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Paul Rigby, Jon Myles, Martin Pipe,
David Tutt



Valves can be a bit troublesome. If you're lucky big ones responsible for producing power will last a few thousand hours, but then need replacing. However, small ones that don't dissipate power will soldier on past 10,000 hours – and what's more they cost little, in the £10-£20 region. No wonder then that manufacturers nowadays use transistors to produce power, but use small valves elsewhere in a hybrid amplifier. The sound is a bit of a compromise, but one worth making, especially since transistors give tighter sounding bass. A lot

of advantages then, explaining why McIntosh of the US went down this route with their new MA352 hybrid amplifier reviewed in this issue – see p10. Our pictures show just how visually arresting a hybrid can be, especially with a little help from LED up-lighters and illuminated power meters.

Another US brand, Klipsch, have a different take on traditional style. Their Heritage Series The Sixes we review on p43 hark back to Klipsch speakers of yesteryear, are compact yet fully powered and accept just about any signal source you may have, from old tuner to modern turntable – not to mention digital sources including a computer, or portable phone with Bluetooth wireless. As reviewer Jon Myles notes, at the price this all-in-one is remarkable – and was admired by all who heard it at our offices.

Today we tend to take digital for granted, but not so long ago the technology was challenging, as Martin Pipe makes clear in his in-depth look at Aiwa's HD-S1 digital audio tape (DAT) machine on p50. The analogue-to-digital convertor (ADC) was an extra, it was so complex and expensive, early digital recordings made for CD being equally challenged in cost and capability. We tend to forget how quickly and comprehensively electronics has developed over the last 30 years or so; what lies under the bonnet nowadays is a lot slicker than Aiwa could have imagined back then, bringing great improvements in sound quality – especially to digital recordings.

Anything that can improve digital sound is welcome, and there have been some remarkable innovations such as the million-tap digital filter within Chord Electronics M-Scaler. Another approach is to re-clock in order to remove jitter and noise from a digital stream and this is what you can read about on p34 with Mutech's MC3+USB. It is a tad technical as hi-fi goes but anyone able to read the handbook's dense text should get it and can then be entertained by the benefits of re-clocking. And they are quite obvious, even with digital in decent condition I found.

Old and new vie with one another nowadays, to bring improved sound – often with old-world appearance. You can read about both in this great issue of Hi-Fi World. I hope you enjoy it.

Noel Keywood
Editor



hi-fi world

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verdicts

- OUTSTANDING
- EXCELLENT
- GOOD
- MIEDIOCRE
- POOR
- £ VALUE

amongst the best
extremely capable
worth auditioning
unremarkable
flawed
keenly priced

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

To ensure the 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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audiolab

6000 Series

“Best music streamer
under £500”

6000N Play – What Hi-Fi?

“Hugely capable stereo
amplifier”

6000A – What Hi-Fi?

“Best-sounding streamer
under £500”

6000N Play – Hi-Fi Choice

“Haven’t heard anything like
it under £1000”

6000A – Paul Rigby [The Audiophile Man]

“Great-value modern
integrated amplifier”

6000A – Hi-Fi News

“Audiophile CD transport
bargain”

6000CDT – Hi-Fi Choice

“Brilliant integrated
amplifier”

6000A – Hi-Fi Choice

“Revolutionises budget
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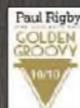
6000CDT – Paul Rigby [The Audiophile Man]

“Superb performer”

6000A – Hi-Fi World

“Class-leader”

6000CDT and 6000A – Hifi Pig



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news

ZX SPECTRUM

Claimed by Mission to be its "finest-ever" loudspeakers, the flagship ZX Series joins the entry-level LX and mid-level QX models, completing the Huntingdon firm's current lineup.

Drawing on the science of laser interferometry, the fabric diaphragm of the ZX ring-dome tweeter is formed into two rings with the voice-coil in the centre. Doing so, reckons Mission, improves efficiency, accuracy and transient handling.

Bass and midrange, meanwhile, are handled by the latest incarnations of Mission's 'DiaDrive' woofers. Their seamless diaphragms, that replace the traditional 'cone and dust-cap' arrangement, are fashioned from an aluminium matrix and feature a special inverted surround to deal with travelling waves and ensure a "clear and accurate midrange output to beyond 3kHz".

The cabinets incorporate "special bracing systems" and slot-shaped reflex ports, while the crossovers were fine-tuned by ear.

There are no fewer than eight ZX models, two standmounts (£599 ZX-1 and £749 ZX-2), three floorstanders (£1,099 ZX-3, £1,299 ZX-4 and £1,599 ZX-5), two home-cinema centre speakers (£499 ZX-C1 and £599 ZX-C2) and a surround-speaker intended for on-wall siting (£599 ZX-S).

As with other Missions of recent vintage, the woofer is sited above the tweeter to improve time-alignment; bigger modules locate the tweeter between two bass-mids in a classic d'Appolito configuration. There's a choice of gloss-lacquered black or white.

Further details: www.mission.co.uk



KEN ISHIWATA, 1947 - 2019

Sad to report that legendary Ken Ishiwata passed away on November 25th, following a period of illness. Until May and retirement, the renowned Japanese audio engineer was 'brand ambassador' for Marantz, over four decades.

Modest, enthusiastic and in possession of a unique sense of style he lived and breathed hi-fi and music. Listening intently for hours at a time to different varieties of electronic component, he built up an appreciation of the subtle differences they could make to the presentation of music.

He saw the potential of CD early on, recorded live music (notably jazz) and throughout his career campaigned vigorously for the 'true' hi-fi cause.

Over the years, he earned the respect and admiration of the industry and would himself introduce ranges of products; one of his final public appearances was to launch Marantz's celebratory KI-Ruby series of products at last year's Festival of Sound.

Ken was known to the many thousands of audiophiles around the world who bought Marantz products - mostly amps and CD players - bearing the distinctive 'Ki-Signature' badge, indicating that he had played a key role in their fine-tuning. Such products performed exceptionally well, bringing accurate and engaging reproduction of music within reach of modest budgets.

Ken was a true original who will be missed. We'll leave the last words to the great man himself: "Music is the highest form of art. It is also the most noble. It is human emotion, captured, crystallised, encased...and then passed on to others".

MOVING COIL MYSTICISM

There's now a high-end cartridge to go with high-end Vertere Acoustics vinyl spinners like the RG-1 turntable and Reference tonearm. The London-based firm is refreshingly-honest about the £2000 Mystic, a moving coil design, admitting that it's "not revolutionary...no wheels have been reinvented". The 9.1g Mystic is instead, we are told, a combination of "experience, common sense, science...and a little art". Its blue anodised 'mass-tuned' body, machined from aluminium, hosts a low-mass generator with samarium-cobalt magnet and "virgin copper" cross-coils. These are coupled via a telescopic aluminium-tube cantilever to a micro-elliptical diamond stylus.

Characteristics of the Mystic, which is designed to track at 2gm, include a frequency response of <10Hz-40kHz, a 0.5mV output for "lifelike dynamic range with depth and precision", and a maximum imbalance of 1dB between channels. For best results a load of between 680 and 1500 ohms is needed, with capacitance of 220pF to 470pF.

Contact: *Vertere Acoustics*, 0203 176 4888 vertereacoustics.com



A HELL OF A CONCEPT

German vinyl specialist Clearaudio's Concept, acknowledged as one of the best turntable packages for under £1,500, now has an 'active' guise. The incorporation of a phono stage enhances still further the neat 'ready-to-play' nature of the three-speed belt-driven deck.

Phono stages built into turntables tend to be lacklustre affairs. Not so the one fitted to the Concept Active that will accommodate MC as well as MM cartridges. A series of toggle switches select mode, configure gain, engage a subsonic filter and switch in or out a volume-control thumbwheel. Great for those feeding power amps directly from the Concept Active's high-grade phono sockets, but most will use it with the deck's side-mounted headphone socket.

The Concept Active's tonearm, featuring magnetic bearings, can be pre-fitted with a Concept V2 MM or Concept MC cartridge.

The Concept Active is available in black, black and silver or two shades of Baltic birch, with prices ranging from £2,000 to £3,000 depending on the configuration.

Also announced is the £630 Smart Power 12V, a supply unit with internal rechargeable batteries. Its sole purpose in life is to deliver "pure, clean power" to Clearaudio's Concept and Performance DC turntables.

UK distributor: *Sound Foundations*, (01189) 814238. www.soundfoundations.co.uk, clearaudio.de



TAKING THE MIC

The Lyra Ultra-HD is a new stereo condenser microphone from AKG - now a Harman brand. Aimed at the modern-day user who creates content on a laptop, it can be yours for a mere £139. There's no need to worry about preamps, mixers and analogue-to-digital converters; the Lyra, which plugs into a USB port, has those built in. Working at 192/24, the Lyra has four 'capture' modes - front, front/back, 'tight' stereo and 'wide' stereo - enabling it to be used for a variety of tasks including streaming, podcasts, blogging, music-making, field-recording and videoconferencing.

Contact: *Sound Technology (UK distributor)*, (01462) 480000. www.soundtech.co.uk



DOWN TO THE WIRE

New from American interconnect specialist Nordost is a range of tonearm cables. Such cables should be "purpose-built, low-capacitance" cables in order to protect the vulnerable signals from "loss and image-smearing" they say.

Nordost's new offerings run from tonearm to phono stage. Needless to say, your turntable or tonearm must have provision for removable cables.

Connectivity options are RCA, XLR or a base-mounted 240-degree 5-pin DIN socket; gold-plated 5mm spades, meanwhile, terminate the ground wires.

The cables are built around silver-plated, solid-core OFC wires arranged as separate twisted-pairs for the left and right channels, shielded by silver braid to eliminate inter-channel crosstalk and covered in Nordost's proprietary "Micro" or "Dual Mono-Filament" material (depending on specific model).

1.25m lengths will respectively cost you \$600, \$800, \$1,400 and \$2,750.

Further details: www.nordost.com

SYMPHONY OF A (14) THOUSAND...

Saint-Etienne based Focal is marking its 40th anniversary with a "special and limited collection" of products - among them the Spectral 40th and Scala 40th floorstanders, Solo6 Be 40th studio monitors and F40th car-audio package.

Joining them is the Symphonie 40th, a luxurious macassar-ebony veneered storage trunk in which there are two pairs of Focal headphones, the Utopias and Stellias. They can be driven by another part of the Symphonie 40th package, the Arche DAC and amplifier. The resulting combination is claimed by Focal to offer the "very best home audio listening experience".

You also get a Questyle QPM high-definition audio player - an ideal partner for the closed-back Stellias. Accessories include a selection of super high-quality interconnects "for each listening type" and a "sumptuously-designed" headphone carrying-case. The Symphonie 40th is exquisite and desirable, but then again it should be for £13,999...

Further details: *Focal*, www.focal.com/uk



ALL BAR DENON

Soundbars - horizontal DSP-powered speaker arrays typically mounted underneath the TV - are a popular low-profile choice. One of the latest is £199 DHT-S216, from Denon. Buried in this 60mm-tall unit are dual downfiring 75mm subwoofers, a pair of 45mm x 90mm twinned mid-range drivers and two 25mm tweeters.

The DSP behind them is capable of supporting DTS Virtual:X, said to "realistically-simulate" multi-channel surround.

Other features include two UHD-ready HDMI ports with audio return channel (ARC) for easy TV sound, digital optical and analogue 3.5mm inputs, Dolby Digital and DTS decoding, three 'presets' (movie, night, and music), 'Pure' mode for music playback, 3-step dialogue-enhancer and remote control. The DHT-S216 also boasts Bluetooth for music play from a similarly equipped 'phone.

Contact: *Denon*, (0208) 103 4770. www.denon.co.uk



MEN WITH THE MONOCLE

Forming a bridge between Kimber's traditional woven cables (such as the 4PR and I2TC) and the more technically-advanced Select range, the new Monocle-XL employs a 24-wire braid of US-sourced TC and VS pure-copper conductors



woven around Kimber's own "X38R stabilizing core".

The use of VariStrand copper and the "best of both TC and VS attributes" will, claims UK importer Russ Andrews, ensure "a lower noise-floor" and that "no particular frequency-range dominates".

Beyond the newly-designed aluminium end-caps at either end - hard-anodised for scratch-resistance - are WBT-0610 banana or spade 'NextGen' connectors. With the banana variety you can choose between 'CU' (gold-plated copper) and 'AG' (platinum-plated silver). A 2.5m pair of Monocle-XLs, terminated with WBT-0610 CU banana plugs, will set you back £2,095.

Contact: *Russ Andrews*, 01539 797300. russandrews.com

A FYNE LINE

Proudly-Scottish speaker manufacturer Fyne Audio is now tackling the home install market with two ranges of 8 Ohm in-ceiling/in-wall loudspeakers that are based on the brand's traditional budget and mid-range propositions. The FA300iC (entry-level) and FA500iC (premium) line-ups have been developed from, respectively, Fyne's F300 and F500 ranges. To ensure a compact installation footprint, the FA300iC series is a coaxial design featuring a multi-fibre woofer and centrally-positioned 25mm polyester-dome tweeter with adjustable tilt for "point-source accuracy" and purpose-designed crossover.

Currently, the FA300iC is available in 6in. (FA301iC, £100) and Bin. (FA302iC, £150) versions. The premium FA500iC series switches to Fyne's 'IsoFlare' drivers for a "performance advantage". These too are available in 6in. (FA501iC, £150) and Bin. (FA502iC, £200) variants, but there's also an Bin. model (FA502iC LCR, £225) with the driver set at 15 degrees for off-axis applications like home cinema.

Power-handling of the new models, supplied with paintable magnetic grilles, ranges from 100W to 200W. Fyne includes cut-out templates and simple dog-leg clamps suitable for plasterboard.

Contact: *Fyne Audio*, (0141) 428 4008. www.fyneaudio.com



Solid Power

McIntosh release a powerful hybrid amplifier with solid-state output, fronted by valves. Noel Keywood enjoys.

With a history that starts back in 1949, kicked off by a valve amplifier of legendary ability, McIntosh remain in touch with the valve today – although perhaps I should use the term ‘tube’ for this U.S. company, based in New York. Explaining the ornately protected tubes that front up their new MA352 amplifier I am reviewing here. It’s a hybrid though: the power amplifier is transistor – just look at those heat-

sinks either side.

What the MA352 offers is valve sound and romance with transistor power, no less than 200 Watts claimed – but we measured more (see Measured Performance). The MA352 is an integrated amplifier with RCA phono-socket unbalanced Line inputs, as well as XLR socketed balanced inputs. There’s also a Phono stage for a turntable fitted with an MM cartridge, but there are no digital inputs. That’s not to say it lacks microprocessors for digital

control circuitry inside though, as our internal shot shows; this is one complex amplifier in control terms, having a remote control as well as external bus control.

When I pressed the volume control at right to switch on, the amplifier lit up immediately, LEDs beneath the valves glowing bright orange. The big power meters light blue and on came a dot matrix display panel showing status. There’s a small delay of 15 seconds as the valves warm up and when they do



the LEDs switch to bright green. This display can be switched off however, leaving the less obvious glow of the 12AT7 and 12AX7 heaters. Unexpectedly, under test when the amplifier was driven into overload the LEDs reverted to orange, warning of overload – but somehow I don't think many people will be seeing this happen.

An unusual addition is the line of five tone controls you can see at centre, that can be switched in or out by remote control so comparisons can be made. The controls must be set manually and all have a zero-position indicated on the control knob and physically by a centre click-stop. Measurement showed each of these controls offers massive boost and cut values of 15dB (+/-12dB quoted), but they have sufficient resolution to make the small tonal changes that may be needed. Centre frequencies are 30Hz, 125Hz, 500Hz, 2kHz, 10kHz, the first altering low bass, the second upper bass/warmth, 500Hz alters presence of singers, 2kHz affects treble (detail) and 10kHz tweaks upper treble (the hissy bit).

Switching in the EQ system also introduces a sharp bass roll-off filter at 15Hz to prevent the 30Hz control from subsonically over-driving loudspeakers. It can be used as an LP warp filter, something McIntosh don't mention in their literature.

Which brings me to the Phono stage. It's designed for moving magnet cartridges, but is sensitive enough – with input trim set to +6dB – to work with moving coils having strong output. Capacitive loading can be varied in 50pF steps from 50pF (minimal) up to 800pF (large). Increasing capacitance raises the



An underview, with front panel at right. McIntosh use a complex robotically manufactured board with surface mount components, including a microprocessor just below centre.

upper mid-band and presence, whilst lowering high treble.

It took two of us to lift the 30kg (66lbs) MA352, largely because it has a massive mains transformer and power supply – explaining huge power output. The chassis is well finished in polished stainless steel but exposed edges from the folded (unwelded) chassis at front were not so nice. Width is 445mm so it will fit a 19in (482mm) rack but with a height of 251mm demands space between shelves. Depth is 440mm so again within 19in rack dimensions. McIntosh say 521mm deep including cables but this appears to include US only banana plugs we did not use.

The styling is trad.Americana, straight out of the fifties/sixties with all that brightwork – totally opposite to the bland black box common today, that makes hi-fi products look so utilitarian. McIntosh work up valve-visuals nicely, pumping up light display to its ultimate: this is an amplifier to be seen, not tucked away. Idiomatic I guess, but I found the MA352 easy and sweet to use. It has no foibles: the controls moved smoothly and the remote switches inputs and controls volume, as well as selecting a wealth of pre-set options displayed large in the dot matrix screen. Amongst them are labelling of the inputs (CD, TUNER etc), mono/stereo pass through to rear phono-socket outputs. An external remote sensor can be used and there is external trigger control. Auto power off to the preamplifier occurs after 30 minutes, but can be switched out.

The loudspeakers (Output 1) can be switched off for headphone listening, a 1/4in (6.3mm) jack being sited on the front panel

SOUND QUALITY

I connected the MA352 to our Martin Logan ESL-X hybrid electro-static loudspeakers and fed in CD from our Oppo BDP-205D universal player connected via Chord Company Epic balanced cables.

For LP our Timestep Evo modified Technics SL-1210 Mk2



Loudspeaker terminals sit high up, just behind the power amplifier boards. Below are Line inputs, a Phono stage with earth terminal (centre) and balanced XLR inputs at right.

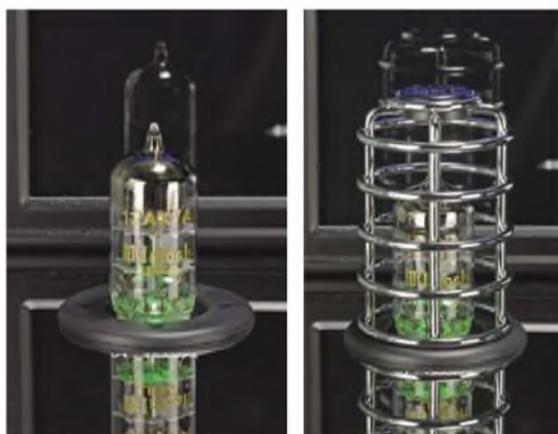


With top cover removed the screened mains transformer can be seen, with power amplifier boards mounted in heatsinks either side. Convection cooling only (no fan) with thermal cutout; ours ran just warm.

Direct Drive turntable with SME309 arm was used, carrying an Audio Technica VM750 SH (Shibata tip) moving magnet cartridge.

Playing LP and then CD the overall quality of this amplifier soon became apparent. It is quite dry, super clean and dynamically powerful. And it imposed these qualities on both LP and CD equally, bringing them close to each other.

Spinning uncompressed CD and John Campbell singing Down



When running the valves glow green, but this display can be switched off if desired.

In the Hole, there were enormous levels of detail and a great sense of atmosphere coming in from his microphone. This made the MA352 forensically insightful. Bass was tight and clean, if not overly heavy – but this is what high electrical damping

imposes. You get good, solid and tuneful bass, held in an iron grip.

With Nils Lofgren and Keith Don't Go (CD) his guitar strings cut out vividly, being starkly clear. Lofgren's vocals were placed in front of me with stone-solid outlining. There was little sense of valve warmth as such, but at the same time a lovely sense of easy clarity, with good body to the sound. And it was the body in the sound that the valves were responsible for I suspect, plus a broad sound stage with a good sense of space.

This all became clearer with LP, especially with our Mobile Fidelity re-issue of Love Over Gold from Dire Straits (45rpm, 180gm). Your Latest Trick was as clean, clear and composed as CD but had more body and believability. It was a stunner: the MA352 conspired with our Direct Drive turntable and insightful Shibata tipped cartridge to deliver stabbingly powerful dynamics held in place time-wise to give a great sense of pace. Mark Knopfler's vocals had weight and presence, again with stony solidity. The bass line was weighty but rigidly timed, driving this track along with assured pace. Ride cymbals on

the drum kit shimmered and had filigree detail; the MA352 drew out their presence in the mix, capitalising upon the resolution of the Shibata stylus.

Opening kick drum strikes in Hugh Masekela's Uptownship, from his Hope LP (180gm), had powerful slam and hand drums snap in their timing. His trumpet blared out clearly centre stage, sounding brassy. There was a sense of pure clarity here, yet without sharpness. It was a sound that any listener would gurgle at as supreme high fidelity, aided by sheer dynamic thrust. Spectacular, but palatable too.

For classical I turned to a selection of hi-res files on our Astell&Kern AK120 portable player, connected by short optical digital cable into the Oppo player acting as a DAC. Both scale and depth of the Minnesota Orchestra playing Dance of the Tumblers from Korsakov's Snow Maiden (24/96) was strongly established between and beyond the X-Stat electrostatic panels, with smooth yet vivacious strings and big kettle drum strikes at the end. This amplifier finds visceral power in an orchestra and conveys it with some force.



Safety covers over the valves lift off. The bright orange glow comes from underside LEDs, orange indicating warm up or overload.

The closely recorded and often bright sounding violin of Marianne Thorsen playing Mozart's Violin Concerto in G Major, backed by the Trondheim Soloists (24/96) came over as solid and clear, and the edginess I occasionally hear with this piece was absent. Cool and forward – yet smooth and svelte at the same time, and with fantastic internal detailing to the strings of the violin. This is a riveting piece and the MA352 did a fine job with it.

The tone controls added usefully



Big power meters give clear indication of output. They are electronically driven to capture peaks accurately. Centre scale is 2 Watts.

subtle changes, but I did not feel they were especially necessary – at least with our well honed sources. I heard no discernible difference between EQ (set flat) on or off, but I played flat, heavy 180gm LPs without warps so this is to be expected. Good though that the EQ circuits do not affect sound quality when switched in.

The meter needles swung around 2 Watts at centre scale, hitting 20 Watts only on occasion when playing loud. From previous tests I know that McIntosh use meter driver circuits that ensure an accurate peak reading; it was nice to see yet again that 20 Watts is about it, even in our large 6550 cu ft room. This

information from the meters was discernible 12ft away, as was volume level as a percentage and all settings on the large dot matrix display. All of which made driving the MA352 by remote control and getting feedback from it a no-problem experience. McIntosh do a fine job with the whole user interface, courtesy of much digital control circuitry.



The remote selects inputs, alters volume and can change operating conditions like gain Trim.

CONCLUSION

In the MA352 McIntosh offer an integrated amplifier with massive power – 350 Watts into a 6 Ohm loudspeaker. Whilst the power amplifier has grip and insight, the valve stages add in body and dimensionality to the sound stage. Result: an awesome sound. The Phono stage was no after thought either, LP sounding better than digital. It's grippy and powerful, rather than warmly romantic, yet there was body in the sound that eludes most others. With an easy and engaging user interface as well, this is a fine amplifier.

MEASURED PERFORMANCE

The McIntosh MA352 delivered 264 Watts into 8 Ohms and doubled this to 530 Watts into 4 Ohms, making it massively powerful. Few loudspeakers can handle such power so it is a tad academic. The meters are logarithmically calibrated and show true power use, which means centre scale of 2 Watts where the needle hovers; it was difficult to get to 20 Watts at right, let alone 200 Watts at end of scale. The green upright LEDs flash orange at overload.

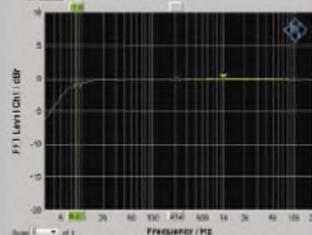
Output impedance measured a low 0.09 Ohms, giving a very high damping factor of 88, keeping a good grip on the cones in terms of electrical damping at least.

Frequency response with Equalisation switched out measured flat from 8Hz to 100kHz – wide. Switching Equalisation in introduced a low bass filter, sharply reducing gain below 15Hz, with all five tone controls set to flat, so EQ can be used to switch in a subsonic filter with LP without affecting frequency response, although this does switch in the EQ circuitry.

Each of the five tone controls introduced massive lift and cut of 15dB –

far beyond the maximum of 10dB needed or 12dB quoted. But small amounts of boost and cut can be applied for subtle variance and they can be switched out by the remote control for A/B comparison.

FREQUENCY RESPONSE



DISTORTION



Distortion levels were very low at all frequencies and outputs. There is no crossover distortion: at 10kHz, 1 Watt distortion measured a very low 0.01%, our analysis shows.

The Phono stage was accurately equalised to give flat frequency response from 10Hz to 20kHz. Switching EQ in introduced a steep subsonic warp filter that cut bass below 15Hz, introducing -20dB attenuation at 4Hz to prevent cone flap with warped records. Sensitivity was high at 3mV (for full output) at 0dB input trim, +/-6dB trim being available. Since adding 6dB halves the input sensitivity to 1.5mV this is adequate for moving coil cartridges (as is a 47k MM input load). Noise was minimal at -81dB.

The MA352 measured well in all areas. It has massive power, almost no distortion and no weak points. **NK**

Power (8 Ohms)	264 Watts
Frequency response (-1dB)	8Hz-100kHz
Separation	70dB
Noise (IEC A wtd)	-98dB
Distortion (10kHz, 1W, 4Ω)	0.01%
Sensitivity	0.3V
Damping factor	88

MCINTOSH MA352
£8,495



OUTSTANDING - amongst the best.

VERDICT

A stunning amplifier in sound quality and dynamic thrust. Visually alluring too.

FOR

- enormous power
- insight and clarity
- great phono stage
- ease of use

AGAINST

- weight
- size

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**AN AUDIO TECHNICA
OC9X SL CARTRIDGE
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WORTH £660!**

www.eu.audio-technica.com

Last month we offered an Audio Technica OC9X SH (Shibata) moving coil cartridge as a prize; this month we have an OC9X SL (Special Line) moving coil cartridge as a prize, reviewed in the October 2019 issue. Read the review excerpt below and answer the questions.

"In the new OC9X series you can get an OC9X EB with bonded (on a rondel) elliptical stylus and aluminium cantilever for just £280 – they start cheap. Above it lies the EN (£300) with nude elliptical stylus on aluminium cantilever that, because it

lacks a rondel, tracks high frequencies better but is less resistant to dust and fluff on the LP surface.

Then come the trio I am reviewing here, comprising the OC9X ML (£480) with MicroLinear stylus on a boron rod cantilever that, it appears, replaces the outgoing OC9 III. It has a red body.

Above the ML comes the OC9X SH (£570) with Shibata profile stylus and brown body. This profile was developed long ago (1970s) by Norio Shibata for CD-4, a system providing surround-sound from LP.

Nowadays laser forming has come onto the scene, enabling new tip profiles to be created that were

impossible with mechanical grinding processes. Enter the premium OC9X SL (£660) with Special Line contact stylus on boron rod cantilever; the SL has a black body.

All have aluminium bodies for light weight and strength. And for ease of fitting all three have M2.6 tapped and open-ended screw holes in the body, so even long screws can be used. Screws supplied are 5mm, 8mm, 10mm and 12mm long (gold plated), plus two washers to avoid headshell graunch marks".

For a chance to win this great prize, just answer the four easy questions at right. Send your entries on a postcard only, by 10th February 2020 to:

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QUESTIONS

[1] What is SL short for -

- [a] Super Linear
- [b] Special Line
- [c] Solid Layer
- [d] Strong Lanthanum

[2] What colour is the OC9X SL body?

- [a] black
- [b] blue
- [c] brown
- [d] banana

[3] What material is the OC9X SL body?

- [a] cast iron
- [b] wood
- [c] cardboard
- [d] aluminium

[4] The washers avoid -

- [a] rust
- [b] theft
- [c] graunch marks
- [d] explosion

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**NOVEMBER 2019 WINNER: WORLD DESIGN PRECF AMPLIFIER
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Pure Energy



Acoustic Energy release a new, high quality stand mount loudspeaker, the AE500. Jon Myles listens in...

Standmount loudspeakers have a lot going for them – not least that they take up less space than a floorstander and, at their best, can fill a room with a clean, precise sound. But – and it's a big but – not every buyer

sees spending £999 on a compact loudspeaker good value. However Acoustic Energy see it differently. Hence their new AE500 standmount – derived from the flagship 500 range.

The 310mm high, 185mm wide and 260mm deep cabinet sports

the company's own Resonance Suppression Composite material – basically constrained layer damping. It features a newly-developed carbon fibre tweeter and a single mid/bass driver made from the same material that, the company says, is designed to match the pistonic power and

accuracy of their ceramic aluminium drivers – but with improved self-damping for a smoother, more transparent sound. At back is a slot-loaded reflex port and a single set of well-finished, gold-plated loudspeaker binding posts, obviating bi-wiring.

Finishes are Piano Gloss Black, Piano Gloss White or American Walnut wood veneer. Our review pair came in gloss white and were well constructed with a hefty feel and no blemishes in the cabinet.

SOUND QUALITY

Placing the AE500s on a pair of sturdy stands and hooking them up to a variety of amplifiers, ranging from a Creek Audio Evolution 100A transistor integrated to an Icon Audio Stereo 30SE valve unit, the immediate impression was a sense of refinement. Also, the AE50s went loud without apparent strain – impressive for their size.

With Nick Cave And The Bad Seeds 'Murder Ballads' the delivery of the whole band was exceptional. The bass was firm and the drums had rasp to them. The mid-range, though, is the stand-out. While it sounds a little smooth there's plenty of detail on offer.

So much so that playing 'Where The Wild Roses Grow' I could hear the catch in Kylie Minogue's breath. Yet the AEs also captured Nick Cave's growling vocals at the same time – moving seamlessly between one and the other to paint a haunting, atmospheric track.

The one thing the AE500s don't provide is a full low-end response. Yes, the bass is good (especially

for a standmount) yet doesn't dig exceptionally low. So playing James Blake's 'Limit To Your Love' the subsonics were missing. However the Acoustic Energys still managed to portray the track in a fulfilling way. And what they did do is highlight Blake's keening vocals.

Moving to Joy Division's 'Love Will Tear Us Apart' (24/96) with its punch-driven opening of guitar, bass and drums, again the Acoustic Energys show they don't just have detail but are able to handle fast-paced music without missing a beat.

Rhythmically they are spot-on. There was no bass overhang and the two drivers blended seamlessly. They also managed to pick apart dense tracks with ease – not something all standmounts can do.

With Led Zeppelin's 'When The Levee Breaks' there was clear separation between instruments despite the heavy mix: I could discern the pounding drums, bass and guitars while Robert Plant's vocals were easy to follow and the harmonica parts stood out firmly with ample tonality. It was easy to track each instrument or simply sit back and revel in the sheer power of the track.



The carbon fibre tweeter has an extended top end, giving the AE500s strong, clear treble.

CONCLUSION

The AE500s are an excellent pair of standmount loudspeakers, combining detail with a fast and punchy sound. Build quality is also superb and they sound a lot bigger than they look, although lows are limited. Highly recommended all the same, being suited to smaller rooms where speed and impact are essential, together with tight bass.

MEASURED PERFORMANCE

Frequency response of the Acoustic Energy AE500 was flat from 60Hz to 8kHz our third-octave analysis of pink noise shows, so it is accurate in fundamental tonal balance, if with some variance.

The Kevlar woven dome tweeter peaks up suddenly above 10kHz, rising to +10dB at 20kHz (grille on or off) – an unusual result, suggesting a phase plate

would help. Being very high frequency this may add subliminal presence to extreme treble in recordings that have such information – poor digital, LP ticks and pops. For the most part it will go unnoticed.

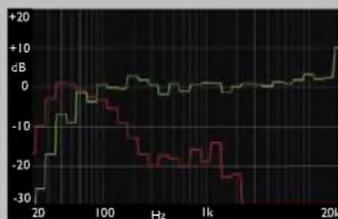
Bass rolls down below 60Hz and there is no lift in low frequency output. The loudspeaker is purposed for placement close to a rear wall to strengthen lower frequencies; this is not a bass heavy loudspeaker. The rear slot port exerts broad damping, the red trace of port output shows, correlated by the impedance trace, suggesting well controlled bass free from boom.

Sensitivity measured 86dB from one nominal Watt of input (2.8V), good for a small cabinet – especially since impedance measured a high 8 Ohms with broadband pink noise. Our impedance analysis confirms this. Amplifiers of 60 Watts or more will be needed.

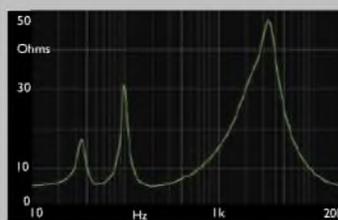
Acoustic Energy's AE500 is broadly accurate and will be revealing. Its lift at high frequencies may be heard with recordings strong in upper treble. Bass output is controlled but restrained. A loudspeaker for smaller rooms where it will rein in room boom. **NK**

FREQUENCY RESPONSE

*Green - driver output
Red - port output*



IMPEDANCE



At rear there is a slot port to reinforce bass, plus a single pair of loudspeaker terminals.

ACOUSTIC ENERGY AE500 £999



EXCELLENT - extremely capable.

VERDICT

A fine standmount from Acoustic Energy. It combines detail with a refined yet punchy sound.

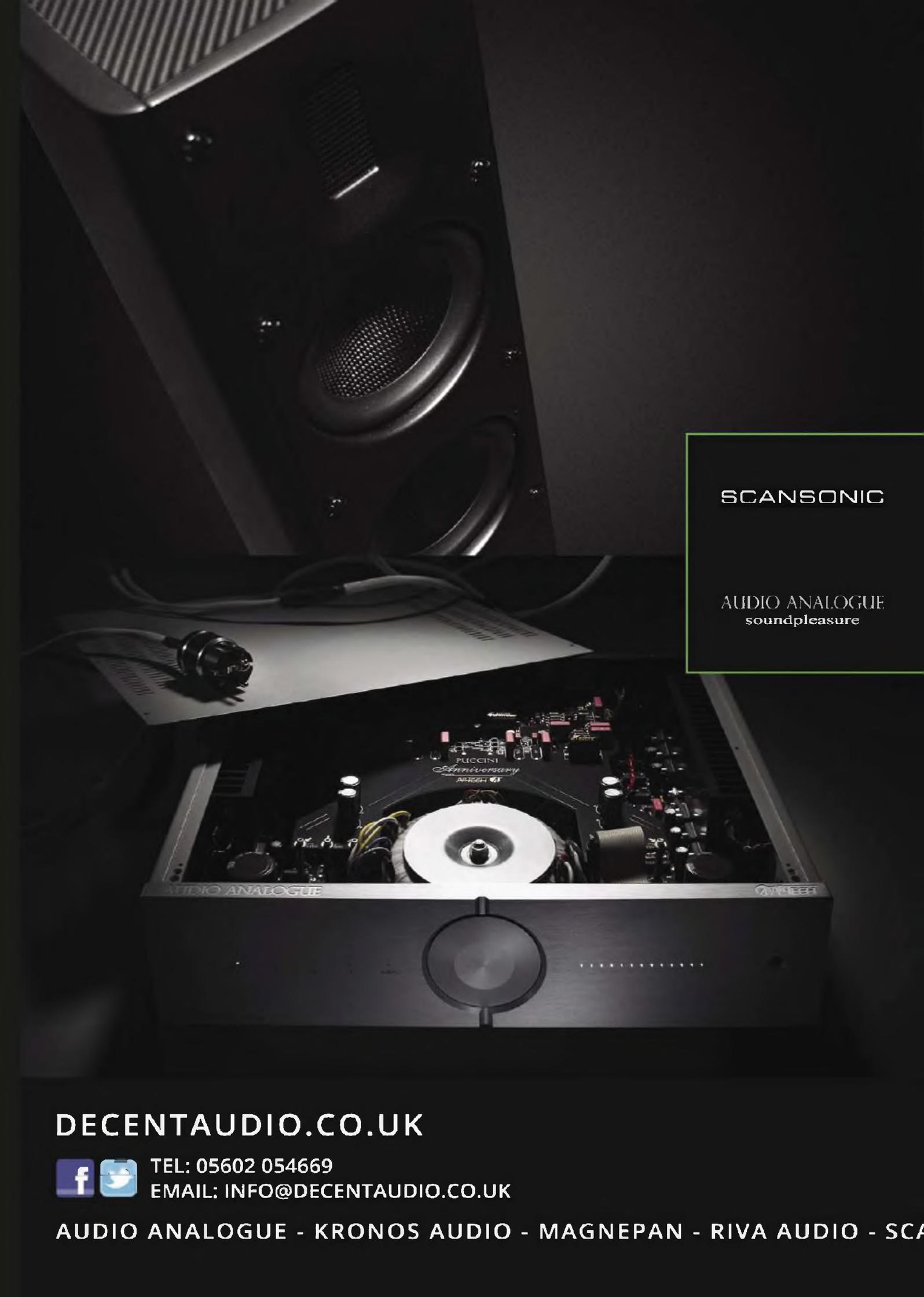
FOR

- build quality
- smooth midrange
- refined bass
- good treble

AGAINST

- not cheap
- lack of deep bass

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Pro Play

Playing FiiO's M11 Pro portable audio player was a great experience for Noel Keywood.

FiiO's M11 Pro is a challenging technological tech fest that can do it all – if you know how to do it. Chinese FiiO make a wide range of hi-resolution portable audio players that have come to dominate the market by offering great performance at low price, our reviews have shown. The M11 Pro I'm reviewing here (£600) is the pinnacle – and boy is it complex. What FiiO manage to shoehorn into the M11 Pro is remarkable.

But before the technology, let's cover the audio. As a high resolution digital audio player (DAP) it can handle all the many digital file types, but there's quite a lot of emphasis on DSD, or Direct Stream Digital. No doubt that DSD sounds good and is rightly popular with the cognoscenti, but it remains a minority interest. With high data rates and big file sizes it is technologically challenging too; the M11 Pro has been purposed to handle the issues. It has 64GB on-board memory but can read a micro

SD card – there is one card slot – up to 2TB. DSD files are large, my test files coming in at 0.3GB (300MB) or so, meaning 200 would fill the internal memory so that external card is essential.

But feet on ground. Most of us will use CD files, perhaps rips of CDs we own, at around 65MB, or even scuzzy old MP3s from yesteryear that are flea sized and can inhabit this player's internal memory in their thousands. Just to get the M11 Pro into context music file wise.

Playing the music files are two AK4497EQ digital-to-analogue convertors (DACs), one per channel, from Asahi Kasei Microdevices of Japan whom, I suspect, are pedalling hard to challenge EES of California. Their Velvet Sound DACs sound good to me in other products so I expected much here.

And then to the outputs. What headphones can you connect and will it drive a hi-fi system? DAPs have got into a knicker-twist with headphone outputs, trying to squeeze best sound through worst connector – the 2.5mm four pole jack. Impractically small and weak, it's difficult to wire, breaks easily and is unsuited to real-life use on the move. The M11 Pro carries a sturdier 4.4mm four-pole alternative for balanced audio output, retaining 2.5mm balanced and 3.5mm unbalanced three-pole – the one most people use.

The M11 Pro can be connected to the balanced or unbalanced analogue inputs of a hi-fi system like a CD player, to act as a hi-res digital player, running from internal battery or external USB power (5V). It has an analogue Line output for this, and electrical S/PDIF digital output.

There's also Bluetooth wireless transmission, with LDAC, aptX and aptX-HD, and SBC protocols, to send music to a hi-fi, and Bluetooth reception so the player can act as wireless headphone amplifier.

The USB output will charge,





The bottom face has a sturdy 4.4mm balanced output (top), and beside it a tiny 2.5mm balanced output. At bottom a 3.5mm headphone socket also acts as a Line output (fixed volume) and a digital S/PDIF output using a supplied adaptor.

transfer files or photos, or connect as a DAC/headphone amp to receive a stream from a computer, but it was not seen as an input by my Mac or PC, which surprised me; I could not stream out to them.

Using two DAC chips optimises performance but increases current consumption. Add in a Samsung Exynos 7872 chip set, THX output amplifiers, wi-fi/Apple Airplay and Bluetooth transmitters, plus a big 125mm high 720p touch-screen – and both battery (4370mAh) and player are sizeable. Weight was 231gm on our scales and dimensions 130mm high, 70mm wide and 17mm deep – pocketable but you'll know it's there. This is no flyweight.



A neat little gold rotary volume control and black transport control buttons.



The M11 Pro's large, bright screen clearly displays album artworks and play controls, in good visual definition.

Battery life is quoted as 10.5 hours, the exact figure depending upon screen usage and file size played. Build quality is superb: M11 Pro is massively strong.

At left is a neat little rotary volume control, track skip buttons and Play/Pause button, but all controls are available on the screen of course, from FiiO's music app

high output, USB DAC/storage and much else. Irritating was the need to manually update the system when music files were loaded.

The music player app screen options were many and poorly ordered I felt. Highest priority (default) was Last Played – useful only if you want to play recent tracks repeatedly. Another touch-



The single card slot uses a card carrier, rather than a push-n-click open slot. It's secure and dust proof, but needs a small tool seen here (supplied) to activate. A paper clip will do.

running on an Android 7 operating system. Other apps can be loaded and the internet accessed via wi-fi for music streaming, including MQA files from Tidal Masters. You get a Google Chrome web browser too.

FiiO's music app was clear and text easily legible on the bright, high resolution screen. As is common with complex players like this there are two Settings (gear wheel) menus, one in the basic OS, the other in the app, and on the M11 Pro both are crammed with options, including DoP over S/PDIF which I thought was impossible because of low data rate in this 1980s technology.

In the basic OS there are six low pass filter options, low and

selection in a top menu is needed to access the usual track, artist, album and folder listings, of which the last is what I use, with its individual tracks and folders of tracks, but this demands yet another selection to choose the storage used. I prefer to see this listing as a priority, as in many players, not way down the menu stack, available only after repeated selections.

There is a Back button but no Forward button to move through these menus. Having found a track and pressed play it takes another selection to raise the Play screen with track info, but this is not available in the default Recently Played menu. It takes another four

selections to raise this screen – laborious. I found the app’s user interface hard work, more so than FiiO’s simpler players.

The computer interface uses a symmetrical USB C socket and USB2 protocol, invoking the usual Android loader on my Mac but linking straight into Windows 10 on my PC, as usual.

SOUND QUALITY

Sound quality of the M11 Pro was on the warm and full bodied side, with powerful bass. I selected the ‘Short Delay Fast Roll Off’ filter to get energy into high treble. Think: a powerful but easy going sound. This was in itself not untypical of the AK4497EQ Velvet Sound DAC, that mimics the ESS Sabre 32 Series DACs.

With a wide variety of review tracks I know well and use consistently the M11 Pro sounded strong and forthright. The pounding synth drums of Safri Duo’s Samb-Adagio had both strength and pace, if not quite the grip of Audiolab’s mains powered M-DAC+ that I used as a reference, hooked up to the M11’s S/PDIF output – but that is to be expected.

Sinead O’Connor singing Foggy Dew had The Chieftains behind her sounding large, bodhrans having good slam, pipes and whistles shrill and vigorous. I fancy the M11 Pro is a tad stronger at the bottom end than many players in my recall, getting close to M-DAC+ – which is good going

Not being a great fan of headphones for ultimate listening, I connected the balanced output into the McIntosh MA352 amplifier I review this month and compared CD rips on the M11 with the original CDs spun by an Oppo BDP-205 player also connected up through balanced cables – and they were reasonably close (through Martin Logan ESL-X electrostatic loudspeakers). There was some slight loss of definition and grip from the M11 Pro running from battery but it still thundered when necessary – yet could capture delicacies in Dacawa singing Canton Story

I played a full range of music files types, including massive DSDs like Cyndee Peters singing House of the Rising Sun (DSD128) that consumes a breathtaking 0.5GB; no MP3 flea here but a DSD elephant – and it sounded as liquidly smooth as DSD does, which is why the M11 Pro focusses on this file type. Send it

out through balanced analogue outputs of the M11 Pro and you have one amazing sound source.

FiiO have even addressed the difficulty of using a portable as a stand-alone player by developing an app for control from the ‘phone:

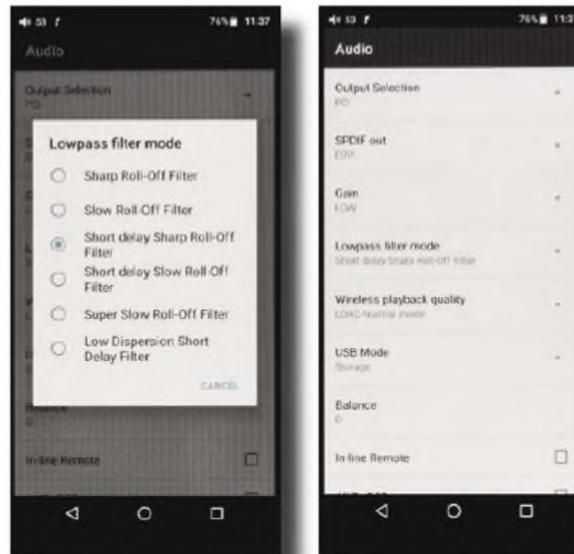
remote control in effect so you don’t have to jump up and down to select tracks – as I currently do when using our Astell&Kern AK120 as a digital file source.

CONCLUSION

A player like the M11 Pro is a tech tour-de-force and takes some understanding. The breadth of options makes it quite heavy going and the user interface menus were not to my liking in sequential arrangement;

lots of unnecessary button stabbing. But the screen is superbly clear and bright, easy to visually comprehend and enjoyable.

Sound quality wise there is little to say here other than you get superb quality from all outputs. FiiO have strong technological grip: all their claims were fully supported by measurement – and by listening. Making the M11 Pro a remarkable tech fest at a price that is almost absurdly low.



At left is the filter menu with six options. They affect CD file playback most, Super Slow Roll Off giving a warm sound. At right is the Audio Settings menu in the app.

MEASURED PERFORMANCE

Via the 3.5mm headphone output, frequency response with 192kHz sample rate PCM rolled down above 64kHz (-1dB) to the upper theoretical limit of 96kHz (as shown). The six filters affect

hi-res little, but with CD the Slow filter rolled down output above 15kHz and Super Slow above 8kHz, the latter being audibly obvious as warmer sound.

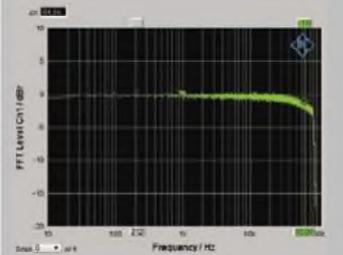
With 24/96 PCM, distortion at full level (0dB FS) measured 0.002% and at -60dB a low 0.02% via the 3.5mm headphone output – an impressive result. Dynamic range (EIAJ), came in at 121dB – up with the best DACs.

The balanced output delivered a massive 5V; Line Out 2V the same as a CD player. Both gave same low distortion and high dynamic range as headphone output.

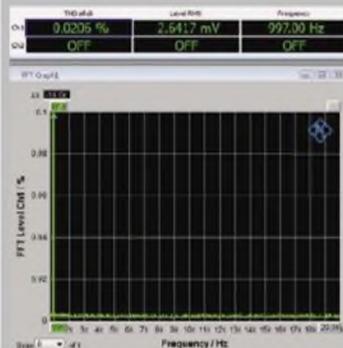
Output from the 3.5mm stereo headphone jack (unbalanced) was 1.3V (Gain at Low) and 2.6V (Gain at High), both more than enough for shattering volume from headphones. High is for insensitive designs.

Measured performance was superb in all areas. The M11 Pro has no weak points. **NK**

FREQUENCY RESPONSE



DISTORTION



Frequency response (192kHz,-1dB)	4Hz-64kHz
Distortion (-60dB, 24bit)	0.02%
Dynamic Range (EIAJ)	121dB
Output (unbalanced/bal)	2.6V/5V

FIIO M11 PRO £599



OUTSTANDING - amongst the best.

VERDICT

Challenging in its complexity – not for the faint hearted but worth hearing, especially with DSD.

FOR

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AGAINST

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



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A PAIR KEF Q150 LOUDSPEAKERS are on their way to STEVE WILLIAMS, Letter of the Month winner in our January 2020 issue.

Letter of the Month



The Beatles hit singles, released as a package we reviewed in the January 2019 issue. "There are a few things wrong with your piece on the latest singles package" says David Prior.

THE BEATLES SINGLES

For a magazine that devotes practically whole issues to new Beatles releases, there are a few things wrong with your piece on the latest singles package in last month's issue.

All true fans know "Please Please Me" was not their first No 1, it was "From Me To You". They then had a run of 11 – not 12 – Number 1 hits, until "Penny Lane" stalled at No 2. I expect better from my fave mag!!

Have a fab Xmas!

Regards,
David Prior

Hi David. Do you stir hornet's nests often :-). Not professing to be a musicologist I read the booklet supplied with The Beatles Singles collection and transcribed the words of wisdom therein to my review. There could hardly be a more authentic source than Abbey

Road, after all. Kevin Howlett wrote the accompanying booklet for this collection – in effect an historical record from Abbey Road – and replies below. **NK**

This is the old "do you count Please Please Me as a number one or not?" controversy.

Please Please Me was number one in every chart except the one published in Record Retailer, which



A substantial twenty page booklet, written by Kevin Howlett, comes with the singles collection and catalogues their history in detail. We quoted from it – but not everyone agrees!

the compilers of the Guinness Book of Hit Singles used. The BBC Chart was an aggregate of several music paper charts. Please Please Me was number one in the BBC chart and that's what really counted, because Alan Freeman announced it was on the radio.

I explained it all in the booklet. Here are the relevant paragraphs:

"For several decades, the BBC's weekly chart show drew the UK's biggest radio audience, who listened with excitement as the countdown built to the climax reached when the number one was revealed. Measured by the barometer of chart performance alone, this fabled sequence of singles has no equal. BBC radio's Pick of the Pops announced 18 of them as the country's most popular disc. The Beatles unparalleled strike rate included an unbroken string of 12 chart-toppers".

Here is a bit more background. When The Beatles first played Please Please Me to George Martin, it was in the style of a moody Roy Orbison ballad. Their producer's reaction was that it needed pepping up. Although taken at a faster pace during the session with Andy White on drums, they decided to do it again on their next visit to Abbey Road in November 1962. With John's harmonica now a big part of the exciting arrangement, George Martin remembered telling John, Paul, George and Ringo that they had recorded their first number one.

A review in NME was equally encouraging: "a really enjoyable

platter, full of beat, vigour and vitality and what's more it's different. I shan't be in the least surprised to see the charts invaded by Beatles".

That prediction proved true. As did George Martin's encouraging words spoken at Abbey Road, although an alternative history did emerge some years later when the chart-topping status of Please Please Me was retrospectively downgraded. It was number one in four music papers, but had risen no higher than number two in the trade paper Record Retailer, the journal selected to compile, from 1977 onwards, the definitive reference book of British hit singles.

In 1963, though, when Please Please Me was certified as a number one by the BBC chart, the many millions listening on Sunday evenings were in no doubt that it was.

There were no such quibbles about subsequent singles of the year. From Me To You was number one in the UK for seven weeks during May and June 1963. George Martin certainly counted it as a number one and was not pleased when Please Please Me was not regarded as a chart topper from 1977 onwards!

Kevin Howlett

STREAMING SINGLES

I am looking for advice in digitising my vinyl collection. I have a Musical Fidelity M8 Pre/power amp, Focal BE1038s with Metronome Le Player 2 and Naim ND5xs streamer as my primary sources. Cables are Chord Signature.

I have recently bought a Technics SL-1210GR with Ortofon Blue to digitise my extensive vinyl collection. I know that the CD player and amp are a step up, but the reality is that for the vinyl, I am just looking at digitising

at an acceptable level to allow me to stream old singles and bootlegs – any albums that were available on CD have probably since been purchased on CD!

I have been using a Pro-ject Phonobox V as this has a USB output, running this to a laptop with Audacity software.

When listening to the records by analogue output, the sound is pretty good and everything is as expected. Unfortunately when I listen to the digitised files they are noticeably worse. I am, of course using the maximum rate supported by the Phonobox, but it leads me to think that this is the problem.

Curiously, in the past I used to use a recordable CD player which gave significantly better recordings: they were unrecognisable from the original, even though we are talking early 2000s technology. The Phonobox provides a higher sampling rate so I presumed that it would be at least as good but probably better?

I know that there are significantly more expensive phono amps with USB available, but they look like overkill for the turntable that I am using (i.e. most of these amps cost significantly more than the turntable!). I am therefore looking for a relatively simple solution that is price compatible with the turntable. I do also have an Icon Audio headphone amp, so am not particularly looking for a combined phono and headphone stage if possible.

Do you think you have any suggestions that may help me? Should I be looking at a different phono amp and separate A2D converter? With the growth in streamers available, I'm hoping that there must be a solution!

I really appreciate any thoughts that you might have.

Kind regards,

Adam Curwin



Technics SL-1210GR turntable. "I have recently bought a Technics SL-1210GR with Ortofon Blue to digitise my extensive vinyl collection" says Adam Curwin.



Pro-Ject's Phono Box DS2 USB comes with a hi-resolution analogue-to-digital convertor.

Hi Adam. The Pro-Ject Phonobox V is a budget unit (£140) with 16bit analogue-to-digital convertor (ADC). Undiscussed in the hi-fi press is that ADCs are unlike DACs; they are not mirror image technologies; worse they give inferior results. I measure 16bit ADCs as having around 70dB dynamic range due to noise and distortion – and this is what you are hearing (16bit DACs have around

and you may think again about just spinning old bootlegs and singles. LP sound quality has moved ahead and more than challenges today's digital.

NK

WHARFEDALE HISTORY

The Wharfedale Anniversary series, especially the Linton that, although nothing like the original model, does I believe follow in the traditions of Wharfedale and reminds me of Mr G.A. Briggs and his book *Sound Reproduction*, the third edition of which I have and am now re-reading. It was published in March 1953 and provides a wonderful insight into the way we thought about sound reproduction in the home in those days. Mr Briggs, founder of Wharfedale, provides a wealth of detailed drawings, graphs and oscillogram images, to leave the reader in no doubt about



Furutech's GT40A is another phono stage with hi-resolution digital convertor.

100dB dynamic range). I hear them sounding a tad flat and coarse, or 'grey' in tonality. In budget convertors of this price you really are looking at basic digital functionality rather than digital excellence.

Unfortunately, you have to accept you will need a convertor with a higher quality 24bit ADC chip inside and this will be expensive. A Pro-Ject Phono Box DS2 USB at £440 will give cleaner digital or you may like to consider the excellent Furutech GT40A from Alpha Design Labs. at £520.

I think you are underestimating the potential of your new Technics SL-1210GR turntable. It would do justice to a better cartridge than the basic Ortofon 2M Blue. I'd suggest at least a budget moving coil like Ortofon's Quintet Bronze or Black, or perhaps an Audio-Technica OC-9XSH. Otherwise go for a top MM. Then try listening to a few good LPs

the truth of the physics involved in the design of both loudspeakers and various electronic playback devices.

It is interesting that, for the chapter on vented enclosures, he enlists the help of an assistant, Mr. Raymond E Cooke who, as we know, went on to achieve a very particular distinction of his own.

There was a good deal of DIY in those days and the audio enthusiast could have great fun constructing corner horns and other proven designs.

It also reminded me that my old Lowther Acoustas remain the most enjoyable loudspeakers I have ever had through my hands. We cannot recreate the concert hall in our living room, but we can have great fun finding the right combination of components with which to create the sound we are after. The hi-fi animal is, after all, an end-to-end creation, every link of which is important. Mr Briggs clearly understood this in the early 50s.

How lucky we were to have companies like Wharfedale and the many others which made up the British audio world, as it was then. Ah, and we had Lisle Street (but that's another story).

Kind regards,

Julian Ashbourn BSc (hons)

Hi Julian. As you say, Gilbert Briggs, founder of Wharfedale, was not just a loudspeaker manufacturer but also a man of words, publishing an array of books that all make fascinating reading. They provide a simple(ish) way to understand the loudspeaker, as he saw it. And just look at all those graphs and pictures; there's visual content for everyone. Well worth



Wharfedale's test laboratory in the 1950s, with Raymond Cooke in background. He went on to found KEF. Picture from *Loudspeakers*, by Gilbert Briggs.

grabbing at any audio fair.

Lisle Street? In London's Soho area. I've crawled it in the past for all those shops selling WW2 military surplus. What fun – and sad that the UK's last outpost of high street electronics – Maplins – has now gone. Curious that the old world that is now the new world has disappeared from sight. Can't help feeling there's something wrong here; we need to retain a grasp on electronics in the UK – and visibility helps. **NK**

Hi Julian. I have, beside me, a collection of Briggs books that I've built up over the years, some of which are signed by the author, and I often refer to them. We have to remember that, when they were first written, the technical background to what made loudspeakers sound enjoyable on music was still on shaky ground and later, revised, editions included the latest research of that period.

You refer to Raymond Cooke who was brought into the realms of Wharfedale when, at a BSRA meeting in the 50s, Cooke enlightened Briggs on how reflex cabinets really worked (based on experiments Cooke had been doing in his spare time while working at the BBC).

You're certainly right about DIY. I started on my own forays into loudspeaker design after messing around, as a teenager, with various drive units and home-built cabinets including a Wharfedale Super 8/RS/DD and, later, a Unit 5 kit. So it has given me a lot of pleasure to bring the traditions of Wharfedale up to date in the Anniversary Heritage series and I'm delighted that Gilbert Briggs books are still being read.

Peter Comeau
Director of Acoustic Design,
Wharfedale

GOING BACK

As I sit here listening to my FM tuner, whilst I await the Garrard 401 to warm up, I'm reading Martin Pipe's column in the December issue, with a certain "I was right" expression on my face.

Sometime ago I wrote a letter extolling the virtues of another source when I lost the internet for some time – and boy was I glad I had the FM tuner. I bet Martin was in a state of shock when his router crashed, and he couldn't access his NAS drive!

Best to keep the music files on another drive so you can play them back through a DAC from a PC into the

stereo system; external hard drives have their fair share of problems as Noel has eluded to.

As I sit listening to Donald Fagen on the 401 with an SME V arm I think that a fifty year old mechanical device shouldn't be that good! When I play a disc, the shop in Birmingham where I bought it from springs to mind, not so with streaming. I love physical media, particularly the LP.

Martin said that when he went into his local HMV store it was like going back in time 30 years. What I wish is that the prices would go back in time 30 years too, but that's progress I suppose, some would say inflation.

I have embraced digital, but not at the exclusion of analogue which I hold in high regard, and I love the ritual of playing a disc, which fascinates the young and as the saying goes, what goes around comes around is certainly applicable to analogue.

Mike Bickley.

Hi Mike. When I was a student in the early sixties an LP was so expensive it was all but unobtainable. The price back then was 30 shillings (£1.50) as I remember. A pint of beer – important to students! – was one shilling. That's a x30 multiplier that if used today puts an LP at well over £100. Hardly surprising that Britain's music industry thrived back then.

And also why I am happy to

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shell out good money for today's superb LPs that are light years ahead in sound quality, through far better physical quality – quieter vinyl, 180gm and flat, not warped. The best modern LPs still stay comfortably ahead of digital when played with an SME on a 401. As you say, they "shouldn't be that good" but – hey! – they are and still provide a wonderful sound that anyone will enjoy. **NK**

THE COST OF MUSIC

So I did a few things this week, you might be interested in. The first was that while running an errand to collect something for my wife in Cowley, a suburb of Oxford, I called into Truck Records and was browsing through their collection of mostly new LPs – but I couldn't get over the price, single albums at £20-£35 each. It just seemed so expensive. So expensive in fact that



"In 1984 or thereabouts, I paid £5.89" for a cassette, writes Malcolm Watts, like the 1985 cassette here from Dire Straits. "The Bank of England inflation calculator gives a number very close to £19 today".

they seemed to make more money from selling barista style coffee to the Oxford University students beavering away on their laptops at the in-house coffee shop than they did from selling CDs and records. That being said, the environment was much improved on the record shops I used to frequent in the places I lived as a youth. But still...over £20 for an LP?

The second was that on getting home I found that a small package had arrived for me from Thakker.EU in Germany containing new belts for my Aiwa AD-S950 tape deck. I have had to sort out my unused hi-fi separates lately and thought I would actually unpack my old tape deck and get it installed so that I can listen to some old tapes. I had been disappointed to discover the belts had perished while in its long banishment in the garage, hence ordering replacements from Thakker. So I spent 40 minutes or so changing the belts and cleaning the pinch roller and capstans.

The tape deck repair completed, I started poking around in my tape collection and I had fun revisiting music I only have on tape. It proved to be an interesting exercise in enjoyment and frustration. I could clearly hear the sonic signature of the turntable I used to record the tapes, and on the whole they sounded pretty good, although I could have done with increasing the recording gain on some of the older ones to reduce tape hiss.

Some of the pre-recorded tapes however were clearly suffering from overload distortion, and the actual cassette tape mechanisms were awful, rattling, squealing, and in one case grinding to a halt 3/4 of the way through because the cassette housing was pressing on the reel inside it.

The most problematic of the tapes was actually a Jon and Vangelis album (I know, I know...don't shoot me!), and I was surprised to find that when I opened up the box liner to look at the lyrics, the original receipt fell out into my lap. In 1984 or thereabouts, I paid £5.89 for this poorly made mass produced piece of junk from the music department of W.H. Smiths. It was a shame it struggled to play, because I was enjoying the music.

And then a thought struck me. Back in 1984, the only source of income for my 16 year old self was from a Saturday job at the local Sainsburys, so I would have spent more frugally than today. What did I actually pay for that tape in today's money? I recall chart LPs back in 1984 were about £5 from Harlequin Records (remember them?), non-chart stuff



Supra LoRad 2.5 mains cable. "Just tried the Supra LoRad cable and the difference is truly startling" says Joe Starkie.

being anything up to £6.99.

I plugged the price of that tape into the Bank of England inflation calculator and got a number very close to £19, not far off what those LPs were priced at in Truck records, so the real range of prices I paid back then would be £17.50-£33.

Nowadays, CDs are usually in the £5-£12 range depending on how popular they are, and as I already mentioned, vinyl is in the £20-£35 range. Prices haven't really changed as much as I thought, and are actually a lot cheaper if you opt for the CD, somewhat ironic when you remember that CDs were £15 in the 1980s – that's over £45 today!

Clearly, times have changed from when I was a lad. My kids listen almost exclusively to music from my Amazon Prime account, but the cost is not so different from the other usual suspects of Spotify, Apple, Tidal, etc. – a tenner a month, £20 if you want higher quality or more choice.

So maybe things are not so bad on the cost of music front after all. Of course, the people bearing the brunt of this plunge in the real cost of music are the bands, but that's the topic of another letter I think. What are all your readers prepared to pay for your music I wonder?

Regards,

Malcolm Watts

Hi Malcolm. Whatever way I compute it, listening to music has become less expensive over the years, not more expensive – as you say. Streaming is very low cost and now with Amazon entering the fray, quality doesn't have to suffer either.

The downside, as you observe, is there is less money in the industry and therefore less income and incentive for artists. I doubt whether

bands like The Pink Floyd, with their massive stage shows, will ever be seen again. Nowadays, we get Taylor Swift instead. **NK**

MAINS ISSUES

Over recent months you have reviewed the Titan Styx and MCRU No 7 mains cables. These prompted me to try the Supra LoRad 2.5 I bought for my ancient but lovely Onix Bwd! and Onix Oa21 set up with last year's purchase of the Convert Technology Plato A class.

While your magazine influenced the decision to audition, Lee Beven from Strictly Stereo did a home demo and weeks' home loan of it and I was amazed how good it was. Lee's service is excellent: anyone in the Manchester area will find him most helpful. Thus he loosened the normally tight grip I have of my wallet.

Well, just tried the Supra LoRad with 5amp replacement fuse with the Plato and the difference is truly startling. This got me thinking – how far can you go down the upgrade tree using power cords for less than one hundred pounds?

I also was intrigued by the cartridge enabler from Origin Live. My TD124 with Hudcok Cryo SE carries a Lyra Dorian on the Cartridge Man's similar device. How does this compare in your opinion?

Regards

Joe Starkie

Hi Joe. Interesting to hear how the Supra LoRad mains cable gave a difference that was "truly startling". By whatever means, mains cables with noise suppression do work.

We have not compared the two cartridge mounting dampers you mention so cannot honestly say how they differ. **NK**



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Jitter free USB

Mutech's MC-3+USB cleans digital by removing jitter and noise. Noel Keywood listens.

Mutech's little box of tricks, the MC-3+USB I am reviewing here, is semi-pro – digital audio workstations and all that – but has application in the consumer replay arena as a jitter remover that tidies up digital, and also acts as a format convertor, changing DSD to PCM for example. And that is as simple as I can explain the complex MC-3+USB. It is for technos, not technophobes – but does its job well.

The USB bit will appeal to most I suspect, since this is for computer connection. It will take in a digital stream and send it out cleaned up, free of jitter and noise, via S/PDIF to an external DAC having no USB

input, for example. Just to explain what it does in simplest possible fashion, because the user interface is laden with lights and legends that are perplexing. The MC-3+USB is purely digital, it has no on-board DAC: there are no analogue outputs.

I struggled to understand the MC-3+USB, mainly because its user interface relies on arrays of LEDs linked to small obscure legends. Sending in a 192kHz sample rate signal from my Mac, for example, there's no 192kHz indicator; instead 48kHz and 88.2kHz indicators light up that together mean 192kHz – even if they don't add up to that figure. Peer closely and a little link legend says 192 but you have to sort out this sort of awkward display system for

the input clock, identified as 1-10.0M. It's heavy going as a user interface and techno-obscure, demanding a close read of the user manual, but whatever I input, from PCM to DSD, the LEDs did show sample rate correctly.

At right on the small front panel are red input LEDs, two vertical rows of them, one for PCM the other for DSD. The Clock In legend has been positioned below the DSD display when it also applies to the rightmost PCM sample rate column – confusing.

Third in from right is a status column that shows when a digital stream has been locked and is playing. Then come four columns of green Clock Multiplier LEDs, a Clock Out column that largely stayed unlit, a Reference column that most people



would understand as input source, and finally at left a Mode column.

For setting purposes there are two small black oval buttons at far left on the four panel, Menu and Select, the former cycling through the various columns sequentially, Setting doing the same within each column.

At rear there are BNC socketed electrical inputs and outputs, one pair of AES XLR socketed in/outs, optical in/outs and of course a USB socket for computer connection. The only mains power switch is back there too, recessed and awkward to use; I suspect the idea is to leave this unit switched on. It has an internal switch-mode power unit that works from 85V-264V a.c. and consumes a low 10 Watts maximum. You'll always know the unit is on because of its LED arrays. Size wise, the case is small, measuring 198mm wide and 183mm deep and 50mm high, weight stated as 1.35kg.

Being purposed for USB that's how I used the MC-3+USB, although it does have S/PDIF inputs too, that I checked for functionality with a digital signal generator.

I linked the USB input to a 2018 MacMini running Mojave (10.14.6) but of course the unit works with PCs, in conjunction with a free driver download from Mutech.

The MC-3+USB accepts up to 192kHz PCM, where my Audiolab M-DAC+ accepts 384kHz and Chord Electronics M-Scaler accepts 768kHz, both of which the Mac can generate. I can't see this is of much consequence: 96kHz sample rate seems more than enough to me, but it is a point to note – and Rob Watts of Chord Electronics states 384kHz as a minimum.

The Mutech also accepts DSD64, 128 and 256 via USB that, with a Mac, must come in as DoP. I used the excellent Audirvana+ player to play DSD 64 and 128 files.

Connected to the Mutech's S/PDIF 3 BNC output socket was my Audiolab M-DAC+. Its input sample rate display showed what the Mutech was feeding out. I used it as a sonic reference too, mainly with headphones. The Audiolab can accept DSD via DoP – straight from the computer without conversion

to PCM by the Mutech, allowing comparison to be made. This also makes the point that modern DACs can handle DSD raw (PC only) or as DoP – and also that modern players like Audirvana+ can convert DSD to PCM in the computer; external conversion in hardware such as the Mutech is unnecessary.

However, if you use a simple non-asynchronous music player like Mac's Quicktime the situation changes; output is then determined by Audio Midi setup on the Mac, not by Audirvana and the MC-3+USB has more influence.

Conversion from DSD to PCM is for PCM-only DACs from the past, where manufacturers did not want to implement the DSD function that most DAC chips possess, for cost reasons.

DSD apart, the Mutech is also a re-clocking device, cleaning up digital from a dirty input, such as a CD player's digital output, or perhaps a streamer. As such it delivers a clean signal into an external DAC, as our tests revealed (see Measured Performance).



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Scary! At left are four BNC clock outputs and beside them two BNC electrical S/PDIF outputs. Also a phono socketed S/PDIF output and below an optical output. At centre lie AES/EBU balanced digital in/outs, and at right are the inputs, USB and S/PDIF optical and electrical (BNC).

SOUND QUALITY

Playing PCM files from the Mac into MC-3+USB then out to M-DAC+ via S/PDIF did produce a sharply clean and well delineated sound, that's for sure. Using the Mac's own Quicktime player, rather than paid-for Audirvana+, there was superb clarity and focus. Marianne Thorsen's violin was pure and concise, playing Mozart's Violin Concerto in G Major (24/96), the Trondheim Soloists being placed with precision on a wide sound stage around her, their interjections coming across with strength and a great sense of composure. Steely Dan's Time Out of Mind (24/96) was also super tight and clean, perfectly manicured; the Mutech again put up a wide sound stage with instruments set hard right and left, vocal reverbs stretched broadly but evenly right through my head when listening on headphones.

Fleetwood Mac's Dreams (24/96) similarly had enormous grip and purity, as if the track had been cleaned and sorted, Stevie Nicks sounding clear and stable centre stage, backing vocals and cymbal crashes coming in from hard right and left. The Mutech makes stereo impressive, that's for sure.

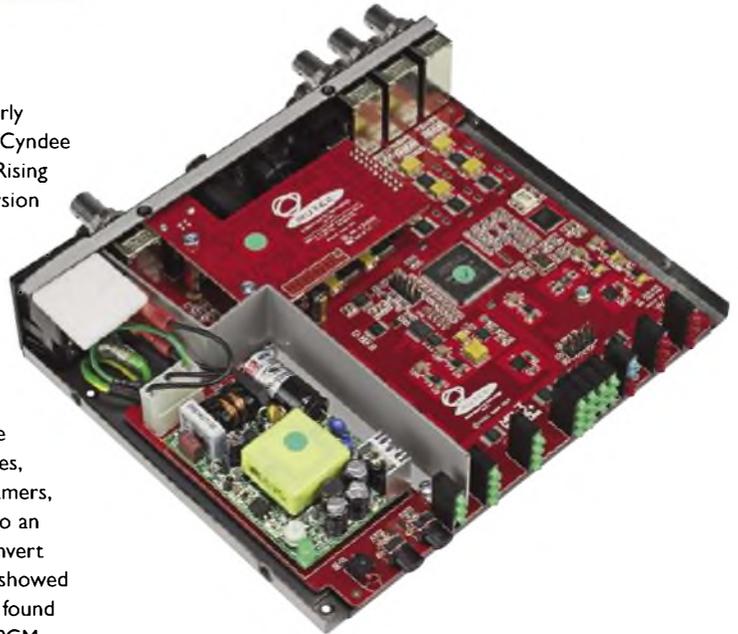
This was in a preened review system with short, high quality leads. The MC-3+USB is really purposed for – and best judged in – a looser set-up with longer leads (more jitter) and – say – a jittery source such as the digital output of an old CD player. Then it will have even greater impact on sound quality.

Playing DSD via Audirvana+ was more a functional test in my system. Audiolab's M-DAC+ flagged up 88.2kHz PCM and all worked well, with good sound quality, but running DSD over DoP direct from the Mac without intermediate conversion to PCM was more relaxed and fluid. DSD-to-PCM conversion worked well enough but nowadays most DACs don't need it, offering direct internal conversion of DSD to analogue (through a low pass filter) without transcoding to PCM as an intermediary process. Playing DSD

direct into the M-DAC+ clearly captured the laconic ease of Cyndee Peters singing House of the Rising Sun, Mutech's transcoded version sounding a little diffuse in comparison. But useful for any PCM-only DAC all the same.

CONCLUSION

Mutech's MC-3+USB is an external jitter removal device able to clean up digital sources, such as CD players and streamers, sending out cleansed digital to an external DAC. It can also convert DSD to PCM. Measurement showed it removed jitter effectively. I found it gave a superb sound with PCM, which most of us use. It works well and is worth hearing to see what it can achieve in a particular setup.



At left the switch-mode power supply and at right a complex surface mount digital board carrying banks of front panel LEDs.

MEASURED PERFORMANCE

The Mutech MC-3+USB was measured solely in the digital domain with a Rohde&Schwarz UPV applying a heavily jittered 1kHz audio signal sent to the unit as CD (16/44.1) over optical cable and back. Because both our UPV and UPL analysers operate in the digital domain when measuring jitter, the analyses here do not show a simple analogue domain analysis from a DAC (in case you are wondering!) of jitter sidebands, as

Mutech and most others show, where DAC affects the result. The analyser was set to see only the jitter modulation (not audio data) set in the generator at 2kHz here.

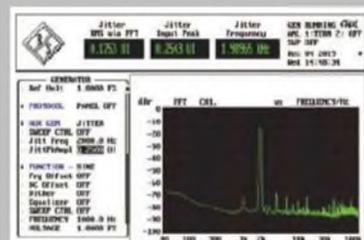
Our top trace shows a pass-through analysis of applied jitter modulation signal (phase noise) only, applied to the Mutech.

The lower trace shows what came out the other end as a jitter analysis only (no audio information) – and crucially there is no sign of the 2kHz jitter input. Inevitably some hum gets into the act at left and there are small noise peaks at -80dB, as expected in a 16bit system.

Importantly, the MC-3+USB has eliminated all jitter and the noise floor is lower than the basic pass-through analysis (top), meaning the MC-3+USB has reduced noise from the analyser's signal generator in the re-clocking process. Showing it tidies up digital, eliminating jitter (severe in our test) and lowering noise.

The MC-3+USB was effective in removing severe jitter and noise, measurement in the digital domain showed. It does as claimed, delivering a fine result. **NK**

JITTER IN



JITTER OUT



MUTEC MC-3+USB £875

EXCELLENT - extremely capable.

VERDICT
An effective re-clocking unit that tidies up digital.

FOR
- purified sound
- broad, precise imaging
- small

AGAINST
- difficult user interface
- poor user manual

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OBSESSED WITH HIGH RESOLUTION

Taking the PX

Martin Pipe dons the latest in high-tech headphones from B&W.

Towards the higher end of the noise-cancelling Bluetooth headphones sector lie the £350 PX7 from speaker specialists Bowers and Wilkins.

Now topping the Worthing wonders' wireless range, they're a development of the previous PX model – which pioneered the hi-res potential of Qualcomm's aptX HD technology.

According to B&W the PX7 is first to market with something called 'aptX Adaptive'. This innovation is claimed to dynamically-

optimise communication between device and headphones for prevailing radio conditions, as well as reduce 'latency' – the delay between encoding/transmission and decoding/reception, which can impair the gaming experience and affect the 'lip-sync' of movies and TV programmes. Naturally, aptX Adaptive also supports HD – under ideal circumstances sound quality of its top (420kbps) mode is said to be indistinguishable from 24/96. According to B&W, the other codecs supported by the PX7 are aptX HD, aptX Classic, AAC and SBC.

The headphones are of the circumaural over-ear variety, behind which lurk 43.6mm full-range drivers allegedly capable of a 10Hz-30kHz frequency response. They are apparently "the largest in B&W's headphone collection" and are "built and tuned by the same engineers behind the 800 Series Diamond speakers" that perform monitoring duties at Abbey Road.

A nice touch is that the inner cloth-grilles of the earpiece are clearly identified, so that you don't get your stereo in a twist.

For robustness, the frame to which the cups are attached is of woven carbon-fibre, providing toughness without excess weight – the review PX7 survived being dropped onto stony ground on at least two occasions!

There's plenty of clever tech built into the cups – as the controls ranged around their bases shows. On the left earcup is a button that cycles between the different levels of automatic noise-cancellation. At the highest setting, they can be used without music to greatly-reduce ambient noise – useful on a noisy aircraft or train perhaps. An 'ambient passthrough' mode allows some external ambience to get through – sensible on busy streets. Or the DSP-driven noise-cancelling can be turned off altogether. Ambient pickup is from no fewer than four microphones. Two further mikes form the basis of a hands-free talk mode, when you're using the PX7 with a smartphone.

On the other cup are mounted push-buttons that, depending on how they're pressed, change volume, pause playback, go to the next or previous





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Huei





A USB port for charging and PC audio, 3.5mm stereo analogue input and various control buttons.

tracks and deal with incoming phone calls – as circumstances dictate.

The PX7 can be customised with a free app, but its scope is rather limited (no tone controls, for example). A slide switch next to the buttons turns the PX7 on or off, and initiates the simple Bluetooth pairing process. The profiles supported are A2DP v1.3.1, AVRCP v1.6.1, HFP v1.7.1, HSP v1.2 and BLE GATT; with this widespread codec support the PX7 should be able to deal with practically anything. Not that you're tied (untied?) to Bluetooth; courtesy of a 3.5mm jack and a 1.2m cable, the PX7 can be driven from regular analogue headphone sockets.

Since the PX7 has onboard amplification with a 20k Ohm input impedance, the gear feeding it won't be stressed. Also built into the right earcup is a USB-C jack. Courtesy of the 1.2m USB-A cable provided as part of the package, the PX7 can be used with computers as USB headphones. The USB-C connector doubles for charging purposes, a full charge of the internal lithium-

polymer battery delivering up to 30 hours of playback. When this runs out, a 15-minute quick-charge will reward you with five more hours. Another welcome PX7 feature is that removing the headphones automatically-pauses playback; replace them, and the music continues from that point.

COMFORT AND SOUND QUALITY

The PX7's semi-foldable design is far from cumbersome. Its adjustable headband and weight of 310gm add up to long-term comfort – even with the modest pressure exerted on the ears, necessary to ensure a good seal with the replaceable soft pads.

I have to say that the PX7 is probably the best noise-cancelling 'phone I've heard; some of the previous models I've tried are spoilt by audible artifacts when operating in this mode, thereby compromising enjoyment of music. Dynamics and, to a lesser extent, stereo imaging are improved after switching the mode off altogether; but it is evident that noise-cancellation adds little appreciable tonal colouration.

Coupled to a Pixel 3a 'phone loaded with a wide selection of losslessly-compressed music the B&Ws proved to be a gutsy and energetic performer, with a sound that can be summed up as 'big' without being fatiguing to listen to. A 2manyDJs 'mash-up' was given the necessary excitement, yet it was possible to distinguish between the widely-varying recording environments,

engineering and production techniques that were used to capture the equally-diffuse range of musical styles that made up the DJs' mix.

The PX7 didn't disappoint when it came to albums by a single artist, either: Steve Hackett's *Voyage of the Acolyte* benefitted from the detail, clarity and full-bodied tonality that distinguishes these headphones. I was pleasantly-surprised by the insight they offered into Hackett's guitar playing.

Strings of a different kind – those making up Gorecki's melancholy *Third Symphony* (Polish Radio S.O. Gibbons/Penderecki) – were also adeptly and distinctly conveyed; the



The detachable pads, made of foam covered by a synthetic leather material, are soft and provide a comfortable ear seal.

piece also demonstrated the PX7's imaging prowess.

Although the PX7 is undoubtedly enjoyable to listen to, I wouldn't describe its tonal character as neutral. Tight and musical bass is a major contributor to the 'big' PX7 sound, as is a perceptible emphasis on the lower midrange that gives it a slightly warm character. Furthermore, I found that the PX7 errs towards the bright when it comes to the cymbals of rock drum-kits and electronic percussion associated with the electronic dance genre.

CONCLUSION

It's difficult not to like the PX7, which brings to smartphones and similar non-hi-fi players a healthy slice of the full-bodied sound associated with dedicated hi-fi products. Sure, the latter may be more tonally-neutral and better eke out finest details – but these cordless and sound cancelling 'phones are packed with features they lack.



The cable with 3.5mm jack plugs allows the PX7 to be driven from any source with an analogue headphone output. With the USB-A cable, the PX7 can be used direct with computers.

BOWERS AND WILKINS PX7 £350



OUTSTANDING - amongst the best.

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- well-featured

AGAINST
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Six Appeal

Klipsch's new The Sixes are more than just a loudspeaker – they are a versatile all-in-one system. Jon Myles explains all.

If there's a big trend in hi-fi at the moment it's the all-in-one system. Think of Naim's Mu-So 2 combining streaming services, amplification and loudspeakers. Or – king of

the pile – Devialet's Reactor 900 that gives you a loudspeaker with a 900 Watts per channel amplifier, plus superb design. Now American manufacturer Klipsch has joined the party – but with a twist.

Unbox The Sixes and they look like a typical pair of Klipsch loudspeakers. Pride of place goes to the six-and-a-half inch mid/bass driver allied to a one-inch aluminium tweeter housed

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in a proprietary horn-loaded enclosure.

The difference, though, is that these £800 speakers include amplification and a complete set of inputs – including a phono stage for a turntable. So forget extra boxes - they can accept a variety of sources and handle everything else themselves.

Volume can be adjusted up and down by the right loudspeaker's front-baffle rotary control. The amplification for both loudspeakers has been fitted inside the right-hand cabinet. It includes line-level analogue and TOSLINK/USB digital with a 24bit/192kHz-capable DAC, Bluetooth – plus an MM phono stage. There's also a subwoofer output for those with a stronger addiction to bass.

To call them wireless would be going a bit far. The main (right-hand loudspeaker) needs to be plugged into a power socket while the pair are connected by a supplied cable. That said, afterwards there's little to worry about. The Klipsch's have 100 Watts of power on board and will accept almost any input.

They also boast a rather attractive mid-1970s retro look with walnut cabinets accentuated by gold logos at the bottom of each loudspeaker. All

the controls sit on the right-hand 'speaker where you can use a toggle switch to put the pair into

standby mode or choose which input to use.

Alternatively there's a small remote control that allows you to use everything - including volume, source selection and on/off - from your armchair.

The loudspeakers themselves measure 22cm x 43cm x 28cm and feature a rear-ported enclosure to boost bass response. That means they are not small and do benefit from good, substantial stands to bring out their best - but that holds for any loudspeaker of this size.

On the back are inputs for the integrated phono pre-amp (more of which later), Bluetooth wireless technology, digital optical, analogue RCA as well as USB.

So they are fairly well-equipped and cut down the number of boxes needed to play music. In fact all you need is a source which, at the most basic level, could be an iPhone or Android device equipped with Bluetooth.



The rear of the main 'speaker includes digital and analogue inputs – all you need is a source for a complete system.



The front right loudspeaker provides access to all the various inputs: Bluetooth reception, Aux, Phono, USB and Digital.

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The only downside is the exposed screws on the top of the cabinets which, frankly, look a little agricultural.

SOUND QUALITY

With a large horn-loaded tweeter and sizable mid/bass driver taking up most of the fascia you'd expect these 'speakers to be big, bold and brash. But that's far from the case. Instead they sound accurate and well-balanced, fast and with a good sense of detail.

With New Order's 'Bizarre Love Triangle' via an iPhone on Bluetooth there was a pleasing sense of poise. Bass was deep and taut without being over-dominant while the mid-range sounded smooth. Most impressive, however,

equipped device it sounds remarkably smooth. Yes a standalone device could better it - but that would rather negate the whole point of the Klipschs. They are positioned as an all-in-one system which are capable of handling any input you have. Which is something they do very well. The only difficulty here is that the turntable will be close to the loudspeaker, signal leads rarely being more one metre long.

CONCLUSION

Klipsch have hit a sweetspot with The Sixes.



The tweeter sits in a specially-designed waveguide which works well.

"the intricate electronic work stood out, each keyboard stroke ringing crisp and clear. It made the whole track a joy to listen to"

Amplification, a DAC and a range of digital and analogue inputs plus a balanced sound make them something of a bargain. Well worth considering if you want a capable all-in-one system that's easy to use and has trad. design.

was the detail on offer. The intricate electronic work stood out, each keyboard stroke ringing crisp and clear. Put together it made the whole track a joy to listen to.

Moving forward I switched to the RCA analogue inputs fed CD from our resident Oppo BDP-205D universal disc player.

On Elvis Costello's version of 'What's So Funny 'Bout Peace Love And Understanding' his voice stood out - strong and powerful. The guitar work was also brilliantly replayed. Again there was real drive on offer but without sounding coarse or harsh.

Turning the volume up via the right loudspeaker showed the Klipsch's can happily fill a medium-sized room with ease without collapsing in on themselves.

In fact they stay refined and well-controlled. That Tractrix horn-loaded tweeter also means they sound larger than they look, the sound expanding from each side of the cabinets in a seamless fashion.

With Mahler's epic No 4 I got excellent separation between the instruments - the violins sounding vibrant and complete air between every element of the orchestra.

The phono stage is also worth a mention. For a sole MM

MEASURED PERFORMANCE

Through analogue Phono input set to Aux, frequency response of The Sixes loudspeaker was flat from 50Hz to 16kHz our third-octave analysis of pink noise shows (green trace), measured on-axis. Measuring 20 degrees off-axis there was some small treble loss of a few dB. Overall then, The Sixes are accurate, lacking the treble lift of so many modern designs. In comparison they will sound less bright but are in fact truthful and will be easier to live with in the long term, by not emphasising CD distortion.

Although treble has not been raised, output across the upper mid-band - above 2kHz - is strong from the wide-flare Tractrix tweeter horn, so there will be detail in the sound.

Klipsch have brought up output below 400Hz (ignoring the floor return dip at 180Hz) to ensure a good sense of body but bass rolls off below 50Hz - as expected from a small-ish cabinet with internal volume shared by drive electronics. The port (red trace) is tuned to a high 80Hz, rather than below main driver output as is common, so it supports upper bass rather than low bass. As a result output drops sharply below 40Hz, so no subsonics.

Unusual is the addition of a phono stage. Applying RIAA pre-equalised pink noise The Sixes were perfectly accurate

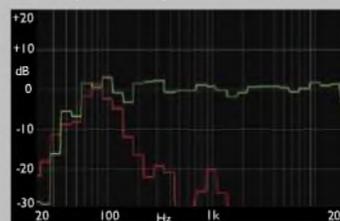
here, as our orange trace shows.

Sending in pink noise from an iPhone file via Bluetooth yielded the same result, so the external inputs maintain accuracy.

The Sixes returned a fine measured performance. They are more accurate than most loudspeakers, which says a lot about the company's design rationale. **NK**

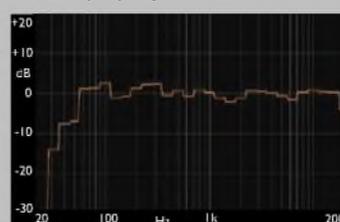
FREQUENCY RESPONSE

*Green - driver output
Red - port output*



FREQUENCY RESPONSE

Phono (LP) input



KLIPSCH THE SIXES £800



OUTSTANDING - amongst the best.

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FOR

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AGAINST

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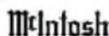


Stereo Integrated Amplifier
McIntosh MA252

- 160 watts per channel
- Hybrid design: vacuum tube preamp and solid state power amp



ON DEMO



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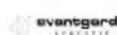
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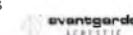
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DAT's about the size of it...

Martin Pipe revisits Aiwa's HD-S1, a portable DAT (Digital Audio Tape) recorder launched in 1990.



One of the earliest digital recorders aimed at serious recording enthusiasts, musicians, budget studios and well-heeled audiophiles was the Sony PCM-F1. This was a battery-powered PCM adaptor that converted 16-bit digital audio into a video signal that could be understood by a video cassette recorder (VCR).

Whilst VCR-based PCM audio recording was gaining acceptance, Sony was working on closer integration between PCM with VCR technology. The high effective writing-speed of the latter's helically-scanning rotary head-drum was sufficient to capture the significant amounts of data associated with 16-bit PCM audio, so why not introduce a format that did so directly – as opposed

to intermediate conversion to and from a video signal? The proposed format would employ a much smaller cassette.

The resulting 'Digital Audio Tape' (DAT) format was too expensive for the mass market, being internally complex on account of its VCR-type mechanism, but high-tech audiophiles and professional users eagerly adopted it.

A multitude of firms made DAT decks and tapes their business. Known for its cassette decks was Aiwa, by then a subsidiary of Sony. That's why it was able to enter the DAT game early on, its first DAT product being a clone of the Sony's DTC-1000E.

But Aiwa's next significant DAT product was to prove more intriguing. This was 1989's HD-X1, a

top-loading portable DAT recorder occupying roughly the same volume as a fat paperback book.

Powered by a rectangular lead-acid battery, the sub-kilogram 'Stasser' branded HD-X1 also realised the 'on the move' potential of DAT. This was maximised by Aiwa's decision to build the analogue-to-digital converter and mike preamp into a module that bolted onto the back of the machine. If analogue recording wasn't needed then this module could be removed. The HD-X1 main unit featured a stereo 3.5mm socket that enabled digital audio to enter and exit the machine, allowing lossless copies to be made.

Incredibly the HD-X1, only officially available in Japan, lacked SCMS and it could record at 44.1kHz sampling rate. No wonder it



The naked HD-S1, playing a tape. Looks like the business end of a vintage camcorder – because DAT machines and camcorders shared precision-engineered mechanics and principles – a rotating drum with two helical-scanning heads. The empty space at rear is a compartment for the rechargeable battery pack.

attracted interest; this machine could record CD unrestricted.

The following year, an SCMS-equipped version of the HD-X1 – the HD-S1 featured here – was introduced on a worldwide basis. Selling for £600 at launch, the HD-S1 used some of the most advanced electronics then available. The internal DAC, for example, featured one of those wonders of the age – a Philips Bitstream converter. No less sophisticated was the analogue-to-digital converter unit, which was built around an equally-clever Matsushita MASH (multi-stage noise-shaping) sigma-delta chip.

Taking a peek inside the HD-S1 reveals numerous surface-mounted application-specific integrated circuits and a mechanism that is, hardly surprisingly, very similar to that of a late-1980s camcorder. In some respects, it's actually better. The mechanism's 'mode switch', part of



Like a camcorder guides lace up the tape around the head drum (visible at the back of the photo). The miniature pinch-roller, spool carriers and felt-covered back-tension band may have been lifted from a 8mm camcorder made by Aiwa's owner Sony.

a feedback system that confirms the current position of various parts associated with the tape path to the microprocessor, is optoelectronic for reliability. In contrast, the

as well that Aiwa supplied a wired remote.

The headphone socket and associated volume thumbwheel are on the side. There are also buttons for manually-adding, deleting and renumbering track 'index' markers for subsequent 'go-to' playback. An interesting function is 'AARS' (Automatic A-Time Record Standby) – a front panel button that, when pressed, seeks out the next 'blank' section on the tape.

This particular HD-S1 was handed to me by John Howes of Audiojumble fame, as he knew of my interest in such things. Incredibly, it still works to this day although the battery packs had long ceased to be of use. Sometimes, a 'warning' symbol flashes on the LCD after a tape is inserted and no further operation is possible, although it eventually disappears. I haven't had a chance to investigate the cause, but it could be the 'dew' sensor (remember those from the VCR days?). I was able to



The main circuit board contains miniature surface-mounted components to keep down size and weight. One of the chips (visible towards the right of the picture) is the HD-S1's Philips SAA7320GP Bitstream DAC.



Available in:



X2 TURNTABLE

The X2 is fine-tuned to focus on audio excellence. It has all the features needed for convenient day-to-day use, but no superfluous add-ons that start to negatively impact the sonic character. The end result is a highly engaging, musical turntable that delivers deep, detailed lows, crisp high frequencies and an engaging well-presented midrange. Thanks to Pro-Ject's advanced manufacturing experience, while delivering great sound the X2 is also a beautiful piece of engineering that can stand proud as the focal point in any home environment.

The X2 is available in four finishes; a premium walnut wood veneer, a luxurious black 8-layer high gloss paint, or black or white eight-layer hand-polished satin paint.



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High quality resonance-free acrylic platter

run the machine from the 7.4-volt mains unit. A home made battery pack comprising six series-connected AA Ni-Cd rechargeable batteries totalling 7.2V and plugged into the HD-S1's DC input socket, allowed me to use the machine on the road.

Armed with a decent stereo microphone, I was able to make field recordings that convinced even when played back through a decent hi-fi system and headphones. Dynamics and tonal spread were pretty good for 30 year-old digital. Noise levels did not give cause for concern either, Aiwa having paid at least some attention to the HD-A1's mic preamps (there's even a -20dB attenuator switch, which must have come in handy when bootlegging rock concerts) although feeding in signals at line-level gives the best results.

Thanks to its rotating head-drum, you should be careful when using a portable DAT in humid or wet conditions – or moving from a cold environment into a warm one. That's why VCRs and camcorders were equipped with dew sensors...

Recordings of analogue sources are made with a 48kHz sampling rate. In contrast, many home DAT machines could be switched between 48kHz, CD's 44.1kHz and a 32kHz

more 'forward' character. I digitally-copied a DTS 5.1 CD onto DAT with the HD-S1. The dub was 'flagged' as DTS by a home-cinema receiver, and played correctly. Professionally-recorded DATs containing 5.1 Dolby-E(mbedded) streams were transferred to a memory card via a digital recorder, and the result

The headphone output can sound strained and lacks drive; an external headphone amp, fed from the HD-A1 module's 3.5mm line output, reveals more of the unit's potential.

Specialist audio supplier HHB worked with Aiwa to make a £995 ruggedised 'pro' version of the HD-S1. Described as the 'professional DAT recorder that goes easy on your pocket...and in it' the silver-cased HHBI Pro featured an onboard timecode-generator so that recordings would be 'timestamped', provision for standard connectivity (including AES-EBU digital) and the ability to be powered by standard AA cells as well as Aiwa's proprietary blocks

Judging by Internet activity, there are quite a few HHBI Pros and HD-S1s still doing the rounds. This is quite remarkable, given the internal complexity of these units. However, they will disappear from view one by one. HD-S1 spares were discontinued a long time ago, and eventually those complex mechanisms will wear out.

On the plus side, the surface-mounted capacitors seem to have better longevity than those fitted to more recent Japanese kit.

DAT was rendered obsolete by solid-state recorders. Because they haven't been made for nearly fifteen years it may be worth hanging onto machines like the HD-S1 to digitally-transfer any DAT tapes you may own or come across



The HD-A1 analogue-to-digital converter and mike preamp – together with a second battery compartment – are built into a module that attaches to the back of the machine. When used for reply-only this module could be removed and left at home.

Inside the module is a Matsushita MASH (multi-stage noise-shaping) sigma-delta ADC chip – advanced stuff in the late 1980s.



The HD-S1 ready for action in its carrying case, with the HD-A1 module fitted. The digital I/O visible on the side is a stereo 3.5mm jack socket – to get standard S/PDIF signals into and out of the unit.

You can also see the HD-A1's analogue record level/balance controls, track-marker buttons and headphone provisions. A coating applied to the cabinet goes sticky over time, making it difficult to remove from the carrying case.

'long play' mode. The HD-S1 will record in the other two modes, but only from digital sources; a cheap 3.5mm to dual-phono adaptor comes in handy here.

Dubbing from an Arcam CD player via a coaxial connection to DAT gave results that were more than acceptable, although some rock music (Radiohead's OK Computer, for example) took on a perceptibly

decoded fine with PC software

I encountered few problems playing audio DATs recorded by other machines; indeed, this little deck plays some troublesome DATs more reliably than bigger machines at my disposal. DAT error-correction yields an unpleasant hardness that can deteriorate into 'graunching' and then silence, when there simply aren't enough digits to go round!

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I just shrunk the DAC

Martin Pipe tries out what must surely be one of the world's smallest hi-res DACs.

With measurements of 56mm x 14mm x 6mm, this DAC occupies less volume than a cigarette lighter. Yet the Audirect Beam is no slouch in the specs department, thanks to its ES9118 SABRE chip that – its designer ESS proudly informs us – is “bringing music to life for the next generation of smartphones”. As a result, the Beam can deal with PCM-derived audio with resolutions up to 32-bit, and sampling rates between the old-school 32kHz and today's somewhat over-the-top 384kHz. Oh, and DSD64 and 128 (with DoP) are supported too.

Incredibly, the wee 12gm device also manages to squeeze in a headphone amplifier, albeit one that's built into the ESS system-on-a-chip.

The Beam is not a conventional DAC; it makes no provision for S/PDIF sources like CD transports (now about as fashionable as those cigarette lighters). It's a USB widget through and through and to this end Audirect supply no fewer than four stubby little cables (Lightning, Micro USB, USB-C and USB-A) enabling the Beam to work with a range of different equipment, both fixed and portable. Apple, Android or Windows, anything USB should be game.

A USB-C socket digital input lies at one end of the Beam. At the other is a 3.5mm socket for headphones or perhaps an amplifier. In between is a lever that raises or lowers volume (it takes over the host device, if my Google Pixel 3a smartphone is to be believed) and pauses music. Although it doesn't seem to be documented, I managed to persuade (albeit inconsistently) the Beam into jumping to the next song of a playlist; I'll admit defeat when it comes to backtracking, though. The only other feature of the metal casing (good for

screening!) are LEDs that indicate whether the incoming stream is DSD or PCM.

PERFORMANCE

Most of my listening involved the Pixel 3a, running the VLC and Synology DS audio apps, and various pairs of headphones including Sennheiser HD480s and Oppo PM3s. The sound was a considerable improvement over the Pixel 3a's own audio system. The guitar lines, complex percussion, clavichord and panning keyboard hook that play roles in Talking Head's *Crosseyed and Painless* (96/24) were all better defined than what I heard with the headphones plugged directly into the Pixel 3, which sounded more congested and less musical. From the same *Remain in Light* album comes *Once in a Lifetime*, the synthetic rhythmic elements and tremolo-bent guitar of which emerged clear and detailed.

All this was with volume turned to maximum, needed to coax acceptable listening levels from the high-impedance HD480s. Lack of drive tends to be a problem with tiny devices reliant on the 5V rails of portable gear, unless some kind of DC-to-DC conversion is employed internally to widen the potential voltage swing. By the sound of it, there wasn't enough room for such circuitry in the Beam; bearing this out is the amplifier's limited spec (2Vrms and 49mW output) printed on the carton.

Although the distinctive percussion that defines the Goodmen's *Give It Up* pounded along nicely, the bass drum frequently ran out of steam. In other respects – the track's reverberant keyboards and whistles, for example – the Beam fared better. Also noteworthy was the definition bestowed on the



guitars and violins of Ultravox's *The Wild, The Beautiful and the Damned*.

Switching to a Dell Windows 10 laptop (which recognizes the Beam as a 'hiliDAC') didn't however improve impact even when said machine was powered by the mains. Listening in quiet environments and/or the use of efficient headphones are thus recommended.

Driving an external amp and speakers from the 3.5mm socket does however show what this micro-DAC is capable of – tonal neutrality, wide dynamics and a natural soundstage even with demanding music like Britten's *War Requiem* (Noseda/LSO/Eltham College Choir/London Symphony Chorus, 24-bit/48kHz). You could feed the Beam's output to a separate headphone-amplifier in order to enjoy its musical potential, but that would detract somewhat from its *raison d'être*. Yet for all this there is something very compelling about the Beam, in terms of both concept and delivery.

AUDIRECT BEAM PORTABLE DAC £90



EXCELLENT - extremely capable

VALUE - keenly priced

VERDICT

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- plays most digital

AGAINST

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

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

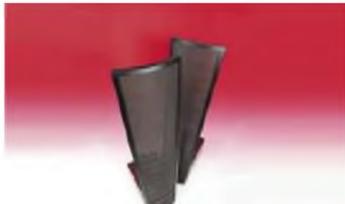


EMINENT TECHNOLOGY LFT-8B £2,500
Excellent U.S. planar magnetic loudspeaker at bargain price. Utterly superb - a must hear.

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

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

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



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



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

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



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

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



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

TANNOY DEFINITION DC10 TI £6,000
Enormous power with great projection. Glorious subsonics too. Need little power to go very loud and have superb finish into the bargain.



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



LOUDSPEAKERS STANDMOUNT

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

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



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



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

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



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



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



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



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

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



HEADPHONE AMPLIFIERS

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

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



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



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



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

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



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



CD PLAYERS

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



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



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

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



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



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

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



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



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



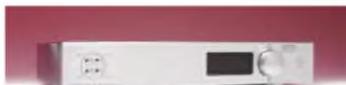
ROKSAN KANDY K2 £900
A charmingly musical performer at the price - this is a surprisingly sophisticated CD player for the money.

TUNERS

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



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



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



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



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

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



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



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

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



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

NAIM DAC £2,400
Superb high-end digital convertor with a probing, punchy and forensicly-detailed sound



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



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



NETWORK PLAYERS

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



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

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



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



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

NAIM ND5XS £2,175
Great sound quality with traditional Naim heft. A wonderful DAC with full 24/192 handling. Only the display could be better

NAIM NAC-N172 XS £1,650
A pre-amp/DAC/streamer package provides a taught, rock-solid presentation with a tonally rich midband and a superior sense of rhythm.



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

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



DIGITAL SOURCES

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



Fiio X3 £150
Fabulous value player with nice easy sound and full range of abilities. Small and light. For newbies.

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



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

NAIM UNITILITE £1,995
A 50W amplifier with traditional Naim heft, a CD player and vhf/fm radio, plus network input and Bluetooth make this a great all-in-one.



PORTABLE SPEAKERS

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



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

CABLES

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



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



CHORD SIGNATURE REFERENCE £900
Majors on timing, detail and openness. Capable of getting the best from most systems and a recommended upgrade.



TELLURIUM Q BLACK £280/3M
A deep, dark, velvety performer that's nevertheless highly musical, it represents excellent value as mid-price cables go.

TELLURIUM Q SILVER DIAMOND £804/M
An open, natural and transparent sound that is difficult to beat, from these great loudspeaker cables.



HEADPHONES

AUDEZE LCD-3 £1,725
A planar magnetic 'phone that offers monitor quality. Strong sound with silky, dark quality that others struggle to match.



B&W P3 £170
Beautifully presented headphones from the loudspeaker specialists. Feed them a good quality source signal and they reward with excellent sound.

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



NOBLE K10 INC. FITTING £1,279
Custom fit in-ear phones with 10 drivers deliver a sound that is out of this world. Personal and perfect.



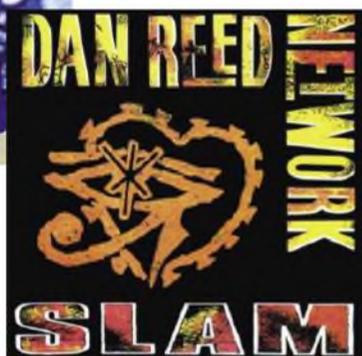
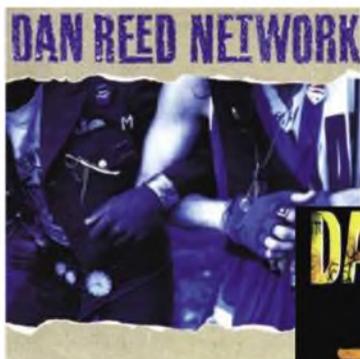
OPPO PM-1 £950
Planar magnetic phones with a warm, easy but big bodied sound that draws you in. Need a lot of drive, but deliver superb bass.



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



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



DAN REED NETWORK

Dan Reed Network/Slam
Mercury

For this funk-rock outfit, both the debut self-titled album and the second album, 'Slam' (produced by Nile Rodgers, no less), have now been reissued with a little bit of remastering attention applied via Abbey Road.

In fact, talking about 'Slam', it was thirty years ago that this album was released.

The band emerged from Portland, Oregon in 1984 and great things were predicted for them, as they supported the likes of Bon Jovi and the Rolling Stones but they never quite hit the very summit. The group initially formed with Dan Reed himself and a multi-racial collection of colleagues including Dan Pred, Brian Ames Melvin Brannen and Jeff Siri.

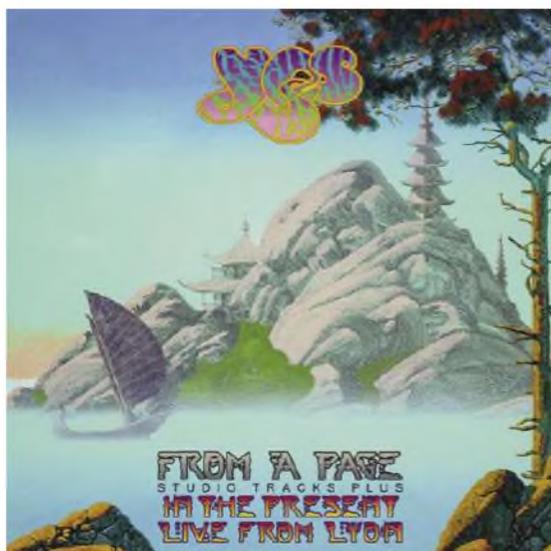
The debut sounds very eighties with that typical percussive, pointed impact and over-produced soundstage. Which actually is not exactly a criticism but to note a

time and a place in rock history. The double-tracked vocals/harmonies add layers to the full-sounding presentation. Simple songs but arranged in a complex manner.

'Slam' retains the eighties thing but there's a more direct route to the ear on this one. Less fluff, less posturing and less catwalk and more, well, more rock. Yes, the songs are chart friendly in their delivery and there's plenty of guitar action to pose alongside – you can just imagine a tactically angled perm coming into action here – but the rock message is evident, because of that, 'Slam' is the more entertaining album of the two.

In mastering terms, the sonic output is quite delicious. There's a superb 3D effect around the stereo image with a depth that not only adds layers to the presentation but a rich substance to the music as a whole. Abbey Road need a quick pat on the back for this job.

AUDIOPHILE CD



YES

From a Page/In The Present Live From Lyon
Yes 97 LLC

Not the current line up, I have to say, this box set of three CDs includes Chris Squire, Steve Howe, Alan White, Oliver Wakeman and Benoit David.

Arriving in a clamshell box, Wakeman has overseen this particular project – and written notes about his time in the band. Not many bands ring up and say "...your Dad is not joining us for the 40th Anniversary tour and we'd like to know if you would consider joining?" Only in prog, eh?

It's an odd mixture of studio and live work and not wholly new, either. Four tracks were created in 2010: 'To The Moment' (6:09), 'Words on a Page' (6:18), 'From the Turn of a Card' (3:24) and 'The Gift of Love' (9:52). The first three tracks are Wakeman compositions, explaining his involvement in this box set. The fourth, 'The Gift of Love', was

more of a group effort.

The live set, 'Live From Lyon' has been seen on sale before. It was first released in 2010 but this edition adds the track 'Second Initial' which was previously a Japan-only bonus track. The booklet for 'Live From Lyon' has been re-designed and expanded too.

As for the 'new' tracks? Well, firstly, bravo to Oliver Wakeman for injecting much-needed new material into the group's orbit. While not exactly future classics, they are certainly listenable, enjoyable and sometimes offer a toe-tapping hookability.

The mastering is very good with no nasty frequencies to spoil the party. Output is pretty neutral with enough space across the soundstage to provide a grand presentation.

An unusual box set, a bit of an odds and sods release but one that fans will lap up, I'm sure.

A very nicely presented, soft matted finished box this is, that lifts up and away from its base via a strategically positioned ribbon. I like these little touches: they show the project has been developed with thought.

All of the band's albums have been offered love and attention from Abbey Road and are here in full, including 'Outlandos D'Amour' (1978), 'Reggatta de Blanc' (1979), 'Zenyatta Mondatta' (1980), 'Ghost in the Machine' (1981) and 'Synchronicity' (1983). Each album is presented within a gatefold sleeve.

The sixth disk will be of most interest to fans, though. This bonus 12-track disc is called 'Flexible Strategies' and it features non-album B-sides. Other tracks include 'Dead End Job' (1978), 'Landlord' (1979), 'Visions of the Night' (1979), 'Friends' (1980), 'A

Sermon' (1980), 'Shambelle' (1981), 'Flexible Strategies' (1981), 'Low Life' (1981), 'Murder by Numbers' (1983), a very rare remix of 'Truth Hits Everybody' (1983), 'Someone to Talk To' (1983) and 'Once Upon a Daydream' (1983).

I found the mastering, from star engineer and all-round nice guy Miles Showell, on this set a joy to behold. Firstly, the general noise level was pleasantly low. I say low, the level of my default CD listening gain had to be increased a few notches on my pre-amp to reach the same volume. A very welcome point. Bass was also strong across all of the included albums but not enough to close down air and space in the mids. The latter was still vibrant and full of detail. So the lower frequencies offered weight, power, mass and a cracking foundation that was balanced by a neutral clarity. The resultant sound was very enjoyable indeed.



THE POLICE

Every Move You Make
A&M

AUDIOPHILE CD

OK, I'm a little late on the Halloween thing but I just had to talk about this collection. It includes two complete Halloween shows recorded on 31 October, 1973 in Chicago. Both are previously unreleased. You'll find music from LPs such as 'Over-Nite Sensation' and then forthcoming 'Apostrophe' (1974), as well as early arrangements of compositions like 'Penguin In Bondage' and 'Village Of The Sun' that would appear on later studio and live albums.

Let's look at all this in more detail. Firstly, it arrives in a tall box measuring 30 x 20 x 13cm with a window set in the front which shows that you now have a sample of your very own Frank Zappa Halloween 1973 mask and – wait for it – green monster gloves! There are also four CDs containing four hours and thirty-eight minutes of music, a 40-page booklet featuring images from the show and liner

notes from Ruth Underwood and Ralph Humphrey – band members who played in the above shows.

Oh and I almost forgot, you also get a fourth disc dedicated to unreleased rehearsals recorded just before the tour started.

The concerts were recorded on 1/2" 4-track analogue tape that was stored in Frank Zappa's personal vault. The tracks were then digitally transferred at 24bit/96kHz from the tapes, in 2019, remixed and mastered.

Live sets are sonic compromises and are often messy in basic sound terms (why hi-fi is supposed to emulate such a fractured 'standard' is quite beyond me, but still...) but these live recordings don't suffer as much as many other concerts I've heard. They hang together well, are consistent in tone and offer admirable detail. This is a superb set both in terms of packaging but also content. Franks' fans go get it!



FRANK ZAPPA

Halloween 73
Zappa Records

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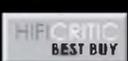


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AURALIC PRESS AWARDS



"As a whole industry disappears we are all being left in a strange place"



Noel Keywood

It's like watching a mass extinction as everyone moves to the 'net for instant delivery by streaming. Blu-ray is still available but I do not see it any more since Tower Records, Virgin and HMV closed their mega-stores in central London. Googled Harrods who have everything – and nothing.

Blu-ray was primarily for video of course – but Netflix has eaten its lunch. And as this phenomenon rolls onward I'm watching with bated breath to see how it all plays out. No need for storage discs any more – LP, CD, DVD or Blu-ray. Give us back our living space. I ran a circular saw through one of my now depopulated CD racks the other day – a symbolic act that seemed to say it all (the LP racks remain!).

Not everyone is happy. A reviewer at ZDNet noted that whilst video streaming is fine for recent movies, on-line catalogues omit much from the past – material that you could once have found on DVD or Blu-ray and put into storage for watching on a rainy day. Access to old films is waning.

With all this going on I am becoming ever more confused – as a dilemma facing me recently illustrated. My son is permanently connected to Netflix – or so it seems. Yet the other day he asked if I wanted to see the official video of his recent Naval passing out ceremony – on a DVD.

DVD? Well it sort of makes sense since it can be stored for the future – providing you also store a DVD player to go with it, because they will be gone in future. And then hope that the video output will remain usable too; how much longer will HDMI connectors and cables remain in use, for example? Thunderbolt from a Mac can handle HDMI video through a tiny USB C

connector – ominous.

In the house, we still have what now look to be sadly archaic disc players that can just about do it when their boilers have raised steam – all those whirring sounds. But should one expire in future then his disc with its historical record will be unusable, gone for him and his children. Samsung recently announced they will cease Blu-ray player production even though they had over 30% of the market, another ominous sign. Blu-ray is on its way out and DVD will likely follow it.

I was surprised he bought a DVD because also available was a video file – but faced with these options I did not know which one to buy, so bought neither.

I should know – but this is beginning to baffle me. Do I choose to buy the silver disc that will, as a physical object like my LPs, notionally last forever, except there may be no steam driven object to play it on, rendering it useless?

Or do I buy the digital file that I might lose tomorrow when the computer goes down? What a conundrum.

I did not enquire about the Navy's digital file format. If it is an exotic format like AVCHD that my Panasonic video camera captured on the day, will it be interpretable tomorrow? It isn't only hardware that gets obsoleted, but software too. AVCHD was purposed for Blu-ray and I have authored many Blu-rays with it, but as Blu-ray disappears, AVCHD will likely disappear with it, plus any ability to play it on a computer.

AVCHD comes as a massive video file so I couldn't send it to family on the 'net, instead it was posted by snail mail on a flash drive. Once upon a time I would have burnt a Blu-ray from TMPG and sent it in the post, or perhaps a DVD,

knowing others could enjoy it, but as silver discs leave us, the possibility of easy sharing with silver discs gets shelved. Blu-ray was massively capable in many areas.

I should perhaps use my TMPG video editor to load AVCHD to YouTube – for streaming! Yes, it's that horrible word again, the one responsible for creating its own environment by obsoleting the silver disc in the first place.

Then quality will go out of the window – and I'm quite sensitive about this. High quality camcorder footage is a delight, especially when a decent forward facing directional mono/stereo mic with wind shield is used to reduce ambient noise – the bane of live videography.

Spotify has popularised music streaming, now having 75 million accounts. Everyone else is diving in and – most intriguing – Amazon Music are offering HD (CD quality) and Ultra HD, meaning up to 24/192. So – finally – music streaming gets serious, able to deliver hi-res audio into our homes.

The steamroller of streaming is destroying all before it. Music on CD and now Blu-ray are fading away and DVD will not resist this onslaught either I suspect. As a whole industry disappears – rooted in the physical world of machines and shops to sell them in – we are all being left in a strange place. The only mechanical playing device to survive is the record player; who would have thought it.

Whilst this carnage is going on I may well sign up to Amazon HD. Everyone else – including Apple – seem unwilling to take sound quality seriously. As Blu-ray and its emphasis on quality – audio as well as video – fades away, hopefully there will be streaming services that can replace it, giving us quality audio and video tomorrow. ●

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"I thought I was going to ensure Pete's starvation"



Paul Rigby

During recent years, we seem to have been losing a whole host of well known, national figures. I'm writing this at the start of December 2019 and in November alone that meant Chef, Gary Rhodes and theatre director and writer (amongst many other activities) Jonathan Miller, who also passed away.

As a book lover I was sad to see the passing of Clive James, a superb literary critic, TV celebrity, author (his autobiographies are a delight) and (not too many people knew this but he did confide to me once) a bit of a whizz at the Tango. I bet even fewer realised that he was also a music star. It's true, alongside his friend and colleague, Pete Atkin - top ex-BBC Radio producer, responsible for the likes of 'This Spectred Isle', 'Week Ending' and 'Just A Minute'.

Again, how many of you knew that some music critics grouped both James and Atkin with contemporary luminaries such as Lennon & McCartney and Elton John and Bernie Taupin and have described their work as "poetic" and "sensitive"? How many knew that they created six nationally distributed albums, mostly on the major label RCA?

Clive James presented his musical ability with honest candour. I was fortunate enough to talk to the great man. It must have been around what ten, fifteen years ago or so that we chatted? I can't really remember exactly when. I do remember that he viewed his musical prowess, adding massive amounts of self-deprecation, as, "...non-existent. I can't play an instrument and I'm singularly devoid of musical gifts but I always loved

it. I didn't seriously start to listen to music until I was a teenager and then I started to listen to the hit parade in Australia," said James.

"The hit parade was very important, we're talking about the 1940s and 1950s now, before rock'n'roll, so the emphasis was on the 'song' as it were. There were always songs that I was learning: House Of Singing Bamboo, Talk To The Trees and so on. I always think of that wonderful Spike Milligan line I talk to the trees/that's why they sent me away".

The creative affair began when Clive James and Pete Atkin met in Cambridge University. Atkin would lay the music over and sing Clive James' lyrics.

"In Cambridge, Footlights (the forum for students to perform to a live audience) was very competitive" remembered James: "we all did our own stuff. I immediately knew that Pete had a musical grip on the words. I figured that, if I stepped in with my lyrics, I'd stop him writing his. So that's really why I kept the pressure up. I bombarded him with at least four lyrics or ideas for new lyrics a week for about 10 years".

Within their work, Pete tended to do the singing. Clive had been known to talk - in a Telly Savalas manner - one or two songs himself. Pete, however, tended to disagree: "I'll tell you a secret, you're the first to know, they're not meant to be spoken tracks...I was singing".

Clive: "I've got a bit better since, I've had a bit of singing training in the last couple of years, to improve my breathing. I can practically hold a tune now".

It was on radio that initial public awareness occurred, with a song called 'Master Of The Rebels'. Radio 1 DJ, the late Kenny Everett,

loved it.

"Kenny was a big, big fan" explained Clive. "He was playing it every time he came on the air. Unfortunately, he got fired that very week which was a blow to us - as well as to him. But those were the breaks".

Attachment to RCA didn't lead to the supposed stardom that may, even should, have followed. The problem was that RCA had difficulty in categorising the pair.

Also, single-lead artists garnered most of the attention so marketing support was nil. Clive James even found that, whilst on tour, shops had no records to offer prospective buyers.

Clive James and Pete Atkin split, amicably, to pursue new careers because of a lack of funds and no faith in the record industry. "I started to feel guilty" declared Clive. "We never made any money and I thought I was going to ensure Pete's starvation. We both had families to feed. The way I saw it, Pete was staying poor because of me. We split and went into separate careers, Pete into radio, me into TV, we flourished and then the music caught up with us".

Clive James might not have been considered a classic lyricist but his musical reputation has grown steadily over time. Whatever his position in musical history, Clive was sure of his feelings towards his musical past. "It's turning out to be one of the most important things in my career - but I always thought it was".

If your interest is piqued at all, you can find recordings from the pair right now on Amazon. There's a host of CDs available. There's even a book called 'Loose Canon: The Extraordinary Songs of Clive James and Pete Atkin'. ●

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“I half wished I’d brought a set of binoculars with me”



Jon Myles

Concert-going has certainly changed. And in a massive way. I was reminded of this on a recent trip to Manchester where I passed the site of my first witnessed live performance – Hawkwind playing at Trafford’s Hardrock concert theatre.

The ticket price was a mere 50p and the venue – at most – could hold 3000 people. All the same, it has hosted a veritable litany of musical giants – including David Bowie, Elton John, Paul McCartney and Wings, Chuck Berry, Genesis, Black Sabbath, Fleetwood Mac, Status Quo, Bob Marley & The Wailers, Rod Stewart, Deep Purple, James Brown, Lou Reed, Al Green, Ike and Tina Turner, Free, Slade, The Sweet, Gary Glitter, Suzi Quatro, Fats Domino and Roxy Music.

Led Zeppelin also played back-to-back performances there – which, unfortunately, I couldn’t attend but I’m told by some good friends were both stunning and ear-shattering.

Unfortunately the Hardrock didn’t last too long – shutting its doors in 1975 after opening in just 1972. It then became an outlet for the DIY chain B&Q – a sad demise for a legendary venue.

However it also had another claim to fame - being a frequent haunt of The Smiths’ lead singer Morrissey who lived nearby. Oh, and it also housed The Village Discotheque. A special tower, that’s still there today, used to be neon lit to let people know whether it was a concert or disco night. Now, that’s clever and would be seen as rather innovative today.

Fast forward to today, though, and things are very different with live concerts. The last one I saw was Bruce Springsteen And The E Street Band at the vast bowl that

is Wembley Stadium. Sat high up in the upper tier after paying £69 for a ticket could I see the musicians? Heck no!

Half-way through the concert I half wished I’d brought a set of binoculars with me just to get a glimpse of everyone on stage – although, somehow, that would seem to kill the concert-going experience.

So instead I sat there peering through my glasses and craning my neck around the various lighting and sound towers to take in the experience.

There was not the thrill of standing next to Hawkwind at that first concert and soaking up the atmosphere. Nor the intimacy, excitement and sense of Lemmy’s bass power that the Hardrock could convey.

Nor did it compare to watching The Buzzcocks at Manchester’s Apollo Theatre where the fans were so animated they started ripping out the seats and holding them above their heads. What an experience!

The next night a rather heavy-handed security company from Scotland was brought in to ensure everyone stayed in their seats. Which everyone did.

Guess which concert remains foremost in my mind as I look back? Yes, the first one due to its pure excitement. Mind you, at least the seats stayed in place which must have been a relief to the owners of the venue. Although local seat manufacturers may have been upset!

I’ve also seen U2 twice. The first time at a small club in Liverpool – the very same place on which The Cavern Club where The Beatles made their name stood. Afterward Bono and the band walked down the street with concert-goers happily chatting away with people

who loved their performance – this was just after the release of their debut album *Boy*.

Their next concert was at Dublin’s Croke Park stadium many years on where the size of the stage set-up was so large streets had to be sealed off to get it installed. This time Bono arrived in a chauffeur-driven limousine and left the same way. To his credit he did pop in to a local resident’s house to apologise for all the disruption.

As the Bruce Springsteen’s Wembley concert I sat in the upper tiers at the U2 Croke Park performance and struggled to actually see any of the musicians on stage, only on the large video screens.

My partner wryly commented “We could have just bought a big screen TV and watched this at home. It would have been a lot cheaper”. I have to admit, she had a point. Especially when you add in the cost of food, drinks and travel.

But that’s the nature of the beast. The more people you can play in front of, the more money any artist or band is going to make. It may sound cynical but it is the truth.

However, would I prefer to watch, say, Led Zeppelin at Madison Square Garden or the Hardrock, U2 at a small club in Liverpool or at Croke Park, Bruce Springsteen at Wembley Stadium or a small bar in New Jersey?

I think the answer is rather clear. But that’s the way things go. The larger the band, the bigger the audience, the less intimacy involved. So find a smaller venue, with some up-coming bands and enjoy the vibrancy. If not, then buy a wide-screen television, get a Netflix subscription and dance in your living room. I’m still for the smaller venues, as you might guess. ●

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"the 'Buy British' campaign of the 1970s and 1980s won't cut it today"



Martin Pipe

The recent election landslide in the UK gives Prime Minister Boris Johnson enormous power and can be attributed to the collapse of Labour's heartland support. Those voters largely support Brexit too and were persuaded to switch their allegiance to the Tories. Some hadn't been 'blue' for generations. It helped that the party announced its intention to deal with the lack of investment in the region's infrastructure - or, as they put it "refurbishing the fabric of our country".

So what else could the Tory victory mean for voters? They are proud to be tax-cutters and although some of their plans have been put on ice, the National Insurance threshold will be raised to £9,500. This, the party claims, will put "almost £500 per year in people's pockets". Equating to little more than a pound per week, this would pay for a few audiophile LPs or a new cartridge. I'm sure that many would rather such paltry sums be instead used to repair, if only slightly, the damage done to austerity-ravaged public services...

The Conservatives are, on the whole, a pro-business party. They understand that properly-functioning infrastructure, the elimination of unnecessary red tape and decent education are key contributors to the health of business, economic growth and job creation. One of the party's aspirations is a £3bn "National Skills Fund" that, the party's election manifesto claims, will "ensure that businesses can find and hire the workers they need". Brexit, now looking closer than it has for some time, will allow external trade to be "tailored to...British firms and the British economy".

The UK has over the past four decades become more dependent

on service industries, manufacturing taking a back seat. Yet we have talent in this area, and our esteemed editor Noel is quite passionate about this issue: "For some never-explained reason", he says "Britain lost its fantastic WW2 ability (stereo innovator Alan Blumlein's H2S radar, for example) and was overwhelmed by imports, notably from Japan". Why, he asks "could we not design an audio amplifier when the Japanese could?". I think that does UK industry a historical injustice; Quad amps did particularly well as exports.

So could we see a resurgence of manufacturing in the UK? It's a nice thought. Just throwing public money at it won't work, as some might remember from the 1970s failure of the Belfast-based Strathearn hi-fi concern.

Noel hopes that the UK "finally develops a fully-fledged and cohesive industrial policy like Germany's, bringing jobs and wealth back to the UK". Amongst other things, he suggests that corporation tax could be reduced following our departure from the EU. This, he reckons, will entice businesses to set up shop here. A tax-cut of this sort was, funnily enough, one of those postponed by the Conservatives.

Another possible idea is the creation of low-tax industrial zones, possibly in the once-strong manufacturing heartlands that turned blue so dramatically. The Irish Republic did this, with the result that US corporations set up operations there. The EU took a dim view of this, but now that we're leaving...

We should however not be afraid to compete on the strengths of our abilities, rather than simply racing to the bottom. Unfortunately we live in a global economy where the majority seek out the lowest price, regardless of the ultimate cost. As a result, it will be difficult for the

UK to compete in most consumer sectors; the 'Buy British' campaign of the 1970s and 1980s just won't cut it today.

Even the 'serious' hi-fi market we cover, with its expensive low-volume products, struggles as things are now. Mitchell and Johnson failed recently, and most of the gear by Arcam (now effectively a division of Samsung) is put together in the Far East. That's not to say there aren't successes (Linn, Rega and Chord, amongst others) but even they have their problems. Linn, for example, suffered tremendously after the financial crisis - having said that, it exported much of its proudly Scottish-made output.

As regards the electronics industry, there's another factor. One of the excuses made by James Dyson for moving vacuum-cleaner production out of the UK was that, as the components for his machines were imported, it made sense to assemble closer to their source. Take a look inside British hi-fi equipment made in the 1950s and 1960s - those of the aforementioned Quad, for example. The vast majority of the components were British-made: Mullard valves, Jackson capacitors, Erie resistors and so on. Now, peer inside a more modern Quad amp...

Today's 'British hi-fi' may be designed (and even in some cases assembled) here, but nearly all of the electronics components are imported because making them here is currently uneconomic. At best, the unpopulated circuit boards, precision-engineered mechanical components and casework are subcontracted to UK firms (heavy and bulky metalwork would be expensive to ship).

These are very interesting times. It remains to be seen how British industry reacts to them, and the backing they can expect from our new government. ●

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"all that old technology has gone to the recyclers"



Dave Tutt

I have finally moved house. This has been an on-going saga for best part of a year which has involved extensive work on the new (old) house, including plastering of 70% of the walls and ceilings, rewiring, new plumbing, 16 new windows, chimney removed, walls taken out, the list just goes on and I still don't have a new workshop... yet! It's still something of a building site. Ahh well... eventually!

One of the big things that has caused endless issues has been spare parts for my work. My brothers don't believe I need all this stuff – but having made over 20 trips to the tip I have already downsized.

If I just repaired one thing, say CD players, then you would expect a few belts for the transport drawer, a few lasers, a few complete mechanisms, a few bits to repair the power supplies – and that would probably be it.

Thing is, as a repairman, I fix almost anything that has wire in it. Such as my oldest true hi-fi that was a 1936 mono unit in a nice cabinet. It used inductors with a 'hacksaw blade' running through them, moved in and out by a complex rope and pulley system to act as a top cut filter. Each coil loaded with the hacksaw blade reduced the top frequency. Not something you would see today. A nice 6 Watt Class A valve amp and Collaro turntable finished the thing off.

So starting in 1936 and running through every age of hi-fi since means that I have to have parts that will fix any of them – and that includes mechanical parts for the turntable, the electronics, even the veneer for the cabinet – they must all be in the store.

Then I must have the parts for the amplifiers – and this of course means all the valve things and the

transistor and MOSFET types. Fortunately, the incredibly rare Germanium transistors that were used in the '60s and early '70s don't exist anymore, meaning these pieces of equipment, no matter how good you think they might be, are really just ornaments. I was quoted £70 for a single transistor so that really means such equipment is beyond economic repair!

So what else is in the spares pile? Well, just about every value of capacitor in every style and shape, and the same for resistors. Belts, pinch rollers, idler tyres, brake parts, pulleys, clutches, gears, motors, solenoids for everything from cassette decks, reel to reel tape decks, Minidisc players, CD and DVD players, and turntables. All the semiconductors and spare valves, transformers, knobs and all manner of oddities that I keep in boxes just in case.

Then there are loudspeakers which are probably the most difficult to store. Usually they are only purchased for specific jobs but there are always a few that are here and have been here for a while!

All of this doesn't include the things I have for my non-hi-fi repairs, including just about every synth and piano key style and type you can imagine. Parts for guitar and bass amps, including again loudspeakers.

Finally there are the other odd bits for things like generator sets or site machinery like compressors or mitre saws. You can therefore imagine that, having a garage full of parts would not be an under estimate.

Also, there is the equipment never collected by the owners. I have given up with some customers who seem to think I am a permanent off-site store and that I won't charge storage as well as repair costs when they come back

to collect 3 years down the line. Wrong!

And of course there are several PA systems, guitar amps, and speakers, keyboards and pianos and the projects that haven't quite been finished due to lack of time, that are all part of my move. Hence, I now have several weeks of reinstating spaces and organising before I am going to be anywhere near back to normal.

The learning process that was part of my teens and 20s is also all here. I have kept the only source of electronics knowledge that was around in the early '70s onwards to people like me, thirsty for knowledge but unlikely to get to academic enlightenment: magazines like Electronics Today International and later, Elektor, as well as my early TV repair bible, Television magazine. I have no idea how many copies of these I have but let's just say they are complete and probably between 10 and 20 years worth. Shame I didn't keep Practical Wireless (the aerial insights in this one would have been helpful and are not generally available on line), Wireless World, Practical Electronics, the Maplin magazine or various others from the same age. They are now more valuable than you would expect.

However, thrown away were most of the computer boards and bits as I really don't think I will need any of them. You don't need video cards or network cards when playing with a Raspberry Pi nor do you need hard disks or floppy drives so all that old technology has gone to the recyclers.

I now have a heap of all sorts of things, mostly in those lifetime shopping bags, all to be sorted into appropriate stacks but still leaving enough space for the building of the workshop – which will start as soon as the weather perks up. ●

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The 2M range has been structured in the same way as the popular Rondo and Cadenza Moving Coil series, with ascending quality as you move from Red - Blue - Bronze - Black. The spectacular 2M Black has become the flagship of 2M, and all Ortofon moving magnet cartridges. 2M was also the last product designed by Ortofon's former chief engineer, Per Windfield, who developed the 2M series over the final 2 years of his 30 year tenure with Ortofon.



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Silver Spinner

Technic's SL-G700 spins silver discs – and a lot more. Noel Keywood tunes in.

What to do if you have an old SACD collection you treasure? Philips and Sony launched SACD in 1999, based on Sony's preferential music archiving format (DSD) of the time. Philips have since left the field and Sony recently ended their player line. Leaving Yamaha to support the medium with their CD-S2100 and Arcam with their CDS-50, recently bolstered by Technics and the new SL-G700 player I am reviewing here (£2350). And some player it is too.

As extraordinary as this player is with CD and SACD it is as much a high quality digital convertor – able to access far more than silver discs. In a quick run-down, the SL-G700 has digital inputs and can act as a DAC, it can play music stored on flash drives, internet connection enables music streaming services and Bluetooth will receive music from a Bluetooth equipped 'phone. Making it a multipurpose source in effect, where silver disc playing is an adjunct rather than main purpose. Needless

to say there's an app and remote control for disc replay. I'll cover silver disc first.

Aimed at the very top end of music replay – in keeping with Technics tradition – the company claim to use a highly rigid silver disc drive heavily isolated from external vibration for maximum read accuracy. Even the disc tray – usually flimsy plastic – is a die-cast aluminium component that, I found, slid out silently and felt good to use, although the disc tray simply carries disc to motor hub, so contributes nothing to quality. But – hey! – does anyone like a flimsy disc tray? I certainly do not and here you get a specialist and doubtless expensive item that makes you feel good about spinning silver discs.

Load up a disc, press Play and the tray slides in. A small monochromatic display panel at right then shows, in bright white text and graphics, number of tracks. When playing elapsed time is shown as well as track content, if it exists on a disc's Table of Contents. As displays go it is basic, even a bit dated with its

blocky appearance and lack of colour, but bright and legible at a distance. Many players do not show track content but, for example, loading a Sony SACD of Volodos playing Liszt, the small screen scrolled Vallee d'obermann. More on this...

It's been a bit of time since I have confronted SACD track info mularkey. Loading Volodos playing Schubert, also a Sony SACD, I was told it was a CD! No SACD layer was available – and our Oppo BDP-205D confirmed this. Running through SACDs many were seen as CD only – confirmed by our Oppo. Most CDs came up with no track content, but some did, notably our high dynamic range Dali demo discs. Technics have given this player track content display ability, but for technical/political reasons (bootlegs etc) it does not necessarily display track content – just so you know. At least they've tried. And you get a CD/SACD layer option available on the remote control.

Where CD players once lacked filter options, times have changed, manufacturers now implementing the



digital filters available in most DAC chips or even, in Audiolab's case, designing a powerful external filter set. Technics have used the AK4497 DAC chip from Japan's Asahi Kasei Microdevices here, one per channel, providing three filter options – but curiously they say nothing about them on-line or in the handbook (or perhaps I missed it). Measurement showed Filter 1 and 3 give conventional flat amplitude response to 21kHz, whilst Filter 2 rolls off high treble and gives a better impulse response; I used Filter 1 mostly, for its (very slightly) brighter sound but 2 will de-emphasise CD's treble graunch when playing old material generated by poor yesteryear ADCs, bringing in a smoother sound.

But what about SACDs? Again, Technics say little specific to the format but our measurements showed they have teased out massive ability from the AK4497 DAC chip, with its DSD convertor. However, there are no SACD filter options; the filters apply only to PCM, so Filters 1, 2 & 3 do not affect SACD sound, measurement showed.

I find playing music from a computer compiled flash storage drive easy and here the SL-G700 will accept and read both rear and front USB A slots, formats WAV, FLAC, DSD, AIFF, ALAC, AAC and MP3. The front slot is for flash storage, the rear for a hard disc drive (HDD).

Being network connectable via wired ethernet or wi-fi – note the two aerials – the player can also read a network storage drive (NAS) or Windows Media Player 12 on a networked PC, seeing my PC's (Windows 10) catalogued music files – after I had switched DNLA sharing back on after an extensive update had switched it off (warning!).

On-line, the SL-G700 can access Spotify, Deezer and Tidal streaming services with more to come through firmware updates. It can read MQA files and works with Apple Airplay, as well as Google's Chromecast. But I had to download and suffer two apps for this: Google home which will "share your details" and even asks for your address (optional) – a clunky process that ended with declared failure even though it was working, then Technics own Audio Center that is comprehensive but cannot load a silver disc;



The disc drive sits in a rigid vibration free housing for maximum laser read accuracy – seen at centre. At left is an extensive screened power supply section, at rear the Bluetooth and wi-fi and at right the digital and analogue audio sections.

you need the remote for this, as you do to alter headphone volume. The set-up was protracted as a result and the software circuitous but it all worked in the end – and there is even a bass/mid/treble tone control in the app.

Size is 430mm wide, 98mm high and 407mm deep. Weight is a heavy 12.2kg, and the European version comes with a 220V-240V power supply (i.e. not universal) that consumes 38 Watts. It is a switch-mode, Technics say, feeding regulator circuits for low noise and good voltage stability. An "ultra low jitter clock" is battery driven, again for low noise and high stability. Interesting that Technics use discrete output transistors rather than an IC to get noise right down, so as to achieve the full dynamic range available from the AKM DAC, even with a CD-standard 2V output – which is low nowadays. Most manufacturers provide 4V or more via XLR, giving best performance at this socket. Output can be fixed or variable with volume controllable by the spin wheel, remote or app.

There is a front 1/4in (6.3mm) headphone socket and volume control operated by remote control or the rotary knob, but only after Setup has been selected to access the headphone volume option, the app not working here.

The rear carries balanced (XLR) and unbalanced (phono socket)

outputs, with fixed or variable volume options. There are S/PDIF digital input and outputs, optical and electrical, but not USB. With wired LAN connection it saw my PC (Windows 10) but not my Mac (Mojave).

SOUND QUALITY

I connected the Technics to our Creek Evolution 100A amplifier through Chord Epic balanced cables for the most part, driving Martin Logan ESL-X hybrid electrostatic loudspeakers, via Chord Company Signature Reference cables, and also listened via Philips Fidelio headphones.

It was immediately obvious that SACD from silver discs and DSD from a flash-drive were delivered with extraordinary depth and smoothness: this really was a silky sound beyond most else. The SL-G700 stood out immediately here, Diana Krall's recording of *Narrow Daylight* on DSD having a delicious easy going quality with sensual depth. Similarly, Arcadi Volodos – a wonderful pianist – playing Liszt's *Vallee d'obermann* was seemingly in a pure open space free from hard delineations, where his piano could freely respond to his input, sounding large bodied, rich and natural, rather than hard edged and mechanical.

AKM's Velvet sound DACs consistently sound silkier than those from ESS and Technics have highlighted this

The remote alters volume, selects inputs and menu options. It fully controls disc replay too.





At rear left are gold plated phono socket (unbalanced) analogue audio outputs, straddling them large XLR (balanced) analogue outputs. At centre is a RJ45 ethernet socket for network connection plus a USB socket for an external hard-drive (HDD) for music storage.

quality with their SL-G700 I found, whatever I played from a flash-drive, CD or SACD. But as I worked my way through all my review tracks I did have some reservations. The deep and dark presentation, with analogue smoothness, became obvious with Keith Don't Go (CD), where the usually vivid-to-lacerative steel guitar strings of Nils Lofgren's guitar were almost mild here, if pure and sweet.

AKM DACs have capitalised on the ESS sound, moving it further into Velvet as they describe it. An opposite would be Chord Electronics DACs, that are vividly fast – just to try and explain sound quality differences. The word 'svelte' comes into mind.

With Safri Duo's pounding Samb Alegreo (CD) there was enormous dynamic power in the synth kick

drum beat, underlining the sense of bass heft this player has, even though it was more fulsome than grippy.

Moving on to classical and Haydn's Concerto for Horn No 1 (DSD) the sound stage was expansive. When horn played unaccompanied it came over as mild yet big bodied, enveloping acoustic echo obvious, fading away naturally without premature curtailment as can happen with not-so-good PCM digital. Accompanying strings were lively and sweet, in an analogue sense, lacking congestion. The Technics has a smooth DSD-type sound in any case so it shone here, making the most of this digital format.

Much the same with Handel's Love and Madness (DSD), where with Lascia Ch'io Pianga, Johannette

Zomer had massive presence and power centre stage; again the SL-G700 showed it pushes out hard.

CONCLUSION

Technic's SL-G700 is a complex player. The user interface is a tad challenging and ornate: I found myself juggling between remote control and app. The display screen could have been more visually attractive too. But it has massive ability and gloriously smooth sound, with lots of dynamic punch.

Not for those who want a viscerally fast sound, instead aimed at laconic ease – a sweet analogue simulacrum. As such it will appeal to classical listeners, especially those with SACD disc collections or catalogues of DSD files. Rockers may find it laid back.

MEASURED PERFORMANCE

Frequency response with 192kHz digital (PCM) measured flat to 46kHz (-1dB) rolling off slowly to the upper 96kHz theoretical limit, as our analysis shows. Filters 1, 2 & 3 made little difference below 20kHz and will have little audible impact.

With CD Filter 2 rolled off output sharply above 15kHz, whilst Filters 1 and 3 had no affect. The filters do not work with SACD.

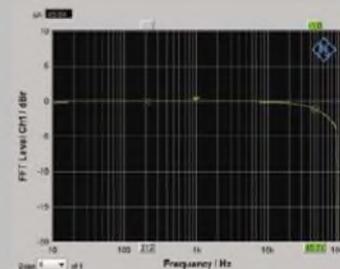
Distortion was, true to Technics tradition, better than all else, measuring a witheringly low 0.01% with a 24bit input at -60dB. Our analysis shows this as a complete absence of both noise and distortion artefacts. Dynamic range (EIAJ) was commensurately high at 126dB, with an output of just 2V from both unbalanced phono sockets and balanced XLR. Meaning Technics have managed to lower noise in the output amplifiers beyond all rivals. It's common to deliver 4V out from XLR to give this output dynamic range advantage, but Technics strangely give XLR the same output

(2V) as the unbalanced phono sockets in this player. All the same, this player has massive dynamic range when acting as a DAC, challenging ESS and Chord Electronics DACs.

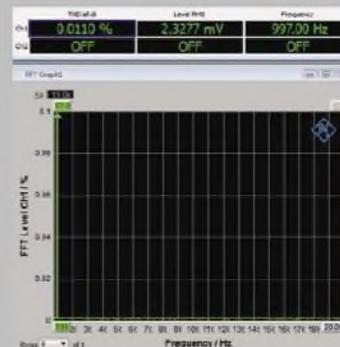
Technics have wrung an extraordinary performance from SACD. Where EIAJ Dynamic Range typically measures 114dB at best, this player managed a massive 120dB from our Philips SACD test disc – up with top PCM. Distortion was very low at just 0.02% at -60dB and frequency response reached 68kHz (-1dB) before rolling away to the 100kHz upper limit of our Philips SACD test disc. These figures put SACD up with the best PCM, not something I have measured before from the medium. Almost bafflingly good. **NK**

Frequency response (192kHz,-1dB)	
4Hz-46kHz	
Distortion (-60dB, 24bit)	0.01%
Dynamic Range (EIAJ)	126dB
Output (unbalanced/bal)	2.3V / 2.3V

FREQUENCY RESPONSE



DISTORTION



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VERDICT

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FOR

- easy spacious sound
- breadth of ability
- powerful bass

AGAINST

- mellow sound
- complex user interface

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Get it sorted

Jon Myles looks at Melco's new Intelligent Music Library software – and is impressed.

Melco's music servers pretty much set the standard for how well this technology can be implemented for storing an entire music collection.

Not a computer, not a basic music jukebox but a machine designed to play back files at the highest quality possible.

Now the company has moved its products further forward – with the release of a new software upgrade entitled Intelligent Music Library.

On a basic level this means owners of existing Melco servers will get an automatic update over wi-fi. It brings the majority up to what is now Melco's EX standard.

However the biggest improvement is the Intelligent Music Library now has SongKong built in.

So what's SongKong? SongKong for Melco is a powerful tool designed to make tagging digital music files with metadata (song, album, composer,

artist etc), as well as adding album artwork, as easy as possible. Anyone who has thousands of files stored will know how difficult it is to keep this consistent.

Basically, the programme takes samples of each song and uses them to get a match against an on-line database. Using information from MusicBrainz and Discogs it can download and fill in all relevant information automatically. It will even look for duplicate songs in a library and give the option to delete them.

Special attention has been paid to Classical music, SongKong capturing information such as composer, conductor, performers and even Movement numbers where appropriate.

Now, with this new software update SongKong is there at your fingertips, via a smartphone or tablet. Clever? Very. It makes searching a large music library much easier.

Looking for jazz tracks? Just dial it in. Pop? Same again. Rock? Yes. It's

a very easy way to go through your entire music collection.

SOUND QUALITY

To be honest this upgrade doesn't really boost the Melco's sound quality – which is already superb. However, what it does do is add extra functionality and bring a welcome way of searching through music libraries – whether they be on the Melco itself or housed on a UPnP server.

As such it rivals the likes of Naim in terms of ease of use yet retains Melco's unique selling point – something built exclusively for storing music and nothing else.

Oh, and as it is free that makes it a bargain!

CONCLUSION

An impressive piece of software that lifts Melco's music servers to a new level. Easy to use, intuitive yet powerful in terms of song, album or genre searching. Existing Melco users will love it – new buyers will be enthralled.

MELCO INTELLIGENT MUSIC LIBRARY



OUTSTANDING - amongst the best

VALUE - free

VERDICT

Works better than you would expect. Moves Melco's servers up to a new level.

FOR

- ease of use
- SongKong built-in
- Free
- Superb interface

AGAINST

- nothing

www.melco-audio.com

vinyl section

contents

FEBRUARY 2020

www.hi-fiworld.co.uk**CHORD ELECTRONICS HUEI PHONOSTAGE 83**

A glitzy new MM/MC phono stage with Rumble filter gets Noel Keywood's attention.

PRO-JECT VINYL CLEANER 86

Martin Pipe comes clean about vinyl.

PRO-JECT SWEEP BRUSH CLEANER 91

Sweep dirt and fluff away, Martin Pipe says.

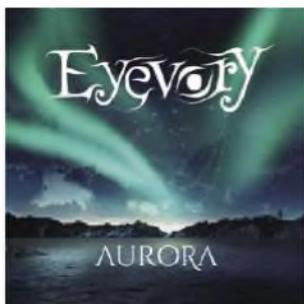
AUDIOPHILE BOOK 93

Paul Rigby reviews *The Beatles Get Back to Abbey Road*.

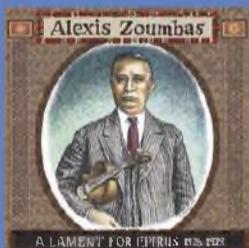
SIREENA

From German audiophile outfit Sireena (www.sireena.de) is In2thesound's 'Commotion & Style'. A live celebration of the UK post punk outfit, The Sound, recorded in 2018. Featuring original drummer Mike Dudley and Carlo van Putten from White Rose Transmission, ex- and now late-Sound man, Adrian Borland's subsequent musical project, plus three extra musicians from Putten's band, The Convent, this is a fine project of memories.

Also look for German prog outfit, Eyevery's 'Aurora' combining classic prog flavours and more modern metal elements.



news

**THIRD MAN**

From this US-based outfit (thirdmanrecords.com) comes Greek violinist, Alexis Zoumbas and 'Lament for Epirus 1926-1928'. Released earlier as a Record Store Day album, it features a Ennio Morricone-like tone heaped with sadness, as the title suggests. An EP of unissued work is included.

All look out for Japanese "Psyche Lords" Boris and 'Love & Evil'. Droney, stoney and dreamy.

**PURE PLEASURE**

From the UK audiophile outfit (www.purepleasurerecords.com) is Pharaoh Sanders' 'Iziphon Zan' (1973, initially via Strata East). Partly influenced via his colleague, John Coltrane, this LP broke out of the jazz genre, although jazz is still part of the LP. A 13-piece group, there's a mix of avant-garde elements, rich soul crooning and instrumental innovation.

MUNSTER

From this Spanish audiophile outfit (munster-records.com) is Peruvian outfit Traffic Sound's self-titled 1970 release. And they do sound like UK rock band, Traffic. With Jethro Tull/prog elements.

From the Vampi Soul imprint is 'A Gozar Salsomanos' from Los Afroins, a 1974 LP that exploited the then fashion for salsa in Colombia.

From the following year comes Julian Y Su Combo's hard salsa outing, the funky 'Noche de Fiesta', retaining its New York edge.



ROCK OUT

Hellyeah was created as a metal supergroup consisting of members of Mudvayne, Nothingface and Pantera. 'Welcome Home' (*Eleven Seven*; elevensevenmusic.com) is the band's sixth album. This grungy, Pantera-esque outing combines grit with great songs. A post metal outfit from Sweden, this metal core sounds nothing like krautrockers Faust but they do retain a similar philosophy, successfully mixing the serene with the brutal but, in this case with an underlying melancholy. Startling.

From Spinefarm, Necronautical's 'Apotheosis' (necronautical.bandcamp.com/album/apotheosis), two LPs of twisted black metal, soars across your soundstage, laying a shadow like a demon spanning the rays of the moon on a clear light. Innovative? No. Symphonic? Oh yes.

Via Music for Nations, the UK death metal group, Cradle of Filth's 'Cruelty and the Beast' Re-Mistressed' sees the original 1998 album remixed which means... superior drums! Plus lots of added portent and dynamism. A massive improvement on the initial production.

From Leprous comes 'Pitfalls' (*Inside Out*; www.insideoutmusic.com). A Norwegian prog-metal group, early tracks are dense but not brutish as they explore personal demons, although later songs inject further energy into proceedings. Plenty of light and shade here.



WAH WAH

From the excellent Spanish audiophile label (www.wah-wahsupersonic.com) comes Diane Denoir's 1972 debut, self-titled LP release. Part of the "Conciertos Beat" (Beat Concerts) of sixties' Montevideo, the LP offers an easy, swaying, Bossa-type, candombe beat, jazz piece.

Also check out this private, 1974, UK folk pressing reissue, The Alice Island Band's 'Splendid Isolation' (I saw an original copy shift for £1,600!). The LP is jaunty, lively, sprightly and offers terribly good diction.

...AND FINALLY

From Disney comes the soundtrack for the animated Tarzan film, via Phil Collins (including Glenn Close and NSYNC), presented as a picture disc in a die-cut sleeve.

Eddy and the Backfires (*Bear Family*; www.bearfamily.com) celebrate twenty years of rock'n'roll with 'Twenty Eight Years'. Think twangy guitars, aggressive and mean rock.

The debut LP from Minor Pieces, 'The Heavy Steps of Dreaming' (*Fatcat*; www.fat-cat.co.uk), is a low-key alt.folk outing that offers harmonies, emotional tone and a patient, pastoral, musical introversion.

From Jo Quail comes 'Exsolve' (*Adderstone*; www.joquail.co.uk), an extended version, remastered with an extra track. A neoclassical instrumental double album with avant slices that builds tension featuring a cello that sounds like a Fender guitar.

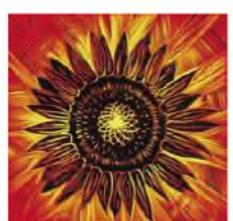
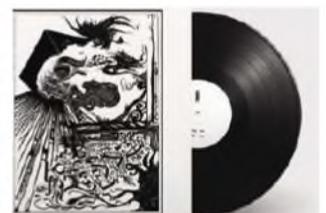
From Canadian electronica man, Jacques Greene comes 'Dawn Chorus' (*Luckyme*; store.luckyme.net). This 2LP pack mines his love for R&B and garage. Dance vibes on a large canvas.

Redrago's self-titled 2LP release (*Life and Death*; lifeanddeathforever.bandcamp.com) offers a distinct Euro-dance vibe. Light, poppy, chart-friendly. It even includes a scrambled rip off of The Orb's Little Fluffy Clouds!

Kush Arora aka Only Now's 'Captivity' (*SOUK*; soukrecords.com) combines dark ambience, black metal and Angolan dance called kuduro. The combination results in a dynamic, wide open, dramatic and often action/cinematic expose. Hang on to your seat!

Rachael Dadd's 'Flux' (rachaeldadd.bandcamp.com/album/flux) presents an intriguing, sparse, little-lost-girl-vocal, ages past, in the now, folk-pop blend.

Ronin Arkestra's debut, 'Sonekei' (roninarkestra.bandcamp.com) sees Mark de Clive Lowe and members of Japan's jazz/electronica scene offer a driving, sometime motorik suite of beats blended with complex jazz textures. Highly entertaining.





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Huei Display

A small phono stage with big visuals. Noel Keywood listens.

This little phono stage from Chord Electronics is small but bristles with coloured lights and catches the eye – not your average black-box phono stage by any means. Hewn from a solid billet of aluminium it feels as sturdy as a brick, albeit a small one. Chord Electronics products now mostly come similarly hewn and intriguing to look at if a little more expensive than Huei, that's priced at £999.

What you get in this small package is a stage that is aimed more at high quality moving coil cartridges than 'lesser' moving magnets (MM). I say this because pressing the left hand MM/MC select button – or

illuminated sphere should I say – for MM causes the right hand Impedance sphere to fall dark. There are no loading options, such as capacitance, for MM. Select MC however and the Impedance light comes on, offering no fewer than twelve impedance options for MC, some I have never seen before. So gentlemen, start your MCs!

Each setting invokes a different button colour and I needed 100 Ohms for our Ortofon Cadenza Bronze moving coil cartridge that, it turned out, was difficult to be sure about because some of the colour differences are quite subtle. But they select in strict sequence and Chord Electronics provide a chart to help

sort this out. What I wanted was 100 Ohms without 2.2µF, the latter option being shaded yellow.

But why have a 2.2µF option? This is something I have never seen before, but understand the thinking. It rolls down treble from a low impedance MC cartridge, its effect depending upon generator impedance (commonly 10 Ohms resistive). A 2.2µF capacitor is equally 10 Ohms at 7kHz so it will roll off treble (don't want to get too technical here!). There are six MC load options from 3700 Ohms down to 100 Ohms, each with 2.2µF accompanying capacitance as an option.

So much for loading. Gain can be changed and again MM seemed an





Huei uses a microprocessor (digital!) to select all the many options on offer. Doing so in sensitive low voltage circuits means using high quality sealed miniature relays, seen here as small white rectangles, that click as selections are made. Huei uses miniature surface mount components on a densely populated board; the sockets look vast by comparison.

"the orchestra loomed large and there was a good sense of grip on pace"

after-thought. High quality MMs can have low-ish output and need at least x100 gain but via its phono sockets Huei has x88 – low. As a result, with our Creek Evolution 100A amplifier I had to turn volume up. Double this gain is available from Huei's XLR outputs and I could have used them, but for the fact that Huei has no volume control and nor does the Creek with XLR. The seven gain options were all lower than x88 and of no practical use I am aware of.

With MC the seven gain values available usefully straddle what such cartridges produce. The gain value commonly used for MC is x1000 (60dB) and Huei offers x300 – x1600 from its phono socket outputs. Meaning it will match all MCs well, including low output (high quality) types from its phono socket outputs, with even more gain available from the XLR socket output.

That covers three of the four illuminated spheres and their functions, the last remaining being Rumble. It's an unusual and odd description, because modern turntables don't rumble. More

strange is that this option is quite unlike any other low filter, meaning warp filter. Yet by cutting bass in vertical modulation only, when the needle is going up and down rather than left and right, it eliminates warps too, because they go up and down. The clever bit here is that the filter does not affect audible bass, where

Huei cannot drive a power amplifier direct and at £999 and with Chord Electronics skills in such matters, it should have been given this now-common option I feel.

The compact case measures 160mm wide, 72mm deep and 41mm high, weight 657gm. It will slip into a system easily enough sideways on a rack, but for all the lights to be visible needs 160mm lateral clearance.

Power comes from a 12V wall-wart. Since this is low voltage d.c. there is no earth connection, avoiding hum from a hum loop.



Huei's rear panel carries RCA phono socket inputs only (no balanced XLR). However, output is conveyed by phono sockets and XLR, the latter giving double gain and output. A tiny mains power rocker switch lies here too, just above the 12V d.c. input.

the needle wiggles left-to-right. So in theory at least, Huei's Rumble filter eliminates unwanted low bass signals, whilst retaining wanted low bass signals – an intriguing idea I had to check in listening tests of course.

Lack of variable output means

SOUND QUALITY

I connected Huei to our Timestep Evo modified Technics SL-1210 Mk2 Direct Drive turntable with SME309 arm and Audio Technica's VM750SH MM cartridge, plus Ortofon's Cadenza Bronze MC cartridge. It fed

a Creek Evolution 100A amplifier driving Martin Logan hybrid electrostatic loudspeakers.

With Ortofon's Cadenza Bronze moving coil cartridge Huei set up a big wide sound stage in front of me. There was no hiss or hum, just perfect silence until needle hit the groove. Spinning Fanfare for the Common Man, from Two Countries One Heart – an all-analogue and well balanced 180gm LP – kettle drum strikes were fast and clean, having plenty of visceral power. Brass blared with fruity impact and the whole performance strode along with good pace. Intrigued by the novel Rumble filter I pressed it on and off and bass power was unaffected, kettle drum losing no impact. There were small clicks when making selections with music playing however.

With Big Band Spectacular from the Syd Lawrence Orchestra, a recent live recording from Chasing the Dragon (direct-cut and tape transcription), strenuous drumming in Sing, Sing, Sing had plenty of weight and again came over as clear and fast. There wasn't the depth our Icon Audio P53 Mk2 valve phono stage imparts, but Huei has a big sound nevertheless. With In The Mood, the orchestra loomed large and there was again a good sense of grip on pace, generous low end power allowing plucked acoustic bass to be



With products from Chord Electronics you get to see inside, courtesy of a small circular viewing window and internal lighting. Huei has this and four rotating illuminated spheres for manual control of gain, loading and filter options.

obvious in the performance.

Spinning Mobile Fidelity's re-master of Dire Straits Love Over Gold (180gm, 45rpm) delivered a strong, tuneful bass line from Walk of Life, Mark Knopfler's vocals standing firm and clear centre stage. This performance showed that Huei is revealing as well as large-scaled; I caught every word from Knopfler.

The only time I obviously heard the Rumble filter was when dropping needle into groove whilst hand cueing: the thump had less thump. I fancy that at other times it made bass sound a bit drier, but it was hard to detect. In theory at least, heavy bass recorded full left or right will be

attenuated, but LPs are cut with bass as a mono signal to prevent large vertical excursions, which LP cannot handle, so the Rumble filter ends up doing its job but being inaudible – clever stuff!

CONCLUSION

Huei is a neat little phono stage with some interesting features. It is purposed for moving coil (MC) cartridges where it provides more gain and loading options than most, moving magnet (MM) types being a side issue. With superb build and finish, plus a large sound stage and excellent clarity, it is definitely worth hearing.

MEASURED PERFORMANCE

Frequency response of the Huei measured flat from a low 4Hz up to 20kHz our response analysis shows. The Rumble filter combines the channels below 200Hz to suppress vertical warp and rumble info by cancelling vertical (out-of-phase) components – a different and novel approach to this problem. Cancellation is introduced by progressively combining the two channels to produce mono bass in effect. Measured with vertical modulation from JVC TRS-1007 test disc the filter introduced massive attenuation below 150Hz, measuring -17dB at 50Hz, but this does not affect mono bass so it will not obviously lighten bass.

Huei has seven gain settings each for MM and MC. Measured values for MM were x68-x13 (37dB-22dB) from input to phono-socket output. These are low values for MM: volume will have to be turned up in an accompanying amplifier. Around x100 is usual. Gain doubles via XLR balanced output, giving x136 (43dB) maximum, so XLR out is best used. Huei overloads at a high

140mV in at full MM gain.

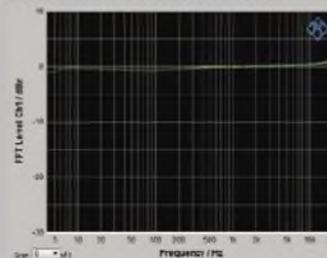
Measured gain values for MC were x302 - x1600 via phono outputs and double via XLR output. This is a good gain range for MC, x1000 (60dB) being a common value, so Huei's gain range straddles the common value used for MC and it has enough gain for low output types.

Noise was low at 0.18µV equivalent input noise A weighted. This works out at -67dBV with gain setting at x1000 (dark blue) for equivalence to other MC phono stages.

The Huei measured well in all respects. It has a very broad range for matching to MC cartridges. **NK**

Frequency response	4Hz-20kHz
Distortion (MC)	0.15%
Separation (1kHz)	68dB
Noise (MM/MC)	-81dBV / -67dBV
Max gain	
MM, MC, phono out	x68; x1600
MM, MC, XLR out	x136; x3200
O'load (phono/XLR)	9.5V/19V out

FREQUENCY RESPONSE



DISTORTION



CHORD ELECTRONICS HUEI PHONOSTAGE £989.00



EXCELLENT - extremely capable.

VERDICT

Attractive looking phono stage with great MC compatibility and sound.

FOR

- clean sound
- broad MC matching
- styling and finish

AGAINST

- no volume control
- low MM gain

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Mister Clean!



Martin Pipe gives his records a new lease of life with the new VC-E from Pro-Ject.

Many years ago, when every town had a hi-fi shop and public libraries stocked LPs, there was a mythical device known as the Keith Monks Record Cleaning Machine (RCM). For a nominal fee, said retailer would treat your scrunchily-noisy vinyl with the RCM - and your records would be returned to a state approaching their previous glory. These wonderful RCMs also kept clean the music you heard on the radio, and ensured that

the LP you borrowed on your library ticket wouldn't be spoiled by any sticky surprises. One was even presented to the Queen, to celebrate her Silver Jubilee. Although it was amazingly effective, the Keith Monks RCM was expensive, bulky and somewhat industrial in appearance. I don't doubt that some RCMs ended up in the hands of obsessive audiophiles, but they were never intended as a domestic proposition. RCMs - like turntables - began to fall out of favour when CDs displaced vinyl, although music archives (notably the

BBC's) and others with an interest in analogue discs kept them going. Keith Monks retired to Cornwall in the early 1990s, but continued to build RCMs on a small scale until his death. His eldest son Jonathan took over, and thanks to the vinyl revival those RCMs are now back in "full factory production". Indeed there are now Keith Monks models that will blend into domestic environments, but they ain't cheap...

Other companies have since recognised the difference that record-cleaning can make, and that

many analogue enthusiasts would like affordable machines of their own. Among them is Pro-Ject, who are well-placed to satisfy this market given that a vinyl-black seam runs through the company. Like the Keith Monks machines, and indeed some of Pro-Ject's previous models, the £299 VC-E is a 'wet' cleaner. The basic idea is that you apply a special solution to the record's surface; this fluid, along with the crud that gives you an earache, is then sucked up by an onboard vacuum cleaner and deposited in a tank that one must remember to empty periodically.

The 6.5kg VC-E is, like Pro-Ject's turntables, a very well-engineered and attractive piece of equipment that occupies not much more volume than, say, a bread-maker. The build quality inspires confidence, and I suspect that it will outlast a fair few of the turntables that benefit from the VC-E's sole function in life. Close to the edge of its aluminium top-panel is the disc motor, which spins at approximately 30rpm. Its spindle terminates in the bottom-half of a record clamp, which features a rubberised surface. Place the record over its spindle, and screw on the top clamp - which also has a rubberised surface. These surfaces help to prevent the cleaning fluid from contaminating the record label.

On which subject, the VC-E is intended for LPs, 12in. singles and 10in. records only. UK importer Henley Designs informed us that it is "not ready for 7in. singles, as their grooves can be nearer the centre hole than the VC-E arm currently reaches". However, the firm will "soon be releasing a 7in. kit, similar to the one sold for use with the older VC-S Mk. II".

Once a record is clamped into position the turntable is started, and diluted cleaning fluid applied. I find that working outward from the centre of the disc works best; the fine-bristled application brush supplied by Pro-Ject is used to evenly-spread the fluid (a total of 6-8ml should suffice) over the record surface. A 3-position side-mounted rocker switch brings the motor to life, and make it rotate in either direction - the fluid-application process benefits from the occasional reversal.

Let's talk more about the Pro-Ject fluid recommended for use with the VC-E. The "Wash-IT" formulation is claimed to be safe with all record materials (including shellac). Two

bottles are supplied with the unit, one of which is a 100ml 'starter' bottle of Wash-IT. The other is used to mix the concentrate with water, and is embossed with markings that will assist you when carrying out the operation. The ratio - somewhere between 10:1 and 20:1 - depends on the state of the record, and water

replaceable (and indeed a spare set is included). How long do they last? "The felt strips' lifespan," Henley told us, "is a bit like that of a stylus... it depends on how you treat them". The height of the arm cannot be adjusted to accommodate different record thicknesses; this is instead achieved by raising or lowering the

"If my experiences are anything to go by, you will be mightily-impressed by what the VC-E can achieve"

temperature. You can get away with lower concentrations of Wash-IT if warmer water is used. The type of water isn't specified, but I live in a hard-water area and the stuff from the tap was fine; I didn't try distilled water. 100ml of Wash-IT should be enough, reckons Pro-Ject, to treat 135 12in. records (i.e. 270 sides). Another 100ml bottle will set you back £15; if you plan to clean records on a larger scale, the £45 1-litre bottle may be a better buy.

The next part of the VC-E is an impeccably-constructed suction arm that slots into an aperture on

grubscrew-secured lower clamp. As supplied, it is suitable for 'standard' ("80 - 180g") records.

The vacuum motor is then switched on (with another side-mounted rocker switch) with the record still rotating, to suck the solution and contaminants from the record surface. Periodically-changing direction can help this process too. When the record is dry, the suction power is removed and the arm moved to its rest position. The turntable is then powered down, the upper clamp removed and the process repeated for the record's



Suction arm height is not adjustable, but the clamp can be raised or lowered to accommodate discs of non-standard thickness.

The robust rocker-switches that power up the vacuum-pump and set the disc-clamp motor revolving in either direction, are mounted on the side.

the opposite end of the top panel. During use, it is swung onto the wet record surface; underneath the arm are soft felt pads to prevent scratching. These are themselves

flipside.

What happens to the spent solution? It is deposited in a reservoir; unfortunately, you can't see how full this is - and thus when

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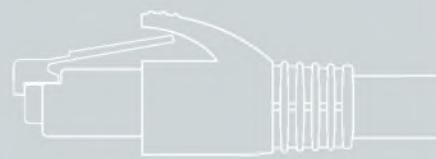
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On top of the main unit you can see the pivot for the suction arm, the lower disc-clamp and the reservoir drain hole. Arranged around the base are the upper clamp, the arm (with spare velvet pads) and the brush that's used to spread diluted cleaning fluid over the record. The latter is prepared by mixing concentrate from the smaller bottle with tap water in the larger one - embossed with horizontal lines to help ensure correct proportions.

it needs to be emptied. The latter process requires you to, after removing the suction arm, place the machine into a larger container like a washing-up bowl, and tip it on its side so that the accumulated fluid pours out of the top-mounted drain hole (which doubles for ventilation). I can't help thinking that some kind of base-mounted tap would be better.

PERFORMANCE AND CONCLUSION

The VC-E cleaning process sounds involved, but it rapidly becomes second-nature. You are probably best off experimenting, as I did, with some old valueless vinyl to become familiar with the machine.

If my experiences are anything to go by, you will be mightily-impressed with what the modestly-priced VC-E can achieve - especially if you routinely rummage

around in second-hand shops or car-boots for musical treasures of unknown provenance. If the records you buy have been well looked after, enclosed in high-grade sleeves and stored in meticulously clean environments, then the improvement is marginal - but tangible nevertheless.

But dirty records, such as 12in. singles that have been abused by mobile DJs, are transformed beyond all recognition. I have an early EMI stereo demonstration LP from the late 1950s. Dirt accumulated over the years had gradually rendered the record to the point of unlistenable - treble harshness descending into unbearable distortion, poorly-defined bass, a muddled stereo image and a cyclic 'crunch' sound as the stylus negotiated a patch of goodness-knows-what on the surface.

After the VC-E treatment, it was if a completely-different record had

been deposited on my Valhalla-LP12/ Basik Plus/Ortofon 540. The sound was, literally, much cleaner - better definition and image-stability thrown into the bargain. Switching to a vintage Pioneer quadraphonic system with Technics SL1200 Mk3/ AT-440MLb, I found that old CD-4 albums (the discrete ones that rely on ultrasonic subcarriers) cleaned with the VC-E were improved to the extent that the notorious 'sandpaper quad' effect disappeared completely.

Sure, the VC-E won't remove any of the clicks and pops that scratches are responsible for, but mistreated records can otherwise benefit quite dramatically. This modestly-priced Pro-Ject cleaning machine will help you to get the best from your records, whether you're digitising them or merely playing them. A few niggles there may be, but the VC-E is built to last a lifetime and performs impeccably. Recommended.

PRO-JECT VC-E CLEANER



OUTSTANDING - amongst the best

VALUE - keenly priced

VERDICT

The VC-E puts effective record-cleaning within the budgets of every analogue fan

FOR

- very well made
- easy to use
- can transform your records

AGAINST

- in current form, unsuitable for 7in. singles
- no means of confirming reservoir state

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Exit planet dust...

Martin Pipe re-familiarises himself with a concept whose time has come again, courtesy of the Pro-ject Sweep-IT E.

Second-hand turntables of a certain vintage commonly have a peculiar column with spindle attached (by glue), on the base=plate - or a mark where one would once have stood. At some point of the turntable's life, this would have been topped by a device like the Cecil Watts "Dust Bug". This was a flat Perspex rod terminated in a brush and velvet pad, the purposes of which were to accrete dust ahead of the stylus as the record played. Dust Bugs, and products of its ilk, sold well across hi-fi's golden age but disappeared from the shelves of retailers after the majority switched their listening to those silver digital discs.

The basic Dust Bug concept was a sound one, and it was only a matter of time before it was revived to exploit renewed interest in vinyl. One of the latest contenders is Pro-ject's £60 Sweep-IT E. This has the same basic elements of the Dust Bug but, as we've come to expect from

Pro-ject, is more solidly-engineered. The base/pivot is in this case a heavy and substantial cylinder, fitted to a pillar with a soft non-slip felt base. The pivot can be raised or lowered slightly, an Allen bolt securing it at the desired height. The base rests on your turntable, and thanks to its inherent stability doesn't need to be glued to the surface. As a result, it can be moved between turntables and - better still - won't leave a mark.

Then we have the cleaning arm itself. This flat aluminium structure has a dimple that rests on the spindle of the base (a uni-pivot arrangement). The other end is fitted with a fine brush that is, importer Henley Audio tell us, is "made of natural hair". The Sweep-IT E is, thanks to its simplicity, easy to assemble and looks good on any turntable. It's easy to use too - simply lower the brush onto the outer grooves of your record just before you start playing it. The hairs of the brush follow the grooves just as your stylus does, collecting dust as they progress towards the leadout.

Drag is minimal and at no time did use of the Sweep-IT E audibly affect the pitch of any deck I tried.

At the end of the record side, the Sweep-IT E arm is lifted off and placed on a wire rest protruding from the base - just as you would cue up your tonearm and return it to its rest.

It's easy to remove the arm and blow off the matter that has been picked up. I found the Sweep-IT E very effective - if the amount of dust on the hairs was anything to go by. When it was active, I encountered no trouble with stylus tips being clogged with dust - and the consequences for sound quality. Combine with a record-cleaner like Pro-ject's own VC-E, and clean vinyl playback is assured. My only gripe is that the base is tall, even in its lowest position. It can foul, when closed, the lids of some turntables (e.g., Technics and Systemdek) although my LP12's yielded sufficient clearance. Still, it can be removed after use to allow lid closure.

PRO-JECT SWEEP-IT E £60



OUTSTANDING - amongst the best.

VALUE - keenly priced.

VERDICT

Bust that dust with this easy-to-assemble and convenient accessory.

FOR

- simple but effective
- well-made

AGAINST

- tall base prevents some turntable lids from closing fully

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Road talk

Yes, it's that road again, this time covered by Bruce Spizer whose book on the famous album – not the tarmac – is reviewed by Paul Rigby.

THE BEATLES GET BACK TO ABBEY ROAD

Prices: \$30 (hard back)

Author: Bruce Spizer

498 Productions

Bruce Spizer is a respected Beatles historian and author. In fact, to put him into perspective for UK readers, he's up there with the likes of Mark Lewisohn. Spizer is one of the true Beatles big guns. His eleventh book on The Beatles, 'The Beatles Get Back to Abbey Road' is a 50th Anniversary celebration of the album.

It's a wee thing in terms of pure physical size, spanning just 24 x 23.5cm but it does follow a now standardised square format of Spizer's recent book releases that include 'The Beatles and Sgt Pepper: A Fan's Perspective' and 'The Beatles White Album and the Launch of Apple'. Unlike Spizer's earlier, exhaustive and highly detailed tomes on the group's record releases, this series is more a collaborative effort. In fact, on each, Spizer is listed as the compiler rather than the sole author.

That continues here, on this Abbey Road-themed book. Hence, you'll see essays by Beatles scholars such as Al Sussman, Jude Southerland Kessler, Frank Daniels and Piers Hemmingsen but Spizer doesn't look on from afar, lazily drinking coffee and munching on a sticky bun, oh no. Spizer adds lots of information too, such as the complete history of the 'Abbey Road' LP, including the stand-alone Beatles singles released in 1969: 'Get Back'/'Don't Let Me

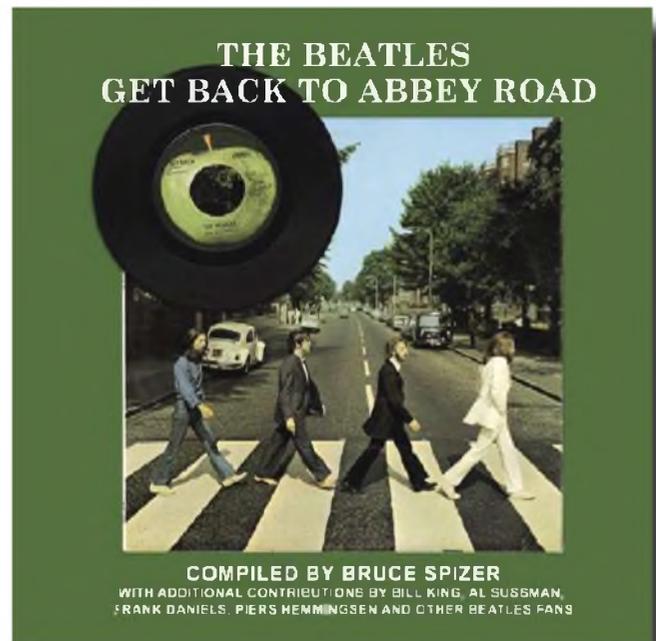
Down' and 'The Ballad Of John And Yoko'/'Old Brown Shoe' plus both celebrity and fan memories and photos.

Produced in full colour and filled with 184 pages, you'll see how the album was received in the United States, the UK and Canada, as well as an overview of the year of the album's release plus a detailed, song-by-song breakdown including when the song was recorded plus overdubs and demos and where (i.e. what studio), producer and engineer information, who played and what instruments they used.

There are some lovely stories in this section. George Harrison was struggling to think of a second line in his song 'Something' when Lennon said "...just say whatever comes into your head each time...until you get the word". So the song's actual line "Attracts me like no other lover" began a "Attracts me like a caul-i-flower".

I looked at the Collector's Edition (limited to 500 copies) which retails for \$100 (including a digital edition). This edition also includes the book within a cardboard O-case, two posters and a book mark. A more basic (in presentation) hardcover edition is priced at \$30 and the stand-alone digital edition is \$20.

Beautifully presented, the book is packed full of interesting facts such as mention of the first reviews of the



album in the famed music magazine Rolling Stone. One reviewer praised the album, the other article, written by one Ed Ward, trashed it completely describing the LP as "garbage". Ward would later admit that he was wrong "I was just a 20 year-old kid who was very full of himself" he said. Proof that you shouldn't believe everything written in the papers, even the music papers.

Speaking of Rolling Stone, there's also an intriguing cover picturing The Fabs standing alongside the headline: 'Paul is Not Dead'. This Spizer book does look into the entire Paul Is Dead controversy, one that continues to this day. There's even current Facebook groups devoted to it, would you believe. The story was brewing in the papers in September of 1969 but blew up during a WKNR-FM broadcast on Russ Gibb's show, on 12 October 1969 when a listener, Tom Zarski, called in to say that if the "number nine" lyric in the 'White Album' song 'Revolution 9' was played backwards, it sounded like "Turn me on, dead man". You can read more in this book.

A quite brilliant production, filled with delicious information and sparkling images, this is a book that every Beatles fan should own.

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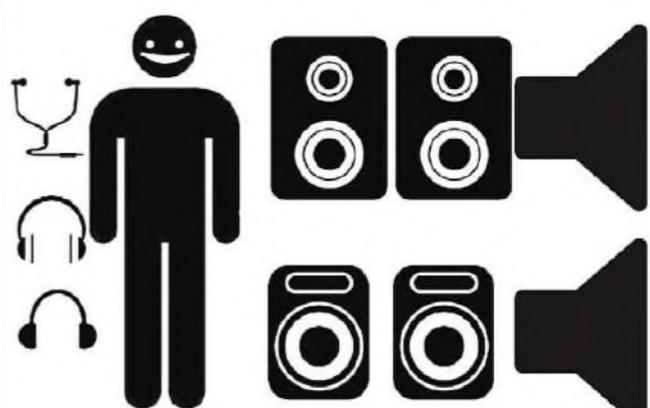
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ROTEL RA 840 BX3 amplifier, £60. Kenwood KX9010, 3 head cassette deck, auto tape calibration, £95. Yamaha MDX 793 MiniDisc recorder, remote, £55. Musical Fidelity E50 FM tuner, mint, £95. Tel: 01708 457 691

MOON AMP 340i, very good condition, £2000. Moon DAC 280D, very good condition, £1000. Spendor A6R, oak, very good condition, £1500. REL Sub, never used, mint, £500. Nobsound power valve amp, mint, never used, £200. Tel: 01273 500 173

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FOR SALE: EAR 834L line pre-amp by Tim de Paravicini. Excellent and well looked after condition. £650 ono. Tel: 07505 057 414 or Email: zylandaroya@yahoo.com

WANTED: 1980s/1990s Sound Organisation record rack in black. Does anyone have one for sale in the hi fi community. Tel: Keith 07919061178 or Email: kejlab@googlemail.com (Liverpool)

WORLD DESIGN WDKEL84 Valve amplifier with upgrades. Mint condition, will demonstrate. Arcadyis bookshelf speakers EB1S-Oak (see Hi-Fi World May 18 issue) Mint/Boxed. Project 'The Classic' Rosenut Turntable with Ortofon Silver Cartridge. Unused/Boxed. Pair Speaker Stands 24" Acoustics QA3108. Would like to sell as a system. All in pristine condition. Please Tel: 01159754070 or 07531288156. (Nottingham)

MARANTZ PM6006UK amplifier in black, as new/boxed £200. Tel: 07583078744 (Notts/ Derby area)

EPOS M12 M-2 loudspeakers, cherry, excellent condition, boxed, plus dedicated ST 12 loudspeaker stands, £200. Tel: 0786 4034 087

PMC FB1 loudspeakers. Light Oak. Excellent Condition. Original Boxes. Collection Preferred. £600. 07814866496 or Email: alanedg0355@gmail.com (Chester)

WANTED: VERY late model 214 F. Serial numbered Audiolab 8000Q. Boxed with manual. Please does anyone have for sale this Pre amplifier in the Hi Fi community. Email: kejlab@googlemail.com or Tel: Keith 07919061178

NEXT MONTH

MARCH 2020 ISSUE

REGA PLANAR 10 WITH APHETA 3 CARTRIDGE

With a reputation for tonearms and turntables second to none, this new high-end design from Rega promises to be worth reading about. Rega stay with belt-drive, so how does it match up to the many Direct Drives now available? Only we know, having the test equipment to find out. Don't miss our super in-depth review in the next great issue.



Also, we hope to bring you –
Chord Company Epic X 'speaker cable
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FiiO FH7 Hybrid In-Ear Monitors
Audio Analogue Puccini Anniversary amplifier
...and much more.

This is a selection of what we hope to bring you, not a complete list. We regret that due to a wide range of issues, we cannot guarantee that all products listed above will appear.

PICK UP THE MARCH 2020 ISSUE OF *HI-FI WORLD* ON SALE JANUARY 31ST 2020, OR SUBSCRIBE AND GET IT DELIVERED TO YOUR DOOR: SEE PAGE 20

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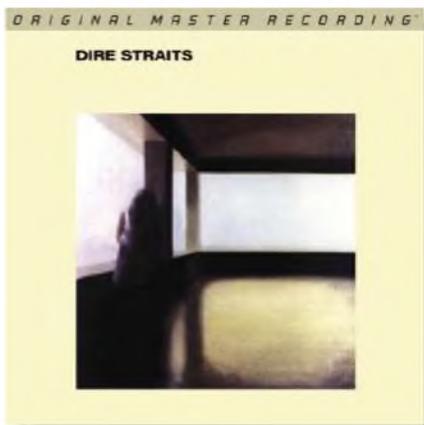
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DIRE STRAITS

DIRE STRAITS
WARNER RECORDS



"This album has a distinct British feel, songs like Down To The Waterline offering an English landscape"

Group lead singer and consummate guitarist, Mark Knopfler once told Rolling Stone magazine, "Success I adore. It means I can buy 1959 Gibson Les Pauls and Triumph motorcycles. But I detest fame. It interferes with what you do and has no redeeming features at all".

And, by golly, the group would see all the colours of that fame when the 1988 hit single, Money for Nothing seemed to not only represent the band in memoriam but also the hot new music marketing phenomenon, MTV and – why not say it – the eighties itself. And for some, not in a good way, either.

That glowing headband, Sting's backing vocals, those MTV-esque computer-generated video graphics... It dated the band terribly because it has been seen as symbolic of them and represented, for certain critics, everything that was lousy and dreadful about the decade. Dire indeed.

Which is not the band. The image was unfair and smacks of elitist snobbery. I feel rather frustrated, on the band's behalf, with that image because Dire Straits were a tremendous band, whose music lives on.

Way back when, the group were already talented and innovative. They played their first gig, a pseudo-festival actually, in Deptford of all places – alongside Squeeze. It was back in 1977 and they were immediately lumped into the pub rock circuit.

The band's first demo (using some inheritance cash) included the future single 'Sultans of Swing'. Radio DJ Charlie Gillett managed to hear it and recommended the band to Phonogram who signed them immediately.

Their debut album, this album, was recorded at Island Records in October 1978. It was produced by Muff Winwood and, according to Dire Straits manager, Ed Bicknell "He pretty much recorded a live record but without the audience. It cost £12,500, including the sleeve, and it sold eight million within nine months of coming out".

And a stormer of a release it is, was – and remains. It doesn't deserve to be placed in the shadow of any of the later albums, either.

Yes, you could say that this album is one of highlights rather than a whole package or a

thread, theme, concept or over-arching narrative – but this is often the way with debut LPs. Debuts tend to be like vomit. That is, debut albums tend to be a sudden out-pouring of years of mixed-up ideas, stacked in the mind, bubbling, just waiting for a chance to emerge, often all at once and in one stream. Without reason but lots of rhyme.

But that often makes debuts all the more exciting. They can be like pages of a diary, an accumulation of experiences, thoughts and inspirations, over the years.

This album also contained the seeds to the future, as it featured all of the group's essential facets.

The album offered superb guitar from Knopfler, excellent backing from the rest of the band and Knopfler's Dylan-esque vocal mumbling, which he made all his own but which, nevertheless, exposed tendrils to the mighty Bob as Knopfler's song-writing moved into Dylan territory too.

This album has a distinct British feel with songs like Down To The Waterline offering an English landscape, but it also presented itself with an American sheen which may explain partly why the band did so well over there and were so readily accepted.

Sultans Of Swing is the masterpiece though, providing a hook and a relatively fast, massive hit to provide energy (and cash) for the future. "It was probably fast by a lot of other people's standards but I felt as though I had been working all my life towards it", Knopfler said. "I was 28 when Sultans broke, when that first album burst open all round the world. We were still living in Deptford and with the record deals back then when you first signed, they wouldn't give you any money for 18 months. I think they're still like that today, actually. So it was No.1 all over the world but I didn't get any money from it for ages and we were still living there for a good while".

This classic album has now been reissued by US-based audiophile outfit, Mobile Fidelity. It spans two discs to give those grooves room to breathe and to maximise sound quality along with the fact that it runs of 45rpm. As you might expect, it sounds rather lovely too.

A low-key approach to bluesy rock, restrained, even minimal at times, this is a great debut and a great album. **PR**

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