'Astro', you hear that swirly, discordant, circus nightmare sound so prevalent on 'Drowning in Berlin' (especially the middle eight bit). Then again, there is more to this album than a historical reflection of decadence.

There is technological exploration of the future with the track 'Science' and, with 'Romance', a distinct Gary Numan-esque vocal direction and musical arrangement, while 'Mannequin' also has reflections of Kraftwerk's 'Showroom Dummies'.

Perfect fodder for fans of new wave, synth wave and minimal synth, this album is a golden nugget from the period. This, the band's only album release, also arrives with seven bonus tracks including four remixes.



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"It was a monster, fully attended by exhibitors and public"



Noel Keywood

This year's Festival of Sound show, held in the Novotel hotel, Hammersmith, West London was enjoyable – I love a good hi-fi show. Everyone likes a good hi-fi show, manufacturers, magazines and enthusiasts – we get to hear no end of high end systems, all carefully set up. Even if they're not affordable it's still a good day out. Or is it?

Perhaps not if you get stuck in traffic jams on the way there and back, have to pay a small fortune for food – I've seen £20 sandwiches – and get slapped with a parking ticket for staying over time. This puts organisers in a quandary: where can you hold a show that avoids such problems?

The primary issue is that of finding a suitable building, usually a hotel, but that building must be somewhere accessible. Often, as in the National Audio Show, 'accessible' in the UK means a hotel somewhere in the middle – Whittlebury Hall, near Towcester, just off the M1. A lovely venue but only accessible by car and not near anyone. It has now re-located a tad further north, to Woodland Grange, near Leamington Spa, Warwickshire – same issues.

Then there were the Heathrow Shows of the '80s and '90s. Of all UK locations this one made a lot of sense, especially for overseas manufacturers and visitors. Strong public transport and road links were big plus points. But if you lived north of Birmingham (let's say) then perhaps not.

Car parks were jammed full, I know from our own experiences trying to load and unload there, and not cheap either. And it was the bar of the Park Inn that sold me the most expensive sandwich I have ever encountered, yet our bedrooms were spartan. But then the

Park Inn is huge, catering for transit flight passengers and airline crew. It was very good, but not ideal by any means and has fallen out of audio favour.

Harrogate anyone? In the go-go 1970s this was the show to end all shows. It was a monster, fully attended by exhibitors and public alike. But look at Harrogate on the map and you'll see it's quite close to the North Pole. Getting there was a serious business. I gratefully accepted a lift up in a light twin-prop aircraft rather than suffer the train or a brutal drive as in previous years, but fog had descended upon Leeds/Bradford airport when we got there and there were no landing aids. Never again!

Whilst the Harrogate Show disappeared long ago due partly to access difficulty, there have been a succession of shows in Manchester – and very enjoyable they have been too. However, for us it is a four hour drive from London – assuming no jams.

After a long working weekend and loading vehicles 6pm on a Sunday evening, a 4 hour drive down the M1 or M6 is not something many people volunteer for. This is a difficulty any northern show faces; attendance from far south isn't likely to be strong, due to staffing and transport issues.

Then of course we have the outlier – the Bristol Audio Show. This location isn't seemingly as convenient as a central England location, but it now has history on its side. Run efficiently for 27 years by AudioT, "the Bristol Show" has outlived them all, becoming the UK's de-facto audio show. It's easy to reach by car and train, and there's no end of parking close by in multi-stories. Not especially convenient for those farther north, but the M5

and M6 lead straight there. The only problems are a slightly cramped hotel and very difficult loading and unloading conditions for exhibitors due to zealous parking enforcement by Bristol City Council who will not allow a Sunday night loading window.

And so to London. Is it the best place to hold a show or the worst? With 8 million people close by it should be the best, but for some reason that doesn't seem to make much difference. London shows like that at The Cumberland Hotel come and go. A simple but crucial need for exhibitors is the ability to unload, park and then re-load Sunday night – we're talking about heavy product filling many vans. It's a fast and intense Sunday evening operation that precludes most London hotels, including The Cumberland where we had to load in the street.

This year's Festival of Sound was held in the Novotel Hammersmith, and it has a very large protected forecourt loading area, plus an underground car park – fine for visitor's cars at a reasonable £3.50/hr. Hammersmith is easy to reach by car from the M4 which links to the M25. However, I wonder whether London fear factor enters here: many drivers just don't want to venture in I suspect, fearful of London traffic and road conditions.

Festival of Sound looks good to me in that it ticks a lot of boxes. Will it continue? I certainly hope so. The Novotel Hammersmith is a very good venue – no £20 sandwiches. Visitors and manufacturers can get there easily.

I love a good show and the Festival of Sound looks like one with potential. But if you see it otherwise please let us know: E-mail letters@hi-fiworld.co.uk. What show visitors feel about all this is the great unknown. Just where do you hold a show? ●

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"...he was embarrassed in case anyone might hear his singing voice"



Paul Rigby

I've touched on music artists 'going solo' in the past but I've been chewing the cud on this one.

Is going solo all about age?

Being in a band can sometimes be about a gang of like-minded friends, sharing new and sometimes scary experiences, having immediate social support when required, having someone who is at the same level of human experience to confide in, to ask questions, to share thoughts. In short, it can often be about immaturity and insecurity. Like going to the first school dance with your friends: you're glad there's someone there.

Going solo and breaking away from the now confining social structure reflects an increase in confidence, developments in new ideas, a new independence of thought, an evolution of personal tastes and views and a defining of the personality. You can see all of the above in a band like The Beatles. You can see too why they broke up, especially if the above applies.

With age, you are better equipped to leave the nest (the band). Of course, not all bands break up and I'd like to address that concept at a later date. For now, though, let's look a little closer at solo artists.

That age thing. One ideal subject for that is Brett Anderson, ex-lead singer of gothic romantics, Suede. Here was a guy who pushed his theatrical sexuality directly. His decadent behaviour was a legend and part of the recipe for that band's success.

I've just received a batch of reissued Anderson LPs from Demon (www.demonmusicgroup.co.uk), namely 'Brett Anderson' (2007), 'Wilderness' (2008), 'Slow Attack' (2009) and 'Black Rainbows' (2011). What is noticeable from this

series of releases is the contrast in terms of tone. They are (until recently, at any rate) relatively quiet affairs, showing an artist looking within rather than without. Again, another symptom of age. The inner examination. The reflection on times gone and times to come. Coming to terms with oneself, recognising a new found freedom in terms of creative pathways and the innate power of knowing that what you say...goes. There is no-one else, in musical terms, to consider.

Another batch of reissues recently received from Demon, Bill Wyman's 'Monkey Grip' (1974), 'Stone Alone' (1976), 'Bill Wyman' (1982) and 'Stuff' (1992) reflect the above in, if anything, greater concentration.

After all, this was a guy who, before his first solo album, was fascinated about the idea of being in control, was excited about the idea of initiating and pushing through a concept of his own, a major rock star, feted by millions, rich, well connected and yet here was a guy who would wait for his wife to leave the house on a shopping trip because he was embarrassed in case anyone might hear his singing voice. This was just before his solo LP in 1974 so the Stones had been around for, what, twelve years at that point? And yet, here was a man suffering from a severe lack of confidence but desperate to grow and flower as an artist and a human being.

Sometimes, being in a band can be artistically claustrophobic. We all change. How often have you declared a liking for a piece of music, food or whatever and realised that you would have hated that very thing ten or twenty years ago?

Musicians are often the same. One day, you wake up and realise that you need to play the blues but the boy band you're in would never

be able to handle it and the fans would be shocked. What to do? Leave, that's what.

Especially if the art pulls you away and you have no choice but to explore that music (often, art has to be investigated - the art controls you, in effect, not the other way around).

I received a vinyl release featuring ex-Dead Can Dance member, Lisa Gerrard 'BooCheeMish' (Prophecy; www.prophecy.de). The legendary female choir, The Mystery Of The Bulgarian Voices has released its first album of new material in twenty years together with Gerrard (the choir has/had some megastar fans: everyone from Frank Zappa to Paul Simon with choir members working with Kate Bush and U2). The LP mixes new and traditional ditties.

Gerrard's style was strongly influenced by the ensemble, you see and that's another important point. Solo careers are often the result of early influences which often have to be indulged and analysed further. Gerrard left Dead Can Dance because her work no longer fitted within the boundaries of that group.

If all of the above is true, even in general terms with exceptions noted, does that mean that your true solo artist, someone whose entire career is and has always been solo, someone who grew up exploring their own thoughts and ideas, ploughing their own furrow and taking their artistry wherever the urge took them and whenever they fancied, someone who has never been in a band. Does all of that mean that these singer-songwriters and true solo performers are more mature, more confident, more fulfilled and more artistically advanced (because they've been at it for longer) than any band member? Let me chew more of that cud. ●

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“He preferred to go out and play and go back and sleep in his own bed”



Jon Myles

There are some artists whose influence transcends their musical output – who by their sheer talent, maverick approach and pushing of the boundaries influence a new generation of musicians.

The likes of Mark E Smith of The Fall spring to mind. Alex Chilton of Big Star is another and then there's Scott Walker with his later albums. You could even bracket The Sex Pistols in this group (one album, a handful of singles yet undoubtedly a massive influence on any number of other groups).

Another, less well known, would be Otis Rush who sadly passed away recently at the age of 84. 'Otis who?' many people might ask – but he left a lasting impression on the music scene without ever achieving the worldwide fame he deserved.

Rush became a staple of the Chicago scene in the late 1950s and early 1960s. His take on the Blues was a revelation and became an inspiration for a generation of artists to follow. His style was different with long, bent notes to the fore. Part of this was due to his unique playing approach. He was left-handed and slung his guitar upside-down with the low E string at the bottom and the high E string on top.

The sound was like nothing ever heard before – but an ear-popping experience. So much so he became a major influence for the likes of Carlos Santana, Eric Clapton and Led Zeppelin's Jimmy Page. Indeed Zeppelin covered his major hit 'I Can't Quit You Baby' on their debut album as did the Rolling Stones on their 2016 album 'Blue & Lonesome'. Both versions are good - but lack

the overall power of the original. Remember, this track was recorded by Otis in 1956 which shows just how far ahead of his time he was.

Born in Philadelphia, Mississippi, Rush settled in Chicago as an adult and began playing the local clubs where he became an instant star attraction. Gregg Parker, founder of the Chicago Blues Museum, said of him, "He was one of the last great blues guitar heroes. He was an electric god. He was king of the hill in Chicago from the late 1950s into the 1970s and even the 80s as a live artist".

But he got less national and international attention than some other blues musicians because he wasn't a big promoter of himself - preferring to get up on stage and play than shout about his talent in the media.

"He preferred to go out and play and go back and sleep in his own bed", Bates said. "He was not a show business guy". If he had been perhaps more people would know his name and be enjoying his music today.

Another artist who fits into this category - yet did achieve rather wider fame – is the French singer Charles Aznavour who also passed away recently at the age of 94.

Viewed by some as a middle-of-the-road singer such as Bing Crosby or Andy Williams he was anything but that. He was a singer, songwriter and civil rights campaigner not afraid to take on taboo subjects in his work. Like the great Jacques Brel his lyrical, melodic songs were always laced with a powerful message.

Take his song 'What Makes A Man' – a story of a gay transvestite

living with his mother recorded at a time when homosexuality was still something of a taboo subject. Probably not a great career move at the time – but it really did not matter as his talent and belief in what he was writing rose above it.

In an interview shortly before his death he explained his motives saying "It's a kind of sickness I have, talking about things you're not supposed to talk about. I started with homosexuality and I wanted to break every taboo".

He also wrote songs about depression, sex, prejudice and rape as well as growing old. Like Brel the lyrics were wrapped in lush orchestration but the message was always clear for those who listened closely.

Even his biggest hit 'She' has some dark undertones – helped by the fact that his voice, while largely a tenor, possessed the power of a baritone when required.

His other asset was his multilingualism. Fluent in English, French, Spanish and Italian he was able to perform in various countries in their native languages which contributed to his appeal on the concert circuit.

But his greatest contribution to music was making records that addressed issues, made you think and resonated with bigger problems of the day. Much like Otis Rush – and also the Sex Pistols. It might sound a huge stretch between the three but, actually, there isn't a great deal of difference in how they changed a musical landscape.

Go listen to 'I Can't Quit You Baby', 'Anarchy In The UK' and 'What Makes A Man' to see a superb musical history based on being different. ●

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"There used to be hi-fi shows aplenty. I remember visiting one in a Southend aircraft hangar"



Martin Pipe

I visited the Festival of Sound show at the Novotel hotel, Hammersmith, London, at the end of September. There was no shortage of things to see and people to meet! Among the latter were a number of companies whose products I have reviewed for this magazine. At last, a chance to put a face to the voice (or e-mail). There was also a good opportunity to catch up with old industry friends and fellow journalists.

The Festival of Sound had live music in its list of draws. In one of the halls, a sizeable but quality-focused PA based around custom-built B&W speaker stacks had been set up. I arrived just as guitarist/songwriter Chris Difford (ex-Squeeze) was ending his set with a rendition of Cool for Cats. It sounded good!

That evening, I enjoyed the fascinating recollections, illustrated with musical examples, of the Art of Noise's J. J. Jeczalik and Gary Langan. They gave us the stories behind the hits – Close (To The Edit), Moments In Love and the 1988 collaboration with Tom Jones, a cover version of Prince's Kiss. Jeczalik was one of the few people in the UK able to understand the fearsome Fairlight – a pioneering 8-bit sampler that cost as much as a decent house. His experience was sought by legendary producer Trevor Horn, when making albums by Malcolm McLaren (Duck Rock), Yes (90125) and Frankie Goes To Hollywood (Welcome to the Pleasuredome).

But back to the afternoon. Other Novotel halls hosted a range of manufacturers, distributors, record sellers and magazine publishers including Hi-Fi World. One hall was fairly quiet. Why? Music was being demo'ed through headphones! Another hall hosted big-name Japanese brands, Denon

running a Dolby Atmos demo for example. Not far away in the Muscadet Suite, many of us got a chance to hear B&W's impressive new 600 Series 'speakers.

Moving to the high-end, Naim amps fed by a ND555 streamer and driving Focal's imposing Grande Utopia EM Evo speakers were on demo. Another room was shared by CAD, Trilogly and Wilson Benesch – where very nice sounds were emanating from the latter's £35,000 Resolution floorstanders. The source was again digital – specifically, the CAD Audio Transport (CAT to its friends). But vinyl wasn't being forgotten, turntables in evidence including the AVM Evolution R5.3 and Vertere D-Groove.

A significant slice of the activity, as with hi-fi shows of yesteryear, took place in hotel rooms where you could sit down and hear the equipment playing music. Brands evident in these second-floor rooms included Chord, Wharfedale, Yamaha, Michell, PMC, Marantz, Quad, Auralic, Parasound and Cabasse. On the subject of Marantz, the firm's legendary engineer Ken Ishiwata was on hand to guide visitors through his Ki Ruby products. Other talks over the weekend included a session with our own Noel Keywood and the reminiscences of music-industry insiders, among them Who/Faces drummer Kenney Jones, cellist Philip Sheppard and Whispering Bob Harris.

On the day of my visit, Russ Andrews gave a stimulating demo-aided talk to a packed room on 'discovering better sound'. Subjects he covered included how mains cables can improve audio and the dangers of RFI (radio frequency interference). The latter doesn't receive anywhere near enough attention, especially given the increasing amount of digital

gadgetry on the air and in our lives (the audible effects of powerline networking are obvious).

He claimed that digital TV signals are transmitted with much higher power than analogue ones. This isn't true I believe – Crystal Palace's analogue TV transmitters were rated at 1000kW, while those used by each digital multiplex are a fifth of that!

When a member of the audience questioned, on sound-quality grounds, the presence of fuses in mains plugs, Russ Andrews explained that he couldn't legally sell fuseless mains plugs here since they are part of the inbuilt safety of the UK's ring-main system. All the same, he admitted to not having them in his own system for forty years! Later, he told me that the RCDs fitted to modern consumer units act much quicker than fuses and pointed out that other countries don't have fused mains plugs.

There used to be hi-fi shows aplenty. I can remember visiting one in a Southend aircraft hangar with my dad, during the hi-fi boom. They were a way of life for enthusiasts back then; I'm sure that today's showgoers don't have brochure hoards in their lofts!

Today, the key event is the Bristol Hi-Fi Show – although there are smaller ones like RPM in Canary Wharf, the North West Audio Show in Cheshire and Hi-Fi Show Live. Some music fairs have a hi-fi presence and for lovers of vintage equipment there are events like the Tonbridge Audiojumble I cover in this issue.

But London needs a fully-blown hi-fi show. This year's had a massive presence from the music business – live events and lectures. It had a great showing from manufacturer's too. I hope the Festival of Sound was sufficiently well-attended by the public to warrant a repeat in 2019. ●

"If there is one thing that always gets damaged at parties it's 'speakers'"



Dave Tutt

I have been asked again to train people to do my job. That's to say my customers, many of whom arrive with things taken out of their cases, want to know how I do what I do and could they come and watch and have some lessons in putting things back together.

It's an interesting concept to say the least. My job can be described as a combination of intuition, applied knowledge, observation, hearing, the ability to read and understand circuit diagrams and circuit descriptions and being adept at reverse engineering – but make it into lessons and for free? I should be so stupid!

And then it is still very possible to either get it wrong or be frustrated by the unpredictability of design or manufacture from all over the world – from the 1930s to the present day.

Much as I feel there is a need for more of me there are also other issues. Why would I train someone to take away my own business? If they want to do it and if they think they can make money at it then I wish them well but not at the expense of my expertise or at the loss of my customers. And as much as I would like to think that when I pop my clogs someone will be there to pick up the pieces, I also have a feeling engineering repairs is a dead end – and a great way to be broke!

I finally found parts for the RCA Victor 9-EY-3 45rpm 7 inch record player I have been trying to fix. I have scoured the world for complete or partially complete machines to renovate this player, having discovered that it was really past it – but my customer really wanted it all the same. One found in the UK got lost in the post but eventually arrived in finely arranged broken Bakelite pieces and two apparently on the way from

Argentina (three months wait so far!) might just yield enough parts to bring this thing back to working.

Of course, even when it works I will have to do some modifications to it. As an American product it has a motor and pulley designed for 60Hz operation so both will have to be swapped out or remade. I have already fitted a 240-120 Volt transformer into a slightly bigger bottom end to the thing – and the speaker had to go as it was open circuit and almost cone-less. The spare one actually had an isolation transformer in it unlike the original which was live to mains and not safe. So far this little exercise has cost five times as much as I would have considered worthwhile and I doubt that will be the end of it. It isn't a job most sane people would choose to do!

This week I loaned out a system for a party. With so much gear here it is not always easy to decide how to do it, to give something that is unlikely to be easily damaged. One thing is easy though – 'speakers! If there is one thing that always gets damaged at parties it's 'speakers. Hi-fi products won't cut it. A big pair of passive disco boxes, adjusted so they sound at least like fairly decent hi-fi ones is the solution. Arranging 15 inch bass-mids and compression driver tweeters in a ported box might not seem a good idea for hi-fi but then think of such big speakers from B&W or JBL as a starting point and perhaps you might understand that not all disco speakers sound like razor blades and people hammering a dustbin.

Advantage here is that with bigger boxes comes higher efficiency which means you need less power to drive them. So this time I chose a Cambridge Audio Azur 540a amplifier where the 50 Watts of the VI version was plenty to drive

things along quite happily. To make any drastic difference in the sound pressure level you would need probably five times that power which is possibly too much to handle. Kids use phones for music so all you need is a line input, a volume control and they are happy. Seemed to work really well! Depends a lot on the kids of course.

One of the other toys that arrived this week was a Sony TA-333 amplifier. There are quite a few amps of this type available second hand but I am always a little dubious of any amp that has the back panel made from hardboard. The 1979 – 1980 idea was that this material was a suitable fix-all, appearing on cassette decks, reel-to-reel tape recorders and tuners, much as it had with earlier radios and TV.

Added to this drawback was the noise the Sony was making. There isn't really much you can do as far as testing is concerned with this sort of thing to get the noise right. Just go through all the capacitors, dry joints, noisy pots, etc until it calms down and then try to pinpoint whatever problem is left. The output stage was showing some DC offset errors, so the biasing had drifted. The worst noise came when I advanced the volume, so its source had to be in the rear panel preamp. Some 20 capacitors later it was calm and quiet, if rather dull at low or normal volume: think warm and woolly. More power and it got considerably better. The network around the tapped volume control is rather regrettable!

Who would want to face all this as a repair man? I'd like to be able to tell my customers this when they ask about others doing my job but it isn't easy. That's one reason why nowadays when a piece of hi-fi breaks down the usual way of dealing with it is to chuck it! ●

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WORLD CLASSICS

Here is our list of the great and good from audio's glorious past, products that have earned their place in hi-fi history. You'll also see some oddities which aren't classic as such, but are great used buys. The year of introduction is given, alongside the original UK launch price.

TURNTABLES

EAT FORTE 2009 £12,500
Lavishly finished two box, two motor turntable with gorgeous Ikeda 407 tonearm bundled. Exceptionally stable and unfussy performer with a relaxed but highly enjoyable gait.



FUNK FIRM VECTOR II 2009 £860
Innovative engineering gives a nimble, pacy and musical sound that's one of the best at the price.

REGA P2 2008 £300
Excellent value for money engineering, easy set up and fine sound.

MCINTOSH MT10 2008 £8,995
Big, expensive, controversially styled and glows more than some might consider necessary, but an astonishingly good performer.

REGA P3-24 2008 £405
Seminal affordable audiophile deck with fine bundled tonearm. Tweakable, and really sings with optional £150 outboard power supply.

ACOUSTIC SOLID ONE 2007 £4,050
Huge turntable, both in terms of sheer mass and sonic dynamics. Fit up to three arms and enjoy, just don't damage your back moving it...

AVID VOLVERE SEQUEL 2007 £4,600
Stylish high end vinyl spinner with industrial strength build quality and a sound to match. Sound is edge-of-the-seat stuff.

MICHELL GYRODEC SE 2005 £1,115
Design icon with superlative build. Sound is beautifully smooth, effortless and exceptionally expensive.

MARANTZ TT-15S1 2005 £1,299
Cracking all in one deck/arm/cartridge combination, this must surely be the best sound/plug and play package at this price point.

MICHELL TECNODEC 2003 £579
Superb introduction to Michell turntables - on a budget. Top quality build and elegant design mean it's still the class of the mid-price field.



MICHELL ORBE 1995 £2,500
The top Michell disc spinner remains a superbly capable all rounder with powerful, spacious sound that's delicate and beguiling.

SME MODEL 10A 1995 £4,700
Exquisitely engineered deck and SME V tonearm combo that's an extremely accomplished performer with classical music.

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

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

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

MICHELL GYRODEC 1981 £599
Thanks to its stunning visuals, this bold design wasn't accorded the respect it deserved. Clean, solid and architectural sound.

TOWNSHEND ROCK 1979 £ N/A
Novel machine has extremely clean and fluid sound. Substantially modified through the years, and capable of superb results even today.

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



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

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

TRIO LO-7D 1978 £600
The best 'all-in-one' turntable package ever made. Clean, powerful and three-dimensional sound, ultimately limited by the tonearm.

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

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

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



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

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

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

GOLDRING Lenco GL75 1970 £15.6S
Simple, well engineered motor unit with soft, sweet sound and reasonable tonearm. Good spares and servicing support even today.

GARRARD 301/401 1953 £19
Tremendously strong and articulate with only a veiled treble to let it down.



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

TONEARMS

REGA RB251 2009 £136

Capable way past its price point, the new 3-point mount version of the classic RB250 serves up a taut and detailed sound. A little lean for some tastes, but responds well to rewiring and counter-weight modification.

HELIUS OMEGA 2008 £1,595

Stylish and solid lump of arm with fabulous build quality, that turns in a dynamic and weighty performance.

AUDIO ORIGAMI PU7 2007 £1,300

The classic Syrnix PU3 updated to spectacular effect. Hand made to order, with any mass, length and colour you care for. Fit, finish and sound truly impressive.



GRAHAM PHANTOM 2006 £3,160

Sonically stunning arm with magnificent bass dexterity and soundstaging. Build quality up to SME standards, which is really saying something!

TRI-PLANAR PRECISION 2006 £3,600

Immaculate build, exquisite design and one of the most naturally musical and lucid sounds around.

MICHELL TECNOARM A 2003 £442

Clever reworking of the Rega theme, using blasting, drilling and rewiring!

SME 309 1989 £767

Mid-price SME comes complete with cost-cut aluminium armtube and detachable headshell. Tight, neutral sound with good tonality, but lacks the IV's pace and precision.

NAIM ARO 1987 £1,425

Charismatic unipivot is poor at frequency extremes but sublime in the midband; truly emotive and insightful.

SME SERIES V 1987 £2,390

Vice-like bass with incredible weight, ultra clear midband and treble astound, although some don't like its matter of factness!

NAIM ARO 1986 £875

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



ALPHASON HR100S 1981 £150

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

SME SERIES III 1979 £113

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

TECHNICS EPA-501 1979 £ N/A

Popular partner for late seventies Technics motor units. Nice build and Titanium Nitride tube can't compensate for middling sound.

LINN ITTOK LVII 1978 £253

Japanese design to Linn specs made for a muscular, rhythmic sound with real dynamics. The final LVIII version worth seeking out.

AUDIO TECHNICA AT 1120 1978 £75

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

HADCOCK GH228 1976 £46

Evergreen unipivot with lovely sweet, fluid sound. Excellent service backup.

ACOS LUSTRE GST-1 1975 £46

The archetypal S-shaped seventies arm; good, propulsive and involving sound in its day, but ragged and undynamic now.

SME 3009 1959 £18

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

PHONO STAGES

CREEK OBH-8 SE 1996 £180

Punchy, rhythmic character with oodles of detail makes this a great budget audiophile classic. Partner with a Goldring G1042 for an unbeatable budget combination.

MICHELL ISO 1988 £ N/A

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



LINN LINNK 1984 £149

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

INTEGRATED AMPLIFIERS

NAIM NAIT XS 2009 £1,250

With much of the sound of the 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 speakers.

CREEK OBH-22 2008 £350

Brilliant value budget passive, with remote control, mute and input switching, plus an easy, a neutral sound.

CAMBRIDGE 840A V2 2007 £750

Version 2 addresses version 1's weaknesses to turn in a mightily accomplished performance, offering power, finesse and detail.

SUGDEN IA4 2007 £3,650

Goodly amount of Class A power, icy clarity and a breathtakingly fast, musical sound make this one of the very best super-integrateds.

NUFORCE P-9 2007 £2,200

Impressive two box preamp with superb resolution and an engaging sound.

MELODY PURE BLACK 101D 2007 £3,295

The clarity and openness of valves plus firm grip and fine detail make this a preamplifier masterclass.

AUDIOLAB 8000S 2006 £400

In another life, this sold for three times the price, making it a stand-out bargain now. Very clean, powerful and tidy sound.

MCINTOSH MA6800 1995 £3735

Effortlessly sweet, strong and powerful with 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 strange.

EXPOSURE VII/VIII 1985 £625

Seminal pre-power, offering most of what Naim amps did with just that little bit extra smoothness. Lean, punchy and musical.



AUDIOLAB 8000A 1985 £495

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

VTL MINIMAL/50W MONOBLOCK 1985 £1,300

Rugged, professional build and finish allied to a lively and punchy sound (albeit with limited power) make them an excellent used buy.

MUSICAL FIDELITY A1 1985 £350

Beguiling Class A integrated with exquisite styling. Questionable reliability.

MISSION CYRUS 2 1984 £299

Classic 1980s minimalism combines arresting styling with clean, open, lively sound. Further upgradeable with PSX power supply.



NAIM NAIT 1984 £350

Superb rhythms and dynamics make it truly musical, but tonally monochromatic. Fine phono stage, very low power.

CREEK CAS4040 1983 £150

More musical than any budget amp before it; CAS4140 loses tone controls, gains grip.

MYST TMA3 1983 £300

Madcap eighties minimalism, but a strong and tight performer all the same.

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

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

ROGERS A75 1978 £220
Lots of sensible facilities, a goodly power output and nice sound in one box. The later A75II and A100 versions offered improved sonics and were seriously sweet.

A&R A60 1977 £115
Sweet and musical feature-packed integrated; the Audiolab 8000A remains a classic.



SUGDEN C51/P51 1976 £130
Soft sounding early Sugden combo with a plethora of facilities and filters. A sweet and endearing performer but lacking in power and poor load driving ability.

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

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

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

POWER AMPLIFIERS

ELECTROCOMPANET NEMO 2009 £4,995 (EACH)
Norwegian power station as cool as a glacier tonally, yet impresses with sheer physicality and fleetness of foot. 600W per channel.

NUFORCE REFERENCE 9SE V2 2006 £1,750
Brilliant value for money monoblocks with massive power and super-clean, three dimensional sound.

QUAD II-80 2005 £6,000 PER PAIR
Quad's best ever power amplifier. Dramatic performer with silky but dark tonality, blistering dynamics, serious power and compellingly musical sound.



QUAD 909 2001 £900
Current-dumper has a smooth and expansive character with enough wallop to drive most loads. Not the most musical, but superb value all the same.

NAIM NAP 500 2000 £17,950
Flagship amplifier will drive just about any speaker with ease. Factor in the company's trademark pace, rhythm and timing and it all adds up to one effortlessly musical package.

MARANTZ MODEL 9 1997 £8000
Authentic reproduction monoblocks still more than cut the sonic mustard. Highly expensive and highly sought after.

MICHELL ALECTO 1997 £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.

QUAD 405 1978 £115
The first of the current dumpers is a capable design with smooth, effortless power and a decently musical sound. 606 and 707 continue the theme with greater detail and incision.

HH ELECTRONICS TPA-50D AMPLIFIERS 1973 £110
Simple design with easily available components, solid build quality and fine sound make for a surprisingly overlooked bargain

LECSO AP1 1973 £ N/A
Madcap cylindrical styling alluded to its 'tower of power' pretensions, but it wasn't. Poor build, but decently clean sounding when working.

QUAD 303 1968 £55
Bullet proof build, but woolly sound. Off the pace, but endearing nonetheless. Some pipe smoking slipper wearers swear by them!

LEAK STEREO 20 1958 £31
Excellent workaday classic valve amplifier with decent power and drive. Surprisingly modern sounding if rebuilt sympathetically. Irrepressibly musical and fluid.



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

QUAD II 1952 £22
The all-time classic valve amplifier, with a deliciously fluid and lyrical voice. In other respects though, it sounds hopelessly dated. Low power and hard to partner properly



LEAK POINT ONE, TL10, TL12.1, TL/12 PLUS 1949 £28
Early classics that are getting expensive. Overhauling is de rigueur before use, using original parts if possible. Surprisingly crisp and musical. Deeply impressive in fine fettle.

PRE AMPLIFIERS

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



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

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

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

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

NAIM NAC 32.5 1978 £ N/A
Classic high end pre. Brilliantly fast and incisive sound that's a joy with vinyl! but a tad forward for digital.

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

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



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

QUAD 22 1958 £25
The partner to the much vaunted Quad II 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 sound-staging at the price.



YAMAHA SOAVO 1.1 2009 £3,000
Musical, transparent with impressive dynamics and cohesion. Excellent build and finish.

USHER BE-10 2009 £10,500
Clever high end moving coil design with immense speed and dizzying clarity allied to epic punch. Needs the best ancillaries to fly, though...



SPENDOR A5 2009 £1,695
Multi-talented floorstanders with generous scale and punch and Spendor's classic mid-range detail. Deliver a sound that thoroughly engages whatever you care to play.

MONITOR AUDIO PL100 2008 £2,300
The flagship 'Platinum' series standmounter has a lovely warm and delicate sound with superlative treble



MARTIN LOGAN SOURCE 2008 £1,600
Brilliant entry level electrostatics, giving a taste of loudspeaker esoterica for the price of most moving coil boxes. Tremendous clarity, evenness and delicacy, although not the world's most powerful sound.

PMC OB11 2008 £2,950
Cleverly updated floorstanders give scale and solidity in slim and well finished package.

ISOPHON GALILEO 2007 £2,100
Big standmounters that really grip the music and offer quite startling dynamics and grip.

ONE THING AUDIO ESL57 2007 £1,450
One Thing Audio's modifications keep the good old ESL57 at the very top of the game.

MOWGAN AUDIO MABON 2007 £3,995
Massively capable loudspeakers that offer dynamics, scale and clarity in an elegantly simple package. Wide range of finishes, too.

B&W 686 2007 £299
Baby standmounters offer a sophisticated and mature performance that belies both their dimensions and price tag.

B&O BEOLAB 9 2007 £5,000
Technically impressive and visually striking loudspeakers with sound quality that more than matches their looks.



ISOPHON CASSIANO 2007 £12,900
Drive units featuring exotic materials allied to superlative build quality result in an immensely capable loudspeaker. Not an easy load to drive, however.

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.

B&W 801D 2006 £10,500
In many respects, the ultimate studio monitor; dazzling clarity and speed with commanding scale and dynamics.



REVOLVER CYGNIS 2006 £5,999
Revolver pull out all the stops and show what they can do with this magnificent flagship loudspeaker. A superb monitor that is like a mini B&W 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 characteristics makes them great for valves.

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



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



QUAD 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.

IMF TLS80 1976 £550
Warm and powerful 1970s behemoth with transmission loading and a mixture of KEF and Celestion drive units. Impressively physical wideband sound but rhythms not a forte.

SPENDOR BC1 1976 £240
Celestion HF1300 tweeter meets bespoke Spendor Bextrene mid-bass unit. The result is a beautifully warm yet focussed sound. A little bass bloom necessitates careful low-stand mounting.



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

BBC LS3/5A 1972 £88
Extremely low colouration design is amazing in some respects – articulation, stage depth, clarity – and useless in others (both frequency extremes). Came in wide variety of guises from various manufacturers building it under licence.

LEAK SANDWICH 1961 £39 EACH
Warm sounding infinite baffle that, with a reasonably powerful amplifier can sound quite satisfying.

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

SYSTEMS

MERIDIAN SOOLOOS 2.1 2010 £6,990
Crisp styling, bright, colourful touchscreen, plus excellent search facilities. This is one hard disk music system with a difference. Best partnered to Meridian active loudspeakers.



NAIM UNITIQUE 2010 £995
Great little half width one-box system with truly impressive sound allied to a wealth of source options.

ARCAM SOLO MINI 2008 £650
Half the size and two-thirds the price of a full-sized Solo, the Mini gives very little away in terms of performance to its bigger brother.

MERIDIAN F80 2007 £1,500
Fantastically built and versatile DVD/CD/DAB/FM/AM unit, designed in conjunction with Ferrari. Ignore nay-sayers who sneer that it isn't a 'proper' hi-fi product. Just listen.

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

SHANLING MC-30 2007 £650
Quite possibly the cutest all-in-one around with fine performance from the CD player, tuner and MP3 player input. Very low power, though.



AURA NOTE PREMIER 2007 £1,500
Lovely shiny CD/tuner/amplifier with fine sound quality and dynamic abilities.



ARCAM SOLO NEO 2006 £1,100
Excellent all-in-one system, with a warm, smooth and balanced sound to match the features and style.

PEACHTREE AUDIO IDECCO £1,000
Excellent sounding iPod dock, impressive DAC and fine amplifier section make this an excellent one box style system.



TUNERS

ARCAM FMJ T32 2009 £600
Excellent hybrid FM/DAB+ tuner with a smooth, engaging sound. Factor in its fine build and it's a super value package.



MAGNUM DYNALAB MD-100T 2006 £1,895
One of the best ways to hear FM that we know; superbly open and musical sound in a quirky but characterful package.

MYRYAD MXT4000 2005 £1,000
Sumptuous sound and top-notch build quality make for a tempting AM/FM package. Warm and richly detailed on good-quality music broadcasts.

NAIM NAT03 1993 £595
The warm, atmospheric sound is further proof of Naim's proficiency with tuners.

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

QUAD FM4 1983 £240
Supreme ergonomics allied to a pleasingly lyrical sound with plenty of sweetness and detail make this one of the best tuners around upon its launch.



NAD 4040 1979 £79
Tremendously smooth and natural sound allied to low prices and good availability make this budget analogue esoterica.

MARANTZ ST-8 1978 £353
Marantz's finest radio moment. Warm, organic sound plus an oscilloscope for checking the signal strength and multipath.

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

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



ROGERS T75 1977 £125
Superb mid-price British audiophile design, complete with understated black fascia. Smooth and sweet with fine dimensionality.

SANSUI TU-9900 1976 £300
A flagship Japanese tuner. It boasts superlative RF performance and an extremely smooth and lucid sound.



TECHNICS ST-8080 1976 £180
Superb FM stage makes for a clean and smooth listen.

REVOX B760 1975 £520
The Revox offers superlative measured performance although the sound isn't quite as staggering as the numbers. Fine nonetheless, and surely the most durable tuner here?



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

LEAK TROUGHLINE 1956 £25
Series I an interesting ornament but limited to 88-100MHz only. II and III are arguably the best-sounding tuners ever. Adaptation for stereo easy via phono multiplex socket. Deliciously lucid with true dimensionality.

HEADPHONE AMPLIFIERS

GRAHAM SLEE NOVO 2009 £255
Dynamic headphone amplifier with a great sense of timing. Crisp, clear treble and warm midrange gives an involving sound.



MUSICAL FIDELITY X-CAN 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 £5,000
The greatest argument for SACD. This sublime Ken Ishiwata design is utterly musically convincing with both CD and SACD, beating most audiophile CD spinners hands down.



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

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

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



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

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

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

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

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.

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.

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



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

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



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

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

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

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



ANALOGUE RECORDERS

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

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



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

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

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

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

REVOX A77 1968 £145
The first domestic open reel that the pros used at home. Superbly made, but sonically off the pace these days.

COMPACT DISC TRANSPORTS

ESOTERIC P0 1997 £8,000
The best CD drive bar none. Brilliantly incisive, ridiculously over engineered.

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

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

DACs

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

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

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

PINK TRIANGLE DACAPO 1993 £ N/A
Exquisite; the warmest and most lyrical 16bit digital audio we have ever heard.

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

CABLES

MISSING LINK CRYO REFERENCE 2008 £495/0.5M
High end* interconnects, with deliciously smooth, open and subtle sound without a hint of edge.

TECHLINK WIRES XS 2007 £20
Highly accomplished interconnects at an absurdly low price. Stunning value for money.

VDH ULTIMATE THE FIRST 2004 £250
Carbon interconnects that help you forget the electronics and concentrate on the music. Miraculous transparency. Tight and tuneful bass mixed with air and space.



WIREWORLD OASIS 5 2003 £99/M
Excellent mid-price design with a very neutral, silky and self-effacing sound. Superb value for money.

TCI CONSTRICTOR 13A-6 BLOCK 2003 £120
Top quality 'affordable' mains outlet block, with fine build and good sonics. Well worth the extra over standard high street specials, which sound coarse and two-dimensional by comparison.

vinyl section

contents

DECEMBER 2018

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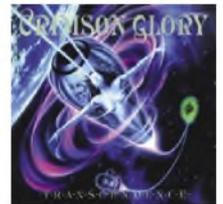
LENCO L-400 TURNTABLE 82
A £200 Direct Drive impresses Noel Keywood.

CREEK OBH-8MK2 86
A great MM budget phono preamp, says Noel Keywood.

TURNTABLE TUNING 89
Noel Keywood on tuning the TT.

AUDIOPHILE BOOK 93
Paul Rigby reviews Ian Hunter's 'Diary of a Rock'n'Roll Star'.

news

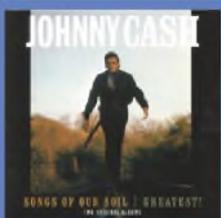


VINYL PASSION

A host of classic albums from this reissue specialist outfit begins with John Lee Hooker with 'Travelin' and 'Burnin'. Two albums from 1960 and 1961 respectively. Two stone cold, intense classics. 'Burnin' is also known as 'Burnin' Hell', incidentally.

B.B. King's 'The Blues', originally released on the budget label Crown, collects twelve sides plus two bonus cuts of top notch blues.

Johnny Cash's Americana-centred 'Songs of Our Soil' (1959) and 'Greatest' (1959; mainly B-sides and unreleased songs, actually) fit on



a single disc.

Finally, sax-man Sonny Rollins with 'A Night at the Vanguard' and 'At Music Inn' from 1957 and 1958 respectively with the great man at his peak.

MUSIC ON VINYL

Newly out and about from this prolific label (www.musiconvinyl.com) is a host of rock LPs.

Max Cavalera left Sepultura for the Soulfly project. 'Prophecy' (2004), on gold and black vinyl, features grinding hardcore metal but there's plenty of rhythmic variety in there to keep matters interesting.

From prog-metal outfit, Crimson Glory is 'Transcendence' (1988), arguably the best album of its type in the eighties. Not as prog as you might think - in fact, it's fairly Iron Maiden-esque, 'straight ahead rock' with flourishes.

Death Angel's brilliant 'Act III' (1990) on limited, red vinyl offers great production, excellent guitar, quality lyrics that out-Anthrax, Anthrax.

On a different tack is Germany's Eloy, prog-leaning krautrock but with their debut, 'Eloy' (1971) they were a hard rocking Atomic Rooster-type outfit. Not bad, not great.

Also look out for Vendetta's 'Go and Live Stay and Die' (1987), the German thrash metal group's debut. On green vinyl is Phenomena's 'Blind Faith', a Tom Galley project (brother of former Whitesnake guitarist Mel Galley). Overland's 'Epic' is on blue vinyl and limited to 500 copies. Sinner's 'Danger Zone' (1984) with its – cough – primitive sleeve art, is on coloured vinyl and limited to 666 copies.

DUBSTAR

I haven't listened to Dubstar's music since their 1995 'Disgraceful' album debut. This new release, 'One' (*Northern Writes; dubstarofficial.com*), retains Sarah Blackwood's light, disaffected singing-while-cleaning vocal style, plus the background music that resembles the packing you use in a parcel picked up by DHL. Bad then? No, not at all. Almost meditatively detached. Supremely nonchalant pop.





DEMON

Compilations are all over the place from this label (www.demonmusicgroup.co.uk) including the 3LP multi-fold gatefold, 'Disco Anthems 2' featuring The Jacksons, Odyssey, Ottawan and Karen Young.

Showaddywaddy's 'Greatest Hits' includes all sixteen of their hits including 'Under the Moon of Love'.

'Seventies Euro Classics' (bit political there, eh?) on vinyl only, includes sixteen songs from the Eurovision Song Contest including The New Seekers, Abba, Baccara and Teach-In.

T.Rex's 'Gold' includes two LPs of hits including 'Hot Love', 'Life's a Gas' and 'Get it On'.

Finally, 'Radio Heart' (a pop project by brothers Hugh and David Nicholson) featured Gary Numan on vocals in the late 1980s. This new double album package adds that album plus alternative mixes and b-sides.

THE DOORS

'The 50th Anniversary Deluxe Edition' of The Doors 'Waiting for the Sun' (Elektra) appears in a book-type binding featuring the original 1968 stereo mix, remastered on vinyl and CD, plus fourteen rare studio and live cuts.



TUBBY HAYES

From the great jazz sax man, 'What is This Thing Called Love?' (Acrobat; www.discovery-records.com) is a 1969 live cut from the Hopbine (a pub-jazz venue in North Wembley, London), previously unreleased performances, left over from a 1986 album 'Live 1969' and including 'Members Only' and the title track run at 45rpm. The words 'nugget' and 'gold' spring to mind.



...AND FINALLY

Two from Kscope (www.kscopemusic.com) include Lunatic Soul's 'Under the Fragmented Sky' and offers typical, label-inspired, precision-based prog. For Steven Wilson fans.

In a similar vein, Gazpacho's 'Soyuz' provides atmospheric art/prog rock but with added Radiohead-like keening vocals.

'Don't Hold Onto The Clouds' (Siyal) is Kutiman's ambient exploration, soundscape adventures, psychedelic wanderings and tonal trips. Lovely.

Two from the Psychedelic Furs on CBS includes 'Forever Now' (1982), a Bowie-tinged lead vocal, post punk style and Todd Rundgren, synth-inspired wall of sound plus 'Midnight to Midnight' with the big hit, 'Pretty in Pink'.

The faddy ambient-piano genre progresses with Emilie Levienaise-Farrouch's 'Époques' (130701; www.130701.com) taking a Max Richter approach to tones, space, sustain and minimalism. Meditative.

Tenderlonious' 'The Shakedown' featuring The 22Archestra is a contemporary jazz piece. At times inverted, then beat-driven – but retaining an almost psychedelic wobble.

Limb's 'Saboteurs of the Sun' (New Heavy Sounds; limbtheband.bandcamp.com) is a solid, head nodding, hair shaking, jeans stretching, spittle flying, stoner/metal wipe out. Nice.

The Orb changed my life and re-wired my brain when I first heard 'Little Fluffy Clouds'. This new LP 'NSAOOB' (Cooking Vinyl) offers retro samples and the same old reverb styles, bland commerciality, lots of standing still and running around in circles. The Orb has been scared of his own shadow since the poor reception of their masterpiece, 'Orbus Terrarum' (1995). What a waste of talent.





A budget Direct Drive turntable with perfect speed lock. Noel Keywood reviews Lenco's new L-400.

Lock On

For the Lenco L-400 Direct Drive turntable I'm reviewing here Amazon quote £199.5 (Oct 18) – and you get a decent Audio Technica cartridge thrown in. To be a little more correct, pre-aligned and bolted in to a very good quality head shell. Yes, this Lenco had its surprises. It may be cheap but it was also cheerful.

The Lenco is a Technics SL-1210 Mk2 look-alike Direct Drive

turntable with large square Start/Stop button at left, pillar mounted rotary on/off switch with strobe light, a pop-up cue light for cueing in the dark, two speeds (33/45) and speed adjustment using a slide control at right (+/-10%) with zero-detent so a user can be sure of setting either 33rpm or 45rpm perfectly, without error.

The arm is standard pattern, an S shaped aluminium tube, with detachable headshell using a conven-

tional bayonet fitting that allows other headshells to be used, either as an upgrade or for alternative cartridges – say a better moving magnet (MM) type or even moving coil (MC).

As if all this wasn't enough there's an on-board phono pre-amplifier that can be connected to any amplifier's line input (Aux) and – amazingly – even a USB digital output for connection to a computer. This allows LP to be recorded to a

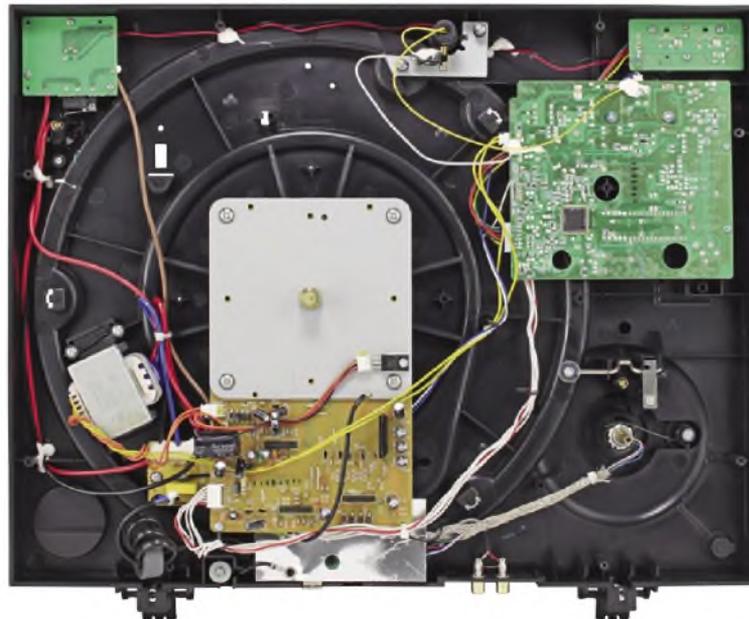
digital file (CD quality). The phono stage can be switched out, by a small slide switch at rear, so an external unit can be used.

The L-400 is a comprehensive turntable package that hits all the right bells at an astonishingly low price – so I was alert to the potential drawbacks.

Drawbacks? Let's go into the details. Fast start up needs a light platter and this the L-400 has. But light platters are resonant and colour the sound – and this one was no exception, with no damping and just a simple felt mat. Light platters also do not have the rotational inertia to suppress flutter generated by motor cogging – and cogging was obvious in the L-400. Not dramatic issues but they characterise the sound.

The arm has a calibrated counterweight, bias applied by a dial, plus a sturdy arm rest with safety clip. As before the lift/lower lever is too close to this pillar, but it's not a deal breaker. Although the (new) arm is a resonant aluminium tube the headshell looked much like a quality Audio Technica design to me, with deep stiffening ribs either side to suppress resonance. In it sits an Audio Technica AT-3600 moving magnet cartridge that I know from previous experience offers great analogue sound – think smooth, deep and immersive. It has a robust carbon fibre reinforced ABS cantilever, plus excellent tracking to prevent LP groove damage.

Good intent then – backed up by a handbook that was both compre-



A large bearing and motor support plate is bolted to the ribbed plastic chassis. Motor control is the green board at top right that carries a large IC for the purpose.

planes, yet there was no bearing play.

Build quality of the L-400 is 'light'. The plinth is an insubstantial plastic moulding weighing 5.36kg with mediocre finish – good enough but not fab. All the same, with both strobe light and cue light, it looks the part when spinning. There is no auto-start or stop; it's all-manual.

Connection to the mains is direct (no external supply) via a captive mains lead with, on our UK sample, a 13A plug fitted with a plastic earth pin, meaning the chassis is not earthed to the mains. Signal earth is back to the amplifier only,

enough to avoid upsetting the arm.

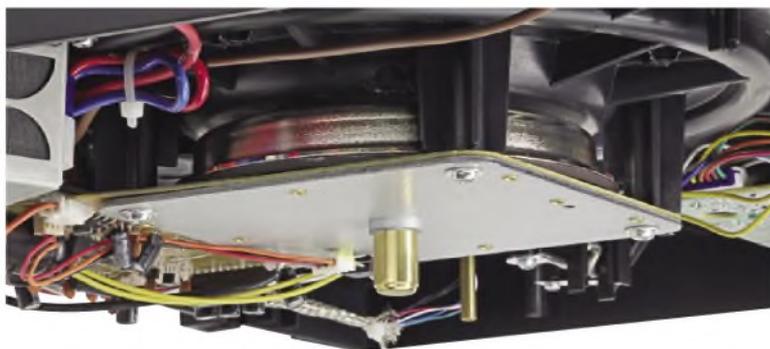
The L-400 is easy to set up and to use. It comes with the cartridge pre-aligned in headshell, so just plug headshell in, screw on counterweight, balance out then apply the recommended tracking force of 2gms for the AT-3600 cartridge, as Lenco state.

For digital recording, Lenco include a CD with the free Audacity music editor, also available on-line for Mac and PC. Top digital resolution is 16bit/48kHz sample rate and this has a dynamic range of 72dB measurement showed. Ideally, digital conversion needs to better LP in dynamic range to not affect its sound, meaning 24bit.

SOUND QUALITY

I connected directly to our Icon Audio Stereo 30SE amplifier, using Line output, as well as via an Icon Audio PS3 Mk2 phono preamplifier using Phono output. Digital recording was to a MacBook Pro running Sierra, but since USB I.I is used and sample rate is 48kHz max PCs do not need a driver update. Loudspeakers were Martin Logan ESL-X hybrid electrostatics. The digital file was replayed from an Astell&Kern AK-120 via an Audiolab MDAC+.

The sound of the cartridge will dominate any turntable, but the latter has effect all the same, as I'll describe. Priced at around £30 on the open market the AT-3600 (not an AT-3600L) tracks well and sounds secure. It also has rolled off upper



Sturdy support pillars and a steel plate support the bearing assembly and Direct Drive BLDC motor.

hensive and accurate in its printed specifications.

The new arm does not now have a downward droop, as it did on the L-3808 – and this appears to be the main difference between the two models. When balanced out it moved freely in horizontal and vertical

avoiding hum. Width is 450mm, depth 350mm and height 139mm with the supplied acrylic lid closed. As with all turntables possessing hinged lids, top clearance is greater for the lid to open without obstruction, in this case 406mm (16in) above. The lid moves on plastic hinges that were smooth

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treble, imparting the sense of warmth characteristic of yesteryear designs but a small peak at 12kHz means there is upper treble and quite good detail. It's a gently warm sound, not dull or muggy – and with an attractively well damped, neutral tone that comes from the carbon-fibre ABS cantilever I suspect. There's plentiful low bass to give the sound a sense of heft, obvious when I span Heart Full of Holes, from Mark Knopfler's Kill



The rear carries analogue output phono sockets, a small Phono/Line slide switch and, at far right, a USB socket for computer connection.

I here some edginess, likely from the cartridge's treble peak.

With classical music LP 'ticks and pops' were less evident than they can be with modern cartridge tips, since the 0.7µm spherical stylus doesn't read them so well. It is a tad mellifluous, meaning strings get a little blurred, especially on inner grooves, but the Vienna Philharmoniker orchestra (Decca, 180gm) had scale and dynamic strength playing Mozart Symphony No39, seemingly well defined even on inner grooves. There was here a subtle patina of 'sand paperiness' from flutter I suspect, and a slight lightness of tone that made the sound not quite couth.

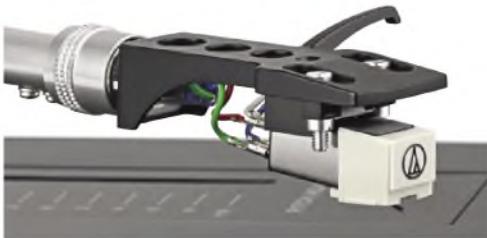
Good speed stability imparts a sense of temporal grip, most evident with synth based Rock where the beat is electronically timed, readily appreciated when spinning 12in singles like Carol Kenyon's Dance With Me. This was fast and temporally grippy. I also noticed some treble edginess and suspect that 45rpm levels were stimulating the tip mass resonance.

The L-400's lightweight plastic

plinth made itself known when I closed the lid and was greeted by a resonant thump. A lively plinth and simple alloy arm don't give the visceral impact and stage depth of better built turntables and the lightweight alloy platter imparts a metallic hue that a better platter mat (slate, cork, acrylic or a composite) lessens. These are minor subjective issues however in the larger scheme of budget record decks.

CONCLUSION

The L-400 is a compelling turntable package at its low, low price. The arm has been improved over the previous L-3808 but all other parts remain the same, including a Direct Drive motor that offers excellent speed accuracy and stability – better than belt drives. There is some classic Direct Drive cogging (flutter) but this is to be expected at the price. Easy to set up and use, and upgradable, the L-400 is a bargain. Just bear in mind that the lightweight plinth, platter and arm are not reference items. Great value all the same.



Audio Technica's AT-3600 MM cartridge mounted in a sturdy headshell with stiffening side walls.

to Get Crimson, where the slow bass line was firm and obvious. The point here is that because of this cartridge the L-400 delivers an analogue sound that's in keeping with traditional expectations – full bodied and punchy, yet easy going and mostly free from digital harshness. Only on occasion did

MEASURED PERFORMANCE

Speed accuracy was near perfect, the turntable running an inconsequential 0.1% fast and it held this speed over a long period; there was no long term (24 hrs) wander.

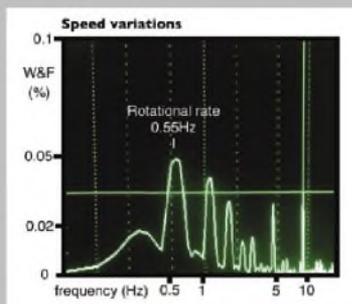
Speed variation was low, 0.13% Wow predominantly at rotational frequency (0.55Hz) and its second harmonic (1.1Hz) as our analysis shows. However, the analysis also shows classic Direct Drive cogging at 8.9Hz (flutter) from the 8 pole, two-phase BLDC motor, a common problem – especially with a light platter. This caused the overall total Wow & Flutter figure to be a good but not class leading 0.13% unweighted and 0.1% weighted (0.08% JIS weighted). These are very good figures, better than belt drive, if not up to Technics standards.

The arm has a pronounced main bending mode at 150Hz and liveliness around 1kHz and above 3kHz – about as expected for a budget design.

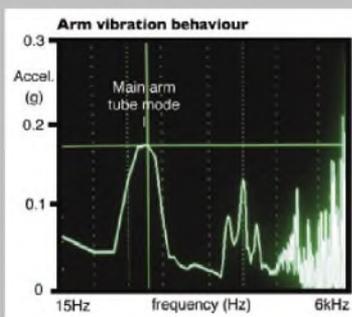
As with its predecessor L-3808 the internal phono stage had a low gain of x60 (35dB) at 1kHz where x100 is a common target figure. The overload ceiling was 37mV in, sufficient for all MM cartridges including the AT-3600.

Frequency response (equalisation accuracy) was flat our analysis shows, a warp filter rolling off gain below 40Hz.

SPEED VARIATION



ARM VIBRATION



This suppresses cone flap caused by LP warps, but it removes subsonic bass. Noise measured a low -82dB IEC A weighted.

The USB digital output reached digital maximum (0dB) at 17mV in – about right for the Audio Technica AT3600 cartridge that at 2gms tracked a high level test track, if not the top torture track of CBS STR-112 test disc – good for a budget cartridge. Frequency response of the cartridge had treble roll-off to -3dB at 8kHz giving a classic warm balance.

Digitally, a recording made at full level (0dB FS) measured 72dB dynamic range – adequate for LP but below the >80dB needed to have little subjective impact, achievable only by using higher 24bit resolution.

The L-400 measured well all round, if with some flutter from motor cogging. **NK**

Speed error	+0.1%
Wow	0.13%
Flutter	0.08%
Wow & Flutter (unwtd)	0.13%
Wow & Flutter (wtd)	0.1%

LENCO L-400 BK DIRECT DRIVE TURNTABLE £200



OUTSTANDING - amongst the best at the price.

VALUE - keenly priced

VERDICT

A budget Direct Drive, easy to use and with excellent sound.

FOR

- super low price
- good fitted cartridge
- easy to upgrade

AGAINST

- lightweight plinth
- awkward cue platform
- mediocre digital quality

Lenco
www.lenco.uk.com

Magnetic Attraction

Creek's simple OBH-8mk2 moving magnet phono stage attracts Noel Keywood.

There's a lot to be said for nothing. No input capacitance options, no gain options and no balanced output, let alone a whiff of moving coil – and not a lot of money changing hands either because Creek's OBH-8mk2 phono preamplifier costs just £130. What you get here is the simplest of boxes, small enough to fit in just about anywhere. Tuck it behind the turntable perhaps.

In case you are new to LP and wondering, yes this is a phono preamplifier with necessary equalisation (RIAA) that you must have to feed the line input (marked Aux, CD etc) of an amplifier if you want to

run a turntable. Its rear panel carries phono socket inputs and outputs plus an earth terminal, and a d.c. input (24V, 500mA) to accept power from an external switch-mode wall-wart power supply (100V-240V) with a thin lead 2m (6ft) long. Creek claim a consumption of just 3 Watts from the mains.

The case is made from sheet steel finished black, measuring 100mm wide, 80mm deep and 48mm high and carries a single push buttons with power-on LED above. Nicely made and finished – and solid.

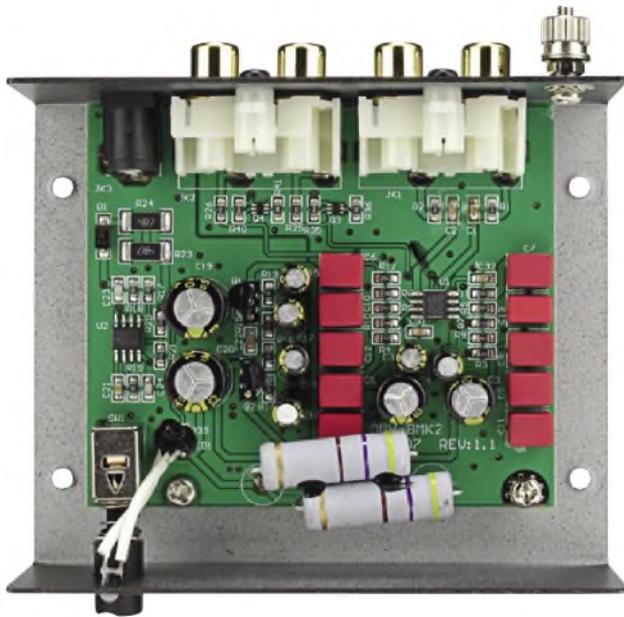
SOUND QUALITY

Simple moving magnet phono stages built around chips – as most are – do

not in general move me much. Think: a tad grey in tonal colour and lifeless, giving a soul-less sound. Creek have always managed a bit more though, on which their reputation deservedly lies, and the little OBH-8mk2 lived up to their reputation. I fed it a high quality signal from our Audio Technica VM750SH Shibata tipped MM cartridge, mounted in an SME309 arm sitting in a Timestep Evo modified Technics SL-1210 Mk2 Direct Drive turntable. Output went to an Icon Audio Stereo 30SE amplifier driving Martin Logan ESL-X hybrid electrostatic loudspeakers.

Spinning Kate Bush's King of the Mountain (180gm) immediately showed the Creek gave a composed





A machine produced board populated with miniature Surface Mount Devices (SMD). Creek use an interesting number of capacitors (red blocks), likely to suppress noise.

and svelte sound, with great insight into La Bush and all going on around her, free from false emphases. By this I mean no zingy treble, although the

"Unassuming, deeply capable and svelte – there's nothing better at the price."

OBH was still strong up top, yet firm and even with it, giving fine articulation to her vocals.

The basic sound balance on this album and all those that followed it was dry and controlled in nature but smooth, dense and well fleshed out – more so than I had any right to expect at the price. The bass line on Jackie Leven's Some Ancient Misty Morning walked with firm steps, lacking the deep thrum I hear from stages without warp filtering. This helps explain why the OBH was tight and composed, but its svelte nature came from internal design and component choice.

The sense of sophistication became more obvious and impressive spinning 2L's lovely DXD recorded LP of Marianne Thorsen and the

Trondheim Soloists (180gm) where I hear a bright balance with uneasiness from budget phono stages – and the Creek suffered neither. It was at this point in listening that I also realised the OBH-8mk2 paints a broad sound stage, animated from far left to far right, with instruments firmly identified on it, spreading the Trondheim Soloists widely behind

Marianne Thorsen's violin. This was made clear by our Martin Logans and helped toward a sense of quiet ability from the Creek.

Because the unit is fed from a low voltage external supply it is not mains-earthed and hum was not an issue. Switch on produced no thump through our amplifier with volume turned up.

CONCLUSION

This little MM phono stage is probably better than most set ups feeding it! Creek's OBH-8mk2 was lovely to hear, doing justice to our well fettled turntable – at a minuscule price of £130. Unassuming, deeply capable and svelte – there's nothing better at the price.

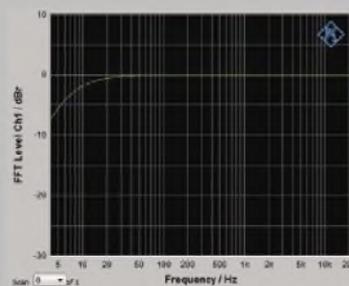


The rear panel is simplicity itself, phono socket inputs and outputs only, plus a 24V d.c. power socket.

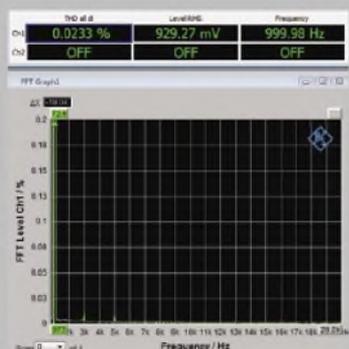
MEASURED PERFORMANCE

Frequency response of the Creek OBH-8mk2, shown in our analysis,

FREQUENCY RESPONSE



DISTORTION



measured flat across the audio band but a warp filter rolls off subsonics below 20Hz to produce a mild but useful -6dB attenuation at 5Hz (warps) to lessen cone flap from ported reflex loudspeakers.

Gain was a normal x97 for MM cartridges, but this is still a little on the low side. Overload measured 60mV in / 5.9V out – more than enough.

Noise (hiss) was mediocre, measuring 0.35µV (equivalent input noise) and less is possible, but because MM cartridges produce significant thermal noise this is still acceptable.

Distortion was low at 0.02% at 10mV in.

The Creek OBH-8mk2 measured well all round, offering a good set of figures.

NK

Frequency response 18Hz- 20kHz
Gain x97
Overload 60mV in / 5.9V out
Separation 71dB
Noise 0.35µV e.i.n.

CREEK OBH-8MK2 £130



OUTSTANDING - amongst the best.

VALUE - keenly priced

VERDICT

A fine sounding little moving magnet phono stage, easy to fit and use. Probably the best at the price.

FOR

- small size
- simple
- pure sound

AGAINST

- no gain or loading options
- no volume control
- no balanced XLR out

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Turntable Tuning

Can a starter turntable like the Lenco L-400 I review in this issue be tuned to give a better sound? And if so how? It certainly can – there are no end of options that I will cover in this look at what's available and how well it works. Some are expensive, some DIY at little cost. I am using the Lenco L-400 as an example suited to upgrade.

PLATTER MAT

A very effective way of tuning the Lenco in particular, and others like it, is to add a better platter mat to interface with the LP's underside and damp the lightweight alloy platter to prevent ringing. There are many available, but to assess the effect I chose a Soundeck 'Sound Damped Steel' mat (£95) together with a very heavy (780gms) matching stainless steel puck (£97.50) having a damping layer built in. Yes, together they equal the price of the turntable but are still inexpensive upgrades that make a difference.

The mat – 285mm diameter to suit a Technics turntable – replaces the standard mat so is a fit-and-forget item. The puck is placed over the centre spindle to hold down and damp the LP, suppressing vibration caused by the stylus (needle talk). It also prevents slippage and, by adding mass to the platter, reduces flutter. On the matter of slippage, I use double-sided tape between light felt mats and a smooth metal surface to avoid this measurable and insidious problem. Using a Luxman PD-300 vacuum deck long ago also made obvious how contact between vinyl and platter improves the sound.

Adding weight to a platter should reduce flutter – and it did with the L-400 measurement showed. Motor cogging fell by 25% – not massive but worth having.

Although weight is added by the puck the L-400 still started quickly enough and locked onto speed, its stroboscope showed. Subjectively mat and puck gave an obvious improvement in dynamic contrast and control: there was greater range between loud and soft and improved temporal focus. This erased a subtle sense of haze, sharpening up the sound nicely. There was better outline to orchestral instruments and events, and stronger, cleaner punch given to Rock performances.

Soundeck 'Sound Damped Steel' mat available in 295mm, 292mm, and 285mm (£95). Puck - Stainless 780gms (£97.50) Aluminium 267gms (£93.50). Available from www.soundeck.co.uk.



TRACKING FORCE

Look at the manufacturer's specification for your cartridge and ensure you use the recommended tracking force or a higher one, up to the recommended limit. A lower force does not reduce wear, instead promoting mistracking and the groove damage it causes. It also makes an arm difficult to handle and more likely to jump in the groove.

Get a decent modern electronic stylus force gauge to be sure you have tracking force set right. Also consider buying the Clearaudio Trackability Test Record (£45) to see just how well your cartridge performs, and to set bias properly so when mistracking occurs (as it will do on the very high level cuts) it affects both channels equally. Mistracking causes damage so don't allow it to continue when using this LP.

Pro-Ject Audio Systems Measure-IT 2 Digital stylus force gauge. Available from www.henleyaudio.co.uk (£90).

CARTRIDGE

This of course is the big and obvious upgrade. But watch out. Modern cartridges are brighter than those of yore, some obviously so (Audio Technica VM760SLC, Ortofon 2M series). They don't best suit budget alloy arms that ring, nor old LPs in mediocre condition. And you lose that warm sound.

Audio Technica advise you upgrade the AT-3600 found as standard in the Lenco L-400 (and others) with an ATN-91 stylus (see p31 of their product catalogue) and they recently announced a new budget range of moving magnet cartridges we will review soon.

For warm sound the only current option is a Shure M97xE (£140). Otherwise a Goldring 1012GX with its Fritz Geiger stylus geometry is a great upgrade choice, being accurate and revealing but not overly bright. Since even decent budget cartridges track well, don't worry about tracking ability and LP damage – see Tracking Force.

Goldring 1012GX (circa £250) with its Fritz Geiger stylus geometry is a great upgrade choice. Available from www.goldring.co.uk



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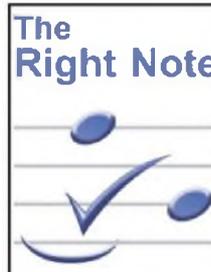
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TURNTABLE POSITIONING

On suspended wooden floors, to minimise upsetting the arm, position the turntable against a wall, or even in a corner where floor bounce is usually minimal. These are acoustic high pressure points, so from that point of view not ideal, since turntables are, to a great or lesser degree according to construction, microphonic.

A wall shelf is ideal, especially away from a corner. Make sure it is sturdy and has a rigid shelf. Good examples are Rega's wall shelf (£125) or two Project shelves. Or make your own shelf from dried silver sand, available in packs from builders merchants, sandwiched between wood panels and placed on wall brackets.

Alternatively, use a piece of slate / marble under the plinth. Placing a phono stage on / below a shelf with a lead to the hi-fi. Balanced connection



Project WallMount IT2 Wall Shelf Available from www.henleyaudio.co.uk (£160)



Rega's wall shelf. Available from www.turntableworld.co.uk (£125)

(XLR socket) is needed for long leads, using a screened cable.

Dangling mains and signal leads are ugly with wall shelves; use plastic conduit to cover them. Or consider a floor standing shelf system screwed to a solid rear wall with brackets, as many can be. Turntables need a 16in top shelf, which may have to be specially made; thick MDF will do, ideally with a couple of glued-on underside ribs to prevent sag and minimise vibration. Such a shelf system can store LPs, carry hi-fi equipment, place the turntable at a convenient height, carry an LED cue light with flexible neck, and have room for cleaning brush and all the other paraphernalia needed for LP.

HEADSHELL

Headshells resonate strongly above 1kHz our measurements with an accelerometer show. There is a large difference between good and bad. Bad are the flimsy bent metal platforms sometimes used, with no strengthening ribs. Also, unribbed vestigial shells are poor. After-market shells are available from Audio Technica and Timestep (Sound Hi-Fi), the latter offering a hard Ebony wooden shell that's very neutral I found (T-01HS at £145). A good headshell brings clarity to treble, with more assured image placement on the sound stage. Hear those fine cymbal taps!

If you upgrade to a quality cartridge I strongly recommend you get a good headshell to go with it. Look at Audio Technica's range in particular where they offer blind-tapped headshells of different weights, together with screw packs, for easy fixing but a clean appearance (e.g. AT-LH18 £65). Also, there are diecast aluminium shells and a magnesium shell. It's an interestingly illustrative range of what is needed.

Download their pdf brochure from [https://eu.audio-technica.com/resources/catalogues/Cartridges_Brochure_2018_ENG_L00068_V1.1\(low\).pdf](https://eu.audio-technica.com/resources/catalogues/Cartridges_Brochure_2018_ENG_L00068_V1.1(low).pdf). OK, it's a long URL but this is a fascinating brochure, difficult to find but worth seeing for unique cartridge and turntable info. expertly presented. See p40 for head shells and p41 for accessories.



Timestep (Sound Hi-Fi), Ebony wooden shell T-01HS at £145. Available from www.soundhi-fi.co.uk



NEW ARM

Upgrade your arm to a Rega RB-220 (£230). But will it fit? The Rega needs a single 25mm diameter hole spaced 222mm from the platter spindle – a standard effective length figure the L-400 arm possesses. A complication is that the Rega also needs space for three screw fixing holes – see arm fitting instructions on Rega's website. The Lenco L-400 arm is not made removable but can probably be removed all the same and an aluminium adaptor plate screwed or glued into place to accept the Rega, bearing in mind arm height. The lift/lower and arm rest pillar would also need to go. A serious DIY job but likely possible.

Why do this? To make the most of top quality cartridges, either moving magnet (MM) or moving coil (MC). A Rega is as good as it gets until you get into high-end territory – and even then they're competitive. Expect better sound staging, stronger dynamics and an altogether more damped, neutral and svelte tone. Nice to handle too: good lift/lower and sturdy finger lift. Only cartridge fixing is difficult due to the fixed headshell – go for cartridges with tapped bodies, making fixing nuts unnecessary and fixing a lot easier.

Rega RB-220 (£230) arm. Available from www.turntableworld.co.uk



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Star diary

Paul Rigby reviews an insight into Rock'n'Roll life
– and loves it.

Diary of a Rock'n'Roll Star

Author: Ian Hunter

Publisher: Omnibus

Pages: 205

Price: £18.99 [Hardcover]

Ian Hunter was famously the lead singer and songwriter for the UK rock group, Mott the Hoople. Back in 1974, his band had 'broken' into the USA and were playing a sell-out tour while supporting their then well-received LP, 'The Hoople'.

It was that year that this book originally appeared on the book shelves, written by Hunter during an earlier 'All The Young Dudes' tour, in 1972.

The contents of the book are revelatory in offering an insight into the world of the successful musician. The reality behind the fictional gloss. The book's success is down to Hunter's own honesty. He was and is prepared to shine a light on the associated monotony and repetitive nature of rock'n'roll life, the fixations on the ordinary and the surprisingly unrewarding nature of the band's 'successful' career. Hunter would raid American pawn shops, buy quality guitars cheap and sell them in the UK at a profit to supplement his relatively low income. There was as well almost Spinal Tap-like concentrations on the banal. As such, the book is very funny indeed, as well as being enlightening.

In many ways the original book's packaging reflected that fictional gloss. 'Diary of a Rock'n'Roll Star', as

a title, wasn't really Hunter's style. Panther Books, the original publisher, pushed for it. Hunter wanted to call it 'Rock'n'Roll Sweepstakes' because he felt it was more the tone of the book. Besides, Hunter didn't feel like a star: "...to me, Barbara Streisand's a star", he said.

The original rear cover also name-dropped 'personal friends', big rock names such as Keith Moon. People he'd in actuality met one night in a bar. So, not exactly personal friends, then.

Hunter did gain many musical friends - as readers. Duran Duran's bassist John Taylor and The Cult's Billy Duffy exclaimed how they read the book almost as a blueprint to future success. The key to the book was the blend of excitement with a pragmatism that, in some ways, made this tale ever more real.

In this book, America is a strange place and caution is the watch word - while encounters are fraught with difficulty. Take Jill, for example: "She's cute, buys me a drink, but she smells of onion and I upset her a little by giving her a breath freshener. I was only being nice". Shropshire boys can be so misunderstood.

There's some interesting cultural observations. Take his view of the music papers over in the USA. "They're definitely more political in



nature, which I think is wrong, but they do really get into the bands much deeper than we do in England. I get the feeling they have more respect for musicians over here".

Then there's the unwanted attention of a sort of 'non-fan': "They'll follow you from city to city, they'll ring you hourly. Sometimes they plead with you to see them, sometimes they're nasty because you won't. There's a breed of guy who just loves to be with musicians. He's usually sadly lacking and hangs onto you for a bit of reflected light. He'll never take no for an answer. He tells everyone he knows you. Tries to lay chicks on the group's name. He trades on your pity. Open your door, he's there. Go for a swim and you meet him three feet under. Go to a club and there he sits pretending he's with you and making you look and feel an idiot...Dylan had it with Weberman. A guy called Wayne was my shadow".

Now republished to include Hunter's 2015 Japanese tour Diary, this is a brilliant book. Natural in tone and presentation, informative, enlightening, easy to read and far too short. The book. Not Hunter.

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Don't miss our next issue for the Hi-Fi World Awards – rounding-up the best equipment our reviewers have heard over the past 12 months.

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In the Aria 926 three-way design Focal have combined two Flax bass drivers with a Flax midrange, for coherent sound, together with inverted dome aluminium/magnesium tweeter. There's a front port and floor facing vent too – complex. Don't miss our exclusive review of this fascinating new design in our forthcoming January 2019 issue.

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ADVERTISERS INDEX

2nd Hand Hi-Fi 72
 6 Audio 90
 Absolute Sounds OBC
 Advanced MP3 Players 90
 Audio Consultants 38
 Audiophile Buying Club 90
 Auralic 60
 B&W 12
 Billy Vee 95
 Black Rhodium 66
 Chord Electronics 18
 Classic Hi-Fi 60
 Criterion 84
 Decent Audio 32,33
 Divine Audio 90
 Electromod 68
 FiiO 64
 Focal 46
 Hard To Find Hi-Fi 42,43
 Henley Audio 14,24,70,88
 IAG IBC
 Ian Harrison 84
 Icon Audio 26
 Infidelity 90
 Jordan Acoustics 20,21
 KEF 6,36
 MCRU 92
 Naim 30
 Origin Live 84
 Oxford Audio 90
 Pete Tyson 50
 Riverside Hi-Fi 94
 SCV Distribution 28
 Sound Hi-Fi 68
 Tellurium Q 16
 The Audio Barn 90
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 Wave Fidelity 56

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... we were playing Brazil and our gear got kidnapped and held for ransom. The guy's were freaking out...

It was a sort of slow, methodical climb. Nothing rushed, care and attention applied along the way – well, as much as is possible from a bunch of Scottish heavy rockers. That was what happened as this album took the then London-based band towards international stardom.

Formed in 1968, the group took their name from the song, 'The Weight' by The Band. As lead singer, Dan McCafferty, explained to Classic Rock Music Writer (www.classicrockmusicwriter.com) "I pulled into Nazareth, was feelin' about half past dead' ...yup, that's where it comes from. We were sitting around in the place we used to rehearse in when we first got together and we couldn't agree on a name, there must have been four hundred different names. We were listening to 'The Weight' when it first came out and Pete Agnew our bass player said what about Nazareth...and that was it, we all agreed on that one".

The group featured the raspy vocals of Dan McCafferty, guitarist Manny Charlton, bassist Pete Agnew and drummer Darrell Sweet. Decent hard rock albums were released in 1971 (their self-titled LP) and 'Exercises' (1972) with 'Razamataz' (1973) gaining them national chart attention. This Top 10 LP even spawned a couple of singles hits. Then 'Loud'n'Proud' and 'Rampant' - both released in the busy year of 1974 - kept the momentum going until 'Hair of the Dog' emerged. This was a change of direction - or maybe just attitude - because the three previous LPs had been produced by Deep Purple man, Roger Glover.

Actually, the album almost started with a tumble because of the name. According to lead singer, McCafferty "We wanted to call it 'Son of A Bitch' and A&M Records who we were with at the time said, 'Oh no, you can't do that, they won't sell it'. We said 'Why won't they sell it?' We weren't American so you see we didn't know. It was Jerry Morris, God love him, who told us that it was a cussword here in America. So then we called it 'Heir of the Dog' which is 'Son of A Bitch' anyway but the title eventually became 'Hair of the Dog' on the album".

That album was a hit in the UK but it opened up the US market too, especially as it accompanied an honest-to-goodness chart hit, the cover of The Everly Brothers (and soon after that, Roy Orbison) 'Love Hurts', arguably the first ever power ballad. The song did so well it



reached No.8 in the Billboard chart.

The album opened up many doors to the band but also many odd experiences. McCafferty remembers, "The weirdest thing that ever happened to us was ... we were playing Brazil and our gear got kidnapped and held for ransom. The guy's were freaking out because you know how guitar players are without their guitars. They caught the guys but money was gone! Generally Brazil is a pretty cool place but there was some guy just trying to be a smart ass".

As for the album itself? Apart from that power ballad, there's a number of hard driving rockers in there, the title track being just one. That said, don't expect 'rock bland' on this release, there's much experimentation to keep the notion of variety high. 'Miss Misery' is almost a doom rock track. Then there's 'Beggars Day' which segues into 'Rose in the Heather' in an almost ethereal fashion on the wings of guitar and synth into an almost lazy swamp rocker.

A classic album? Oh yes. A classic album.

Now you can pick up this album in a rather large box set that has just been released by the band.

'Loud & Proud' contains thirty-two CDs (including all twenty-three original studio albums which have been remastered, two original live albums, as well as rare and previously unreleased audio and demos). You'll also find four vinyl LPs including two doubles and a picture disc.

Intriguingly, three bespokes are featured: AA-side 7" singles include 'Broken Down Angel' (Japanese cover)/'Bad, Bad Boy' (Yugoslavian cover), 'This Flight Tonight' (French cover)/ 'Shanghai'd In Shanghai' (Japanese cover), 'Love Hurts' (Japanese cover)/'My White Bicycle' (German cover).

There's also a 52 page hardback photo book featuring new and older band interviews, unseen photos and posters. What's more, in the box are reproduced original memorabilia including programs, lyric sheets, posters and a Rampant album \$1 bill sticker. Oh, and a metal pin badge. Every box set needs one of those... **PR**



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