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8 PAGES OF LETTERS - THE BEST WINS A PAIR OF KEF Q100 LOUDSPEAKERS! (UK ONLY)
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World Radio History
Valve amplifiers come in all flavours and Audio Research amplifiers are some of the most extreme. Far away from what most people expect a valve amplifier to sound like, they’re a shock to many. I remember an experienced audiophile friend weaned on transistors hearing one and buying it immediately. “How come it sounds so dynamic?” he asked me. Audio Research move their magic forward with the VSi75 I review this month on p10.

The Audiolab M-DAC is another great product. It’s a recent design not afraid to get down and dirty with digital. There are filters galore to tailor its sound, so you can tune it for widest frequency response, or best impulse response (I always prefer the latter). But Audiolab give you XD and DD options – how’s that! Even more complexity to keep the most fastidious audiophile happy. Combined with a high resolution volume control this is a great way to drive a power amplifier from quality digital sources. I used it and loved its smoothness – you can read what Jon Myles thought on p28.

How do you record in digital nowadays? Digital recorders have gone the way of the Dodo it seems. They have in hi-fi, but not in the studio market. Olympus recently released two new budget hand held digital recorders that can record voice, music and even LP, in high resolution 24/96 digital, meaning better than CD. They may be just what you need – see p52.

As always we have a balance between the expensive, the budget, the complex and the simple in this issue that I hope you enjoy.

And finally, Hi-Fi World will be at the National Audio Show, Whittlebury Hall, Northamptonshire, September 21st-22nd. Come over and see us! It will be fun as always and I always love to hear from you, with your wonderful systems and experiences.

Noel Keywood
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MCINTOSH MA5200 INTEGRATED AMPLIFIER
McIntosh has launched a new integrated amplifier. The MA5200 offers D/A decoding at up to 32bit/192kHz while the three-strong digital input suite in the McIntosh Digital Engine includes an assignable coaxial and asynchronous USB 2.0 input (operating at up to 32bit). The MA5200 has nine inputs in total: four line-level; one balanced; three digital plus a MM phono input. Also included, is McIntosh's new internal High Drive headphone amplifier that offers increased gain and output power. Offering a 100W output, the solid-state MA5200 has been engineered into a compact 150mm-tall chassis. The MA5200 also benefits from a Home Theatre Pass Through feature, for integration into existing multichannel home cinema systems.

The MA5200 retains McIntosh's 1950s styling and comes complete with the iconic glass-fronted fascia, retro controls and blue power meters. Further features include McIntosh's Power Guard technology: a waveform comparison circuit that continuously monitors both input and output signals, dynamically adjusting them when necessary, in order to avoid potentially damaging clipping. Price is £4,995. Tel: 01202 911886 or click on www.jordonacoustics.co.uk

MERIDIAN DIRECTOR & UPDATES
Meridian has announced the introduction of the Director DAC, which can be used with a wide selection of traditional components as well as high-resolution USB-based sources. Director features technology drawn from Meridian's Reference 800 Series, offering up to 24bit/192kHz and the full range of Meridian resolution enhancement technologies such as upsampling and apodizing. Connections include USB, Optical and Coax S/PDIF.

Meridian has also announced that its streaming systems are fully compatible with selected products from QNAP NAS (network attached storage). At the same time, Meridian is offering a plug-in for dBpoweramp's Music Converter and CD Ripper to allow you to import your music collection. It can be controlled from iPad, iPhone, the free Core Control App or a dedicated touch panel, such as Meridian's Control 15, with its 17-inch touchscreen (shown here). For more information click on www.meridian-audio/streaming

CYRUS AUDIO SIGNATURE SERIES
The four-strong Signature Series range, which shares many of the performance-enhancing modifications seen in the limited-edition Anniversary System, will be available in specially selected Cyrus Audio dealers throughout the UK.

The Signature Series comprises the following: DAC X Signature (DAC); DAC XP Signature (DAC/preamp); Mono X 200 and 300 Signature (mono power amps).

Prices are: DAC X Signature (DAC) £1,750; DAC XP Signature (DAC/preamp) £2,750; Mono X 200/300 Signature (mono power amps) £1,950; £2,750. Call 01480 433577 or click on www.cyrusaudio.com.
BLACK RHODIUM PRELUDE +

The original Prelude cable employed a conductive low microphony layer that reduced the triboelectric effect that occurs when friction between the screen and the insulation creates an electrical charge. The new Prelude + uses the same low microphony cable but with additional noise-cancelling technology. It includes silver-plated copper conductors, a coaxial construction to screen the conductors carrying the complex music signals, low loss PTFE insulation and hourglass silhouette plugs for ease of insertion and removal from equipment. The Black Rhodium Prelude + is available in several formats. Prelude + Stereo interconnects, including 'Musiclink' cables will be available at: 0.5m pair terminated with 'hourglass silhouette' RCA plugs for £115 and £130 for a 1m pair; Prelude + Tone arm cables will be available at 0.5m pair terminated with 'hourglass silhouette' RCA plugs at £140.00 and £150 for a 1m pair; Prelude + Digital, sub woofer and musical instrument interconnects will be available at 0.5m terminated with 'hourglass silhouette' RCA plugs at prices of £172.50 with 1.0m terminated with the same plugs priced at £280.00. Longer lengths can be supplied to order with prices pro rata for all cables.

Call 01332 342233 or click on www.blockrhodium.co.uk for more information.

ICON KT150 UPGRADES

Tung Sol has announced the arrival of the KT150, a large, powerful and refined valve. Used in single-ended, ultralinear and triode designs, the Icon Audio Stereo 60 MkIlm integrated amplifier, Stereo 60P MkIlm power amplifier and the MB30SE, MB90 MkIlm and MB150 monoblocks are available with this upgrade. The KT150 is also an upgrade for selected previous Icon Audio KT120/KT88 designs.

Prices include: Stereo 60 MkIlm/KT150 - £2599.95, Stereo 60P MkIlm/ KT150 - £2199.95, MB30SE/KT150 (per pair) - £2099.95, MB90 MkIlm/ KT150 (per pair) - £2899.95, MB150/KT150 (per pair) - £3699.95.

For more information, call 0116 244 0593 or click on www.iconaudio.com.

EXPOSURE PHONO AMP

Exposure has announced the release of the 3010s2 phonostage with a dual regulated power supply with regulation optimized for the different sections of the circuit. The input stage is based around interchangeable circuit boards, each being specifically tailored for either MM or MC cartridges. The input is fully configurable to ensure that the cartridge loading and gain is optimally set.

Prices include: 3010s2 Phonostage (MM or MC), £900; 3010s2 plug-in MM board, £220 and 3010s2 plug-in MC board, £220.

Call 01273 423877 or click on exposurehifi.com for more information.

TASCAM RECEIVERS

TASCAM has announced two new networking A/V receivers. As a key component of any installation, both the PA-R200 (100W) and PA-R100 (80W) offer full compatibility with all the latest audio and video formats with multiple HDMI inputs (PA-R200 provides eight, with the PA-R100 offering seven) supporting 3D content, HD audio and upscale video to 4K with Marvell's Qdeo. The latest Dolby TrueHD and DTS-HD Master Audio formats are also supported.

The flagship of the range, the THX Select2 Plus certified PA-R200 allows you to select between surround playback and distributed playback of up to three zones, powered or via pre outputs, to deliver audio to different rooms. Also included on the PA-R200's front panel is an MHL-enabled Aux input that supports smart phone content on HDTV.

Both models allow users to choose from sources like Internet radio, network streaming, direct iPod/iPhone playback (including iPhone 5) and connected analogue or digital components. Control integration is available with RS-232C, IR input, Ethernet and programmable 12-volt triggers. Other remote options include the TASCAM AVR Remote app for iPod touch/iPhone and Android Phones, which is available for free.

Both models are also rack mountable. Price for the PA-R200 is £780 and £600 for the PA-R100.

Call 0845 1302511 or click www.toscom.co.uk for more information.
**MARANTZ NEW RECEIVERS**

The new SR7008 network AV receiver features nine channels and support for Spotify and DTS Neo:X 9.1. The unit includes Marantz's proprietary HDAM audio circuitry, Current Feedback topology and nine fully discrete 200W amplifiers.

The SR7008 comes with various network facilities including Apple's AirPlay technology, Internet radio, Spotify, last.fm online music streaming (where available) and Windows WMD compatibility. Thanks to the DLNA standard, you can stream your tunes from your network drives at home, including HD audio (i.e. WAV HD, FLAC HD, Apple lossless) and gapless support for live concert experiences. In addition, the SR7008 has multi-room support to bring different audio and video signals into up to three different zones. It now offers zone output from digital sources (i.e. HDMI, optical, coaxial or network). A Phono MM amplifier is also on board, so is a 11.2 channel pre-out for system expansion possibilities.

Video signals include 6+1 HDMI inputs and 2+1 outputs (dual output for main zone and multi-zone output), all of which support 3D 4k pass-through and 4k video processing. Lower resolution video can be up-scaled to Full-HD or even 4k.

The SR6008 and SR5008 feature the same proprietary high-definition HDAMs, network and format support facilities. The SR5008 incorporates a seven channel discrete power amplifier with 180W per channel. It comes with seven 3D/4k/ARC (Audio Return Channel) compatible HDMI inputs, one of which is located on the front for quick connection of smartphones or camcorders. Lower resolution video can be up-scaled to Full-HD or 4k.

The bigger SR6008 comes with seven channels with 185W of power, a total of seven HDMI inputs and two outputs. InstaPrevue technology makes it possible to preview all HDMI input sources on the screen via picture-in-picture; the second HDMI port on this receiver allows other people to enjoy audio/video or music entertainment in a separate room while you use the system in the main room.

Price is £699 for the SR5008, £899 for the SR6008 and £1,399 for the SR7008.

Also look for two new wireless music systems from the Melody series. Both the £499 Melody Media (M-CR610) and £399 Melody Stream (M-CR510) comes with Marantz Wi-Fi network connectivity with the push of a single button. Wi-Fi Sharing or Wi-Fi Protected Setup (WPS) can be selected with a single button-press.

The bigger Melody Media features a 120W amplifier. It plays CDs, comes with FM and DAB radio, as well as the full variety of network content such as thousands of Internet radio stations via vTuner and direct access to Spotify and last.fm. You can also access your own music library on your computer/NAS (Network Attached Storage), support for AirPlay to directly stream music from iTunes and iDevices and a digital input to connect a TV set or set-top-box plus there is a front and a rear-USB port for added connectivity convenience.

The Melody Stream is slimmer than the Melody Media. It is dedicated to new digital media, hence it does not offer FM, DAB or CD playback.

Additional information is available via www.marantz.eu.

**HEADPHONE APP**

Essency has announced V2.9.1 of Awareness! The Headphone App for iPhones. This 'listening' street safety app was launched to tackle the growing problem of accidents caused by pedestrians wearing headphones. The Headphone App uses the iPhone's headset microphone to automatically feed the outside world into a user's ears, allowing users to listen to their music or movies, yet remain fully world aware. The Real-Time DSP Engine, makes sure this happens instantaneously with no delays or echoes. Price is £5 via the iTunes app store.

Click on www.essency.co.uk for more information.
YAMAHA AVENTAGE

The company's new receivers comprise four new models: the RX-A830, RX-A1030, RX-A2030 and RXA3030. The new AVENTAGE line up includes ART Wedge, YPAO-RSC Auto Calibration, SCENE Technology, the CinemaDSP technology and AV Controller APP available for all models for free from the Apple App Store and the Google Play store.

Internal component changes include the use of an ESS SABRE DAC from the RX-A1030 and above. The company is also now using enhanced Yamaha Original Video Processing in the RX-A3030. This technology has been brought up to date with new features such as 4K Upscaling, IP conversion, Edge Adaptive and Motion Adaptive smoothing and Multi Cadence Detection.

The RX-A1030 and above also offer HDMI Zone switching, with the RX-A1030 able to offer two zones of HDMI content with full HD video and full surround sound simultaneously and the RX-A2030 and RX-A3030 able to offer this as well as analogue sources in the second HDMI Zones.

Other features include: Napster, vTuner, DLNA networking, 192kHz/24bit streaming and playback, App Control, HD upscaling and upconversion, CEC and ARC.

Pricing and availability are as follows: RX-A830, £899.95; RX-A1030, £999.95, RX-A2030. £1499.95 & RX-A3030 £1999.95.

Click on uk.yamaha.com for more information.

MERLIN BLOCKS

The Merlin Tarantula is a six-way RF and EM filtered mains distribution block wired with very low resistance 1.5mm2 high purity copper wire. Star-wiring ensures each socket has an identical path providing each connected component a cleaner and more stable supply. The IEC input socket allows the mains inlet lead to be easily upgraded. The Tarantula is built into a smart silver-anodized aluminium enclosure designed for either rack or wall mounting.

The Merlin Black Widow is a six-way unfiltered mains distribution block more suited to hi-fi use where excessive filtration can limit dynamics. 1.5mm2 high purity copper star-wiring provides a much higher quality supply than the brass bars found inside most cheap mains blocks. A numerical display indicates the output voltage and current.

The Tarantula mains distribution block is priced at £50 with the Black Widow mains distribution block priced at £80.

Call 020 8241 6499 or click on merlincables.com for more information.

XETAC's DAC 3

Based on the MAC Mini size platform the XETAC DAC 3 is the first in a series of similarly sized products from the company. The cabinet is made from a solid 25mm thick aluminium plate featuring more than 200 precision mounted components to be inside. Price is €600.

Click on www.xetoc.com or contact info@xetoc.com for more information.

SONOS APP

A new Sonos Controller app for Android has been released, enabling users to play music stored on an Android phone or tablet anywhere they have a Sonos wireless speaker or player. Tracks downloaded directly from the Google Play Store are not immediately available for playback. To play these tracks through Sonos, you must download them from Google Play to a computer and then transfer them to your Android device’s Music folder.

For more details, visit Sonos.com. For Google Music support, visit Sonos Support.
REVIEW

KT Power

Fitted with the big, powerful KT120 output valve, Audio Research's new VSi75 amplifier punches hard from its Kinkless Tetrodes. Noel Keywood is KT'd.

Valve amps can be soft and mellow, big and lush, thunderous, or they can be Audio Research: think Mack truck. Big, technical, well crafted and - above all - overwhelmingly powerful. That's the VSi75 reviewed here. The soft sound so many attribute to valve amps is a hangover from yesteryear; modern valve amps vary widely in their sound, Audio Research amplifiers being diametrically opposed to valve amps of yesteryear.

Traditionally, Audio Research have favoured the 6550 output valve ('tube' in the USA). It's never been the subtlest or most delicate sounding device, but it is rugged and Audio Research burn them in to reject early failures - as you have to for a reliable thermionic product. The 6550 will give around 50 Watts when run conservatively in fixed bias. Nowadays, people expect more power than this; transistor amps can churn out 100 Watts with ease; valve amps have to get close to appear competitive.

For more power Audio Research have turned to the new KT120 power tube that can handle 50% more power, enabling the VSi75 to deliver 75 Watts from one pair of KT120 tubes.

The KT120 is being used by many manufacturers who see its advantages, and Audio Research have realised most of them in the VSi75. The amplifier is relatively compact, measuring 370mm wide, 410mm deep and 240mm high, and it is surprisingly light and easily liftable, weighing 16.6kgs (34lbs); for comparison our Quad I-eighty monoblocks together weigh 42kgs.

I could carry this amplifier around quite easily, where other thermionic monsters need two of us for a lift.

What you get in outline is an amplifier with five line level inputs of sufficient sensitivity to work with any source, except a few low gain phono stages. There are many high gain phono stages around that will work with the VSi75 though, so this is no big issue. There are no digital inputs, and no phono stage.

Volume is controlled electronically, by pressing up and down buttons on the amplifier, or on the remote control. A big, illuminated green numerical readout shows...
volume level, on a scale 0-103, and it's readable from across a room. There's a Mute function and input selection is by push buttons on the amplifier or remote control.

These days, for highest power output, 'fixed bias' is commonly used in valve amps and that's the case with Audio Research models. Unfortunately, as far as the user is concerned this means bias isn't fixed, it has to be adjusted — and that's the case here. Audio Research make bias checking a dodgy; tube current is flagged up on the illuminated display at the press of a button.

As you'd hope for an amplifier with this price tag, the VSi75 is well made and finished. It hasn't got especially innovative styling, in fact it is quite simple and conservative, but I suspect this reflects the company's main audience: middle America.

The rear panel carries an 8 Ohm loudspeaker output with a 4 Ohm tap on it. A majority of loudspeakers these days use 4 Ohm bass units and are best seen as a 4 Ohm load at low frequencies; this applies to the U.S. as well as everywhere else.

**IN USE**

The valves come in a protective foam lined box and the power valves are numbered to match the individual sockets, V1, V2, V3, V4. The 6H30 preamp valves come with rubber damping rings fitted, to lessen microphony.

Switch on was uneventful. A mute circuit keeps things silent until 40 seconds has passed, as the valves warm up. Audio Research say one hour is needed for best results, and that's about right; I'd say 30 minutes minimum.

Bias is preset to suit the power valves. Ours were high at 75mA initially (238V mains input) so were adjusted down to 65mA, as specified. Quiescent current is mains voltage dependent. When it needs adjusting (every few months) a long plastic screwdriver must be used — not so slick at the price. There are ways to make manual bias adjustment easier than this.

Power valves last around 3000 hours. The KT120 costs £30 or thereabouts in the UK but a matched pair will be needed at minimum. To re-wire with matched quads will cost around £120. As big power valves go this is not expensive; check out the price of 300Bs. The KT120 appears to be rugged, and Audio Research burn in their valves to weed out sub-

standards that fall early.

**SOUND QUALITY**

Sonically, the KT120 is a distant cousin of the KT88. It has a similarly tidy yet forceful demeanour, yet with the light clarity of solid-state (but without the grain of course).

The KT88 is well judged — sonically balanced shall I say. The KT120 is more distinct in its sonics: it's a KT88 with everything enlarged. The KT120 has a hard edge to it, and around 50 on its volume control, a setting that suited our system.

The amplifier has a low 4dB of feedback its specs say, and a low damping factor too, explaining the soft bass.

Low electrical damping in a valve amplifier can be ameliorated in the loudspeaker by its acoustic damping, an issue I come across often because I use a low-feedback / low damping factor 300B amplifier at home and have plenty of experience in

loudspeaker matching, Loudspeaker choice is an issue.

The VSi75 needs sympathetic loudspeakers — and it turned out we had just the thing. Under test and looking good were a pair of Tannoy Precision 6.4s. Fully run in, they were wheeled in and we were suddenly in business: now the VSi75 sounded balanced, if still basically well lit in its treble. This is no soft or fabby valve sound; it's the opposite. Audio Research valve amps shock people by overwhelming transistor amplifiers on their own territory and this is just what I heard from the VSi75.

Running through standard CD rock tracks like the Eagles 'I Don't Want to Hear any More' the opening drum sequence and accompanying bass line thundered out of the Tannoy's, firm and powerful.

This amplifier has clean sounding bass, just as measurement had suggested. I don't quite know how Audio Research manage this from such small output transformers. As I let my Astell&Kern AK120 play through a succession of (re-clocked) CD rips, singers...
Audio products designed
to combat phase distortion

"In my system, the TelluriumQ's simply turned out to be in a class of their own"  
Kai Ekholm, Inner-magazines.com 2012

"Whatever you do, don't audition the Ultra Black. As I said before, once you do, there's no going back.*

Steve Dickenson, Hi Fi Plus 2010

"The Iridium mines details other amplifiers only dream about"

Noel Keywood, Editor, HiFi World 2012

"A certain magic when it comes to absolute sound quality"

Jimmy Hughes, Hi Fi Choice 2012

"I've talked a lot about Tellurium Q of late. I've also sung its praises constantly. To be honest, I wish I had something to grump about, it would make a change but when a company gets a series of products 'this right' it is difficult to say anything negative."  
Paul Rigby, HiFi World 2012

Cable group test winner 2012

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like Glen Frey were projected with force; a good valve amplifier brings with it dynamics and Audio Research does this in spades. The VSi75 kept those famous Eagles harmonies well separated, sounding starkly clear and rigidly timed. This is an amplifier that writes itself up in big, bold strokes; it isn’t subtle, it is eye poppingly impressive.

Which brings me to Tom Petty’s ‘Refugee’ in glorious 24/96. With extended bandwidth this track sounded hard and sharp in the treble; cymbal clashes lanced out at me. I had set the M-DAC filter to Optimal Transient XD but still the VSi75 was too strenuous up top, causing me to wind volume up to 90 again (and the Audiolab down) to soften its delivery.

Following Tom Petty was Diana Krall singing ‘Narrow Daylight’ in 24/96 and here the strong opening bass line strode out confidently. Ms Krall was crystal clear and powerfully voiced centre stage. The Audio Research throws music out in big powerful sweeps and keeps an utterly rigid grip upon timing. The metronomic beat of Steely Dan’s ‘Time Out of Mind’ (24/96) came over with machine like precision. Utterly rigid grip upon timing. The output transformers pass full harmonic up to full output. The Tannoy Precision 6.4s I played the VSi75 loud and loved it; it offers a visceral experience that makes all else sound anemic. If you want your music just bigger, bolder and clearer listen to the VSi75.

**CONCLUSION**

The VSi75 delivers brutal power and eye popping dynamics – something valves are capable of but few designers seek to exploit.

This amplifier is astringently clean in its sound, hard and fast and uncompromising. If you want your music to sound exciting, the VSi75 can deliver like few others, valve or solid-state.

If you’ve read the rest of my review though, you will know there are caveats. Treble at times could be fierce with some extended bandwidth 24/96 digital recordings; bright loudspeakers don’t suit. And neither will loudspeakers with soggy, under-damped bass.

The Tannoy Precision 6.4s I settled upon using were symbiotic partners, delivering superb bass and clean high volumes. This means the VSi75 is speaker sensitive. I played the VSi75 loud and loved it; it offers a visceral experience that makes all else sound anemic. If you want your music just bigger, bolder and clearer listen to the VSi75.

---

**MEASURED PERFORMANCE**

With a mains voltage of 240V (high for the UK) and measuring at 1% distortion power measured 75 Watts. Audio Research’s power figure is a best case result, but achievable. The big KT120s seemed unphased by being pushed hard. Power into 4 Ohms was 66 Watts; coupling of the 4 Ohm tap wasn’t as good as possible. The 4 Ohm tap should give the same power as the (8 Ohm) full winding.

The output transformers pass full bass power at 40Hz and bass distortion was relatively low, below 1% second harmonic up to full output.

**FREQUENCY RESPONSE at 90**

There was also some small amount of noise generated by this control, hence the average -86dB noise figure. Hum was negligible though and gain high enough for silver disc (CD, DSD) level inputs, input sensitivity measuring 600mV. This is on the low side for low gain external phono stages; high gain types are needed.

The VSi75 measured well in most areas. It is unusual in its behaviour, quite different from standard topologies, partially explaining why this company’s valve amps sound different. NK

**DISTORTION**

Distortion in the midband hovered around 0.1% and at 10kHz hit just 0.2% (second harmonic), driving a 4 Ohm load at 1 Watt (this is our quoted figure). So distortion levels are low all round and the amplifier delivers clean bass. The only unusual feature was the way second and third harmonic content varied strongly with level.

Damping factor measured a low 1.3.

Surprisingly, frequency response alters with volume level setting, running nearly flat to 100kHz at full volume. At half volume (52) the -1dB upper limit was 23kHz and at some settings (e.g. 90) this reduced to 16kHz (shown), so the VSi75 will have a soft balance at volume setting 90.

There was also some small amount of noise generated by this control, hence the average -86dB noise figure. Hum was negligible though and gain high enough for silver disc (CD, DSD) level inputs, input sensitivity measuring 600mV. This is on the low side for low gain external phono stages; high gain types are needed.

The VSi75 measured well in most areas. It is unusual in its behaviour, quite different from standard topologies, partially explaining why this company’s valve amps sound different. NK
It's a Sonus faber — if not as we usually know them. But Jon Myles is still impressed with the Italian maker's latest loudspeaker.

mention the words Sonus faber and what comes to mind? For most audiophiles it will be beautifully built and veneered wooden cabinets, leather baffles and loudspeaker names evoking the glorious history of Italian craftsmanship. And, of course, a price tag to match.

So the new Venere line comes as quite a shock. For a start the model on review here costs less than £2,000 (just) and the cabinet seems about as far away from that classic Sonus faber look as it's possible to imagine.

There's no wood and no leather in sight. Instead the Sonus faber Venere 2.5 sports a gloss white MDF cabinet (with black also available) and so bears a close resemblance to no end of other loudspeakers on the market at the
moment. The whole range includes a standmount, front centre for AV and the 2.5 — with a newly-announced Venere 3.0 to come.

Unlike many of Sonus faber’s other models, production of the Venere range has been moved to China to help reduce costs — and as we’ve seen with many loudspeakers that’s not necessarily a bad thing.

Taking it all together, it is fairly clear the Venere range is aimed at bringing the Sonus faber brand down to a lower price point — without losing any of its caché.

So what do we have here? As the name suggests the Venere is a 2.5-way speaker in a bass-reflex enclosure.

Unlike some, though, the Sonus fabers eschew a rear-firing port and instead have a slotted, front-mounted port positioned at the base of the baffle.

The drivers are all in-house designed and comprise of tweeter-in-waveguide soft dome with a pair of seven-inch mid/bass transducers.

The first woofer rolls off at around 250Hz while the other crosses over to the tweeter at 2.5kHz. And while the cabinet may not have the glorious wooden look of something like Sonus faber’s £79,000 Aida model, it shares some key design elements.

First is the duck-tail top-panel finished in tempered glass with a gracefully etched Sonus faber logo adding subtle detail.

Second are the rounded side panels designed to avoid diffraction artifacts. And then there are the floor plinths with unequal-length footers that ensure the Veneres rest at a slight backward angle to help the time alignment of the drivers.

Off-set speaker binding posts at the rear enable bi-wiring or bi-amping, while magnetically-attached speaker grilles complete the package.

The Venere is a fascinating speaker and easy to fall in love with.

Dynamically lively and tonally well-balanced it also has a vivid mid-range that can give music boundless energy. But it needs careful set-up and ancillary matching.

Plugged in at first to my Naim SuperNait the bass seemed too heavy and ill-controlled. Benjamin Britten’s ‘Sinfonia de Requiem’ by the Oregon Symphony should start with a heart-shaking timpani roll but here it was just a little too muddled. There was nothing intrinsically wrong — but the feeling the Veneres had more to offer.

And true enough, changing the Naim for a NuForce IA-18 integrated with a much higher damping factor made all the difference. Now there was the explosive power you expect from the Britten piece.

And in fact the Veneres really came on song from here on in and showed there is quality to spare in them.

They have a great combination of deep tuneful bass, a terrific mid-range allied to an innate musicality.

But looks are one thing — it’s how it sounds that eventually will determine its success.

**SOUND QUALITY**

The Venere is a fascinating speaker and easy to fall in love with.

Vocals are easy to make out. It’s rare to hear that combination but it was there in spades.

Led Zeppelin’s ‘Dazed And Confused’ had massive bass power on John Paul Jones’s intro notes — in fact so much it was easy to think these are transmission-line loaded speakers.

Put the Venere 2.5s with an amplifier that suits and they can be rather exceptional. Because what these speakers do very well is produce clean, clear and articulate bass. That doesn’t necessarily mean it has to blow your socks off — just to be there when the music demands it.

Massive Attack’s ‘Safe From Harm’ through the NuForce/Sonus faber combination was a revelation via its remastered 24/96 download.

Shara Nelson’s vocals were true and clear, the bass underpinning it so as not to overwhelm but just provide a backing for what’s happening in the higher registers.

Alternatively, try a few Dub Fever tracks and they will knock you back with some force the Veneres seemingly going down to sub-sonic level. Overall, it’s a great combination of attributes.

You would expect, ideally, every loudspeaker to do this nowadays — but it doesn’t always happen and when it does it’s a joy to hear.

Where the Venere wins is its ability to reproduce various kinds of music from acoustic jazz quartets through to indie rock and then a full-scale orchestra.

It possesses a rather lovely integration between the drive units — and a tonality which invites you into trying every recording you have in your collection. Dave Brubeck’s ‘Time Out’ comes across with superb syncopation — the unusual time signatures and band integration working to perfection.

Nirvana’s ‘Smells Like Teen Spirit’ has the grunt and excitement you’d
want - the Veneres retaining all the energy and rough edges of the music while still making it clearly defined.

Listening to Leonard Cohen's 'Darkness' from his 'Old Ideas' collection revealed all the depth of the veteran singer's trademark growl while the female backing chorus floated beautifully in the space behind remaining crystal clear. Detail reveal was also excellent - playing Johnny Marr's remaster of The Smith's classic 'The Queen Is Dead' revealed many of the little studio overlays which were used to build up the overall atmosphere of the track.

If you were to pick any faults it's perhaps that the speakers can tend to over-exuberance at times. Nothing too serious - but the Veneres give the impression they are always looking to grab hold of the music and propel it along. That Veneres give the impression they tend to over-exuberance at times.

It means that in the absolute sense it is not totally tonally accurate - but it has a balance that many listeners may actually prefer.

Toeing them in a little more to fire directly at the listener helped lessen that treble edge to an extent. Careful positioning in the room also tames the bass. Although they have front-facing ports, get them too close to a rear wall and they will start to sound boomy. Use well away from side walls is also a prerequisite.

And, as said above, this loudspeaker really does need an amplifier which can take a grip on it. It didn't take to Naim. But it sang with the NuForce and - interestingly - it worked well with an Arcam FMJ A19 which added a touch of warmth to the overall sound. All of which suggests a high(ish) damping factor is important to get the best from the Veneres.

But get all those elements correct and you are in for a treat. The Veneres manage to drive a room with power and authority yet remain sophisticated and as good with grungy rock music as they are with the force of a full-scale orchestra.

CONCLUSION

The Venere range is obviously designed to lower the price of entry into the Sonus faber brand.

To that end the new Venere 2.5 may not have the physical 'wow' factor of some of its more costly brethren - but that doesn't mean it can't hold its head high on the sonic front. It's a superbly-engineered and great-sounding loudspeaker.

Bass goes deep and low but is always well-behaved, while there's bags of detail in the mid-range. Importantly, the Veneres always sound as they are eager to make music.

While fairly neutrally balanced they avoid tipping over into dullness but keep a terrier-like grip on the music.

Yes, careful amplifier matching is important and the more time taken on room positioning the better. But that's the way it should be with a loudspeaker. And once it's done you will be hard-pressed to find a better loudspeaker at the price.

Extremely impressive and a must audition for anyone looking to spend £2,000 or more on a pair of floorstanding loudspeakers.

MEASURED PERFORMANCE

Frequency response of this loudspeaker was basically flat, albeit with some deviations, unlike earlier Sonus Fabers we have measured, that had rising treble. So the Venere 2.5 appears to have been balanced for a less bright, more neutral and accurate sound.

The bass mid-range unit crosses over to the tweeter at 3kHz the impedance curve shows, and there is a slow roll down in midrange output up to this frequency. Then the tweeter comes into play and extends output upward to 20kHz, in reasonable basic balance with the rest of the loudspeaker, if with some peaking at 3kHz that may well add a little hiss or sting. However, a dip around 6kHz is an unusual blemish that looks like a phase suckout against a back plate. This phenomenon, plus the crossover dip, combine to reduce upper midrange energy and this will bring a softness, or slight mildness to the sound, reducing detail a tad. The softening was common enough years ago and makes for easy listening, but it isn't either necessary or accurate by current standards.

Further down the frequency range low frequency output raises a little, enough to avoid the Venere sounding dry and light in the bass, but it is well controlled. The floor port works very well, operating over a wide frequency band from 150Hz down to 25Hz; it is non-resonant and applies resistive damping to the bass units and this is one of the Venere's strengths. This looks much like a transmission line in what it can achieve: the amplifier load is less reactive than usual, acoustic damping strong and bass quality likely to be rather better than the norm as a result. With strong yet even subsonic output the Venere 2.5 has well controlled bass that goes deep.

A decay analysis showed the Venere is low in coloration across much of the audio band. It only looks a little hot around 100Hz and lower, showing energy returns out of the cabinet, through the bass unit, blurring bass a little. This is likely to bulk-out bass a little, adding fullness and some boxy quality.

Sensitivity was high at 89dB Sound Pressure Level from one nominal Watt of input (2.8V) so the speakers need little power to go loud, 40 Watts or more being sufficient. Impedance measured 6 Ohms overall, but this is a 4 Ohm loudspeaker at low frequencies. It is an easy load, with little reactance, due to well engineered bass loading.

The Venere 2.5 measured well in most areas. It should play bass notes evenly, with good quality and its overall tonal balance is even. There is an upper midrange dip though, plus a treble peak and both may be audible. NK.
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DEATH DELAYED

I am most definitely with Alan Cobb (July Letters) in the debate over whether CD (and more relevantly perhaps SACD) will keep going in some shape or form in the same way that vinyl still enjoys a niche market after all these years.

An important non-technical factor that cannot be ignored by even the most zealous technocrat is the value and satisfaction in the feel and physical presence of owning a collection of something. Surely, despite its phenomenal convenience, no one is advocating that the book will be entirely superseded by the ebook reader. Noel is, as ever, as plausible with technology and innovation as he is provocative. But he has overlooked one key facet of any collection, albeit books, film or music – and that is the pleasure and desirability of having a library in its physical state.

There was some correspondence in Gramophone decades ago about how anyone could justify, let alone appreciate vast collections of LPs, sometimes into their 1000s. The answer (which would apply equally to CDs, DVDs and Blu-ray) is that there is enormous satisfaction and reassurance in knowing what is there, to be lifted off a shelf, opened and enjoyed whenever the moment or mood decrees.

As a music student in the 1970s, an organist who had also suddenly discovered the intensity of Mahler and the monumentality of Wagner, I wish LPs had played backwards then (as in High End Show review, July p55) because I abandoned the medium when I could not bear the wretched end-of-side distortion that most powerful conclusions, more often than not, seemed to generate.

Even the distinctly non-hi-fi compact cassette via a Nakamichi CR-3E seemed briefly more tolerable, although the cross-talk there also drove me to distraction. You may imagine by now how eagerly I embraced the arrival in 1983 of an audio format that was not compromised by physical or mechanical wear, even if the initial sound lacked the richness and depth of the best of the analogue process.

By now an impecunious teacher, I was still determined to extract the best out of the revolutionary new format via a Meridian MCD player and a legendary A&R Cambridge A60 amplifier, into their much at the time underrated Arcam Two speakers. Sadly, I could never afford the Meridian upgrade to the MCD Pro, although it did demonstrate the potential that lay in the CD format.

Fast-forwarding over some two and a half decades, the Meridian bug was reignited with a fulsome review of their upgraded Sooloos 2.0 hard disk system in your November 2009 magazine, at
which point I ditched two less focused journals and became a subscriber to Hi-Fi World. I acquired a Control 10 and Twinstore before spending nearly two years ripping the 1900 CDs I now possess onto its 1TB hard drive.

With RS AV Solutions guidance and encouragement, I recently upgraded a Meridian G92 player/processor to a G61R processor/preamp, fed by an Arcam BDP 100 and an HD 621 HDMI audio switching processor (another brilliant Meridian innovation that separates audio and visual signals for improved jitter and tighter sync, and which should have been reviewed ages ago). And all this via the truly awesome grip of a Chord Electronic SPM 2400 5.1 channel power amp (incomprehensibly not reviewed either) into a Velodyne sub and Spendor speakers crowned by a pair of top-of-the-range floorstanding STs, thus preserving the highest stereo audio integrity alongside a really dynamic home-cinema set up. I love the synergy of this system and would be interested in your views on it.

Apart from continuing to fine-tune and upgrade cables and mains products (mainly Chord, Ecosse and Russ Andrews), most recently last summer with the latter's BMU 1000 Balanced Mains transformer, the best step up yet in reducing background noise and hash, I think. I have reached a sonic plateau that really extracts that last drop of musicality from the humble Sooloos-ripped CD — where this account all began!

One final question: I have been searching for a superior portable music player to supersede my brick-like original iPod and think I may have stumbled upon it via your March review of the Astell&Kern AK100 portable player. Even I balk at the cost of the mouth-watering AK120 but, as I really only want to use it with my AT noise-cancelling ANC7b headphones, can you please advise how best to transfer the FLAC files from the Sooloos system? If you had not already realised, my computer awareness or interest are not exactly cutting edge. Perhaps this is another reason why I take refuge in the concept of a library where everything physically has its place. Keep up the good work!

Graham Griggs
Cambridgeshire

Hi Graham. Zealous technocrat here! It's interesting how people's sensitivities differ. I have never heard LP being rejected for end-of-side distortion on orchestral climaxes, although it is an acknowledged problem. Ticks and pops, and surface noise audible during low level passages upset classical listeners. I guess CD was, on balance, better for classical (Rafael Todes, Allegri String Quartet, prefers violin on LP), although I found digital distortion difficult to sit through on early CDs and still unpleasant on fairly modern ones. Violins that sound like band saws is where I give up.

CD can sound good when properly recorded and mastered, but I suspect mediocre ADCs that turn good analogue into poor digital, and heavy handed processing through inadequate studio equipment degrades their sound badly. The idea that "bits are bits" helps support such complacency. CD just isn't for me in the end and moving on to a portable digital player has freed me from its (16bit) shackles!

I understand why so many want a physical collection to browse and enjoy. Personally, that's my LP collection. I'm happy to commit all my CDs to digital storage. I have changed my mind about storage over the last few years, in light of experience.

I have a pile of hard drives awaiting secure disposal and well know how difficult it can be to keep files safe for the future. But drive failure is less of a problem now than 10 years ago and prices have come down of course. It's easy to pop out and buy a drive. There is a problem of cataloguing what's on many working drives and collating it all, or just finding the time to archive it to a 2TB mega-drive.

My forced move to memory card on a video camera, instead of...
tape, and the use of memory card on our in-house cameras has changed my view about storage, as have falling memory card prices. A 32GB card now costs £25 or less, cheap enough to be used as long term storage, at least for valuable data - including music. Then there are SSD drives, which have a near infinite read lifetime (like SD cards), so make a lot of sense for long term storage. But I find myself working mostly with SD cards these days and have no criticism to make of them except that their tiny size makes handling and storage an issue.

Your system is imaginative and very unusual. It also sounds very good I am sure. I too use a huge balanced mains transformer, by the way and it works brilliantly. In truth it is system used to make 110V power tools safe and it has been used in the USA to isolate whole recording studios.

Meridian say you can export files from Sooolos to your computer. Once there you can download them to an external player like the Astell&Kern AK 100 or 120 portable player over a USB link. 

SMUG AND CONCEITED

I found Noel Keywood's reply to the letter from Alan Cobb (July issue) rather smug and conceited. I have lost a lot of faith in the hi-fi press and, to a certain extent, the hi-fi trade. We are told that high-end hi-fi is selling well. Not surprising at a time when the gulf between rich and poor is widening. So are we to see the companies who make lower priced equipment abandon their poorer customers and move up the scale? I hope not.

From my experiences many hi-fi stores treat the public as if they were cattle. They may moan about falling sales, and yet neglect doing anything about it. They stay in the cosy confines of their stores and wait for the customers to come to them, rather than going out giving public demos. My dealer has done this and has upped its sales.

NK says in his reply that he looks at his CD collection with 'hostility'. Why? Does he view music in the same way? He and others in the hi-fi world come to mind: the blind, who found classical music lovers found a whole new world in their music freed from surface noise. Now we are expected to become technophiles and buy costly digital devices and music from some distant server of which we know nothing. That is non-physical music, however trendy dressed up it may be.

Noel goes on about how he has constantly criticised the sound quality of CD since the medium was launched. Bravo to you Noel. CD made music available to a great many people who did not enjoy playing vinyl. One group comes to mind: the blind, who found records fragile. And classical music lovers found a whole new world in their music freed from surface noise. Now we are expected to become technophiles and buy costly digital devices and music from some distant server of which we know nothing, charge what they like, and disappear at any time.

Like Alan Cobb I prefer something which I can see and handle. Something which gives me information and illustrates rather than a black box with flashing lights. I have many CDs, the oldest of which is 27 years old and plays perfectly. At the end of the day, music lovers, as opposed to critics, just want to sit down and enjoy music without hassle. CD will not die for a long time. There are too many discs and players about. They might even see Noel Keywood out.

Cliff Millward,
Tipton,
West Midlands

Unfortunately Cliff, record shops are closing down irrespective of what I or other critics say. Jobs are lost, but hopefully they are gained in new industries that replace the old. The world changes and moves on. Where I live, electrical retailers, greengrocers and butchers have closed down, as well as record shops such as Virgin on Oxford Street and Tower on Piccadilly Circus (and now HMV at that location too). UK consumers increasingly buy from big supermarkets and Amazon and expect home delivery; that's progress, whether you like it or not; the internet dominates our lives.

I walk the aisles of the last remaining HMV in Oxford Street and wonder how much longer they can fill such expensive retail space with thousands of CDs selling for peanuts, for which there is little demand. The downstairs classical section is eerily quiet. But Amazon will continue to sell CD for many years yet I'm sure.

As I said in my previous reply, flash memory is robust and affordable, and now a realistic way to store music files safely, off computer. Combined with high resolution digital downloads it offers those who like to hear music, rather than distortion, a way ahead.

Modern portable digital audio players are relatively easy to master; you just copy a file to them from your computer - and that's it. It's easier than faffing around with CDs, their cases and their quaint loading mechanisms, and much easier than using a network player. I'm sure CD

A Google data centre at Council Buffs, Iowa, U.S.A. Google has centres like this dotted around the world. "Now we are expected to buy costly digital devices and music from some distant server of which we know nothing" says Cliff Millward.
PORTABLE PLAYERS COMMONLY APPEAR AS 'MASS STORAGE' DEVICES (SIMILAR TO MEMORY STICKS) ON A COMPUTER, WHEN CONNECTED VIA USB. JUST SWING THE MUSIC FILE ONTO THE ICON AND IT'S LOADED!

won't die, and as you say it is easier to use than LP, but until you have heard decent digital, you haven't lived.

Offering shop demo is hardly "treating people like cattle". It's a valuable service that our next letter says more about. NK

IN PRAISE OF DEALERS

I was at the keyboard about to pen a letter to you when I read Dave Swithens' letter in your August issue. He made some of the points that I was about to make. My experience is similar and so reinforces the issues that Mr Swithens raises.

I was invited by Mike at Zouch Audio to bring over some LPs and listen to the Rock 7 that he had just taken delivery of. The music that I chose to take was Laura Mvula, Lambchop and Miles Davis. The Rock 7 was going through a Musical Fidelity phono amp, Chord pre/power and Tannoy DC8T speakers.

I'd listened to my LPs the evening before so that the sound was fresh in my mind. Through the demonstration system all three of the records sounded so very different. This is perhaps not surprising as all the elements in the chain were different. I use a Roksan TMS3, Quad 24P Phono, Naim pre/power and Tannoy DC8T speakers, and of course my room is acoustically different as well. The overall cost of both systems would be broadly similar. I like my musical pill to be slightly sugar coated and washed down metaphorically by a full bodied red.

The Rock 7 system was as tight as a drum and slightly dry sounding. Now I'm sure that many, maybe most listeners would be over the moon with the presentation of the music as I was hearing it. Indeed, had I come to it cold as it were, then I think so would I. The point of my letter is that because I have been able to audition my equipment over the years at home, mostly thanks to Zouch, I have been able to tune my system to suit my ear.

Mr Swithens makes the point that the cartridge with the great review didn’t suit him best. That has often been my experience. Some years ago Mike asked me if I would take a pair of Quad 2812s home to try. We both knew that I wasn’t going to buy them but he had only just become a Quad dealer and he wanted to try them in different environments. They were dire – as dull as ditch water. It was my room and system to blame of course, I’d heard them sounding great in the demo room. But here I was with a piece of very well - underlined, I hope, and better defined. Would adding a sub help?

OK, big electrostatics are an extreme example but the principal stands: unless you can listen to new equipment at home in your system then you are taking a big risk. This is where specialist dealers are so important. OK you can buy on the net and you may like the results but unless you’ve taken advantage of a home audition you could be accepting second best. In my view a properly auditioned budget/mid-price system can give more pleasure than a "high end" system bought cheap off the net on the evidence of magazine reviews alone. You’re taking a big risk which in the long run could cost you more. David Jarvis

We totally agree David. It is very important to hear a product before buying it and dealers provide an invaluable service here. NK

BASS CASE

My system comprises Gyrodec turntable, SME V arm. Dynavector 20X Mk2 cartridge, Musical Fidelity X-Ray CD player, Audio Research SP11 pre amp and Tannoy DC8T speakers.

I'm very happy with the sound of my system and do not want to change any of my equipment if possible but would like the bass to be a little tighter and better defined. Would adding a sub give me what I want and if so which one do you recommend?

Joe Moore

Hi Joe. The quick solution to your problem is to add acoustic damping to the ports. As you are probably aware the WAD 300B single-ended...
You can now read our Letters on-line, from the last issue back to March 2010. That’s a treasure trove of information and advice to our readers, as well as a fascinating catalogue of reader’s systems and views. There’s mountains of buying information, all just a click away on your computer or i-Pad. Have fun!

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Just go to www.hi-fiworld.co.uk and click on Letters in the left hand menu list, under the FEATURES category. This will take you to the individual months of issue. To see the full list set the ‘Display’ drop-down list to ‘All’.
Acoustic foam (open cell) port bungs. At top is a one-piece with a flat that allows some air flow. Below is a roll of foam that allows air flow through the centre. These bungs damp heavy bass and tighten it up. Don’t completely block a port with foam as this turns it into a closed box, our measurements show. You must leave some space for air flow, but expose as much foam surface area as possible. A very loose roll of thin foam is ideal. Experiment for best results.

valve amplifier has low electrical damping so you need to increase the acoustic damping in the system to compensate. This increases total system damping, a point commonly overlooked in the amplifier/loudspeaker interface.

Since the Living Voice Avatar is designed for valve amps and you have external crossovers (top dollar) you’ll probably want to stick with ‘em. Should you think otherwise, consider Martin Logan electrostatics or perhaps the interesting Sonus Faber Venere 2.5 reviewed in this issue. It has very good bass damping, high sensitivity (89dB) and a neutral sound. Coming up are Tannoy DC10A Alnicos and these two loudspeakers are going to be very interesting with top quality Single-Ended amplifiers like yours. Expensive though. NK

WEAPONS GRADE TOSH?

Whenever I read hi-fi magazines I am always astonished at the levels of creativity and pretentiousness the writers of hi-fi articles and adverts have achieved in differentiating the products described.

For example, in the May 2013 edition, your reviewer claimed that a mains power block “offered a newly portentous, almost growling bottom... and a previously noticeable clinical edge to the trumpet was now gone”. I ask what mechanisms were at work to achieve this? Do these products give us access to previously unknown phenomena, yet to be discovered by mainstream science? Or is it that hi-fi users have extra sensory powers that can differentiate changes in sounds not heard by us ordinary mortals?

Or maybe the makers of hi-fi components are so irresponsible as to make their designs (including the mains cable) sensitive to mains borne interference so it can pass through the power supply and degrade the sound of trumpets, bass notes etc?

On the same note, how does a digital cable tease out each filament of detail or be adept at tracking the delicate changes in vocal force? And how does an interconnect cable specifically cause veiled mids?

How do some belt drives slightly slur the leading edge of notes? Is it that the additional displacement of the groove on the record is sufficient to cause enough extra drag to overcome the momentum of the turntable and momentarily slow the speed of rotation and overpower the drive? Maybe speed variations in the cheaper drives are cunningly synchronised with the start of notes.

What does aircraft grade aluminium give the F5 arm that saucepan grade aluminium would not?

Maybe I have missed the point. Perhaps your readers are mainly people like me being entertained by the weapons grade tosh, in the same way that we are by the content of Pseuds

DIRECT DRIVE LUXMAN

With all the second-hand gear out and about, there seems a never ending supply of average, or faulty or somewhat suspect gear for budding experimenters to play with. However, as a repair man I get to see some of the equipment and just had to say that a recent item that came to me was very interesting. The Luxman PD264 Direct Drive turntable with its original arm is quite an unexpected treat. The platter itself and its motor is at least as good as modern acrylic ones in the deadness stakes, despite it being a standard cast aluminium type thing.

The arm is a unique Luxman item and only suffers from two things that I could find, dodgy cartridge connectivity and a dirty turntable motor switch located to the left of the main arm pillar and tucked into the lift and lower and auto pick up system.

Apart from a good covering of dirt (I think the owners were ex-smokers) when repaired and plugged in it worked a treat, even with the supplied cheap phone leads. I swapped the plugs as a short-term solution with some Nakamichi ones which allowed the Ortofon 510 to really shine.

I think this could be one of those turntables well worth a visit if you are looking for a potential upgrade project! That will of course raise the prices on eBay by a substantial margin! I’ll have to get one quick!

Best wishes
Dave Tutt
Tutt Technology
Kent
07759105932
www.tutt-technology.co.uk

"The Luxman PD264 Direct Drive turntable with its original arm is quite an unexpected treat", says Dave Tutt. Here’s the one he was working on.
Hi Andrew.
The link between a measurable effect and its subjective impact is not easy to establish. To do so we need to know what the ear/brain is sensitive to, as well as how it interprets what it hears — and that is difficult to know.

Then there is the cable-specific issue of sonic differences being perceived where no measurable effects are available to cause them, or so it seems. Let me cover both.

You mention belt drive turntables. They have a clearly measurable limitation, that of wow (speed variation) that is audible, but only with sustained piano notes. Unsurprisingly, those that listen to piano and musical pieces that have sustained notes, within Beethoven’s Moonlight Sonata for example, complain strongly about wow. Read most reviews and you’ll quickly realise that 99% of listeners/reviewers/bloggers don’t listen to such music, don’t understand the difficulties reproducing it, and pass over the issue altogether.

So we end up with the peculiar situation where wow is an issue, and it isn’t an issue! I can measure it and hear it and it is an issue for me. I get my ear bent by others who feel it isn’t an issue! I can measure it and show it isn’t an issue — I can measure it and show it isn’t an issue! One minute digital cables are conceptually incapable of affecting sound quality, the next they are guilty and damned.

We are all well aware cables are a very contentious subject, but readers consistently claim to hear substantial differences and, quite frankly, so do I (and most other reviewers).

The mechanisms that cause these effects are little understood, but that doesn’t mean they don’t exist. Once upon a time digital cables could not affect sound quality; now they are more able to do this than analogue cables.

To paraphrase Donald Rumsfeld: “there are things we know, things we don’t know and things we don’t know we don’t know”. NK

Hi Andrew.
Noel has addressed the turntable and cable issue, so allow me to end with power blocks. For years now, we have been told to focus on the source of our hi-fi to extract maximum data. Experts, worldwide, tell users to spend the largest percentage of their budget on a turntable (or CD player or similar for digital users). In fact, the source signal is your mains supply.

“You’ve heard the ‘rubbish in, rubbish out’ maxim. If you don’t hear it, it makes the pitch of notes sound ‘watery’, and slightly indeterminate.

Moving onto cables, we bump into more contentious issues. How can a cable whose lumped parameter electrical model that is satisfactory for audio possibly affect the sound? As you say, by what mechanism?

Well, perhaps the lumped parameter electrical model is not the problem and not the issue. In South London, around the Crystal Palace radio and TV transmitter, loudspeaker leads act as aerials, producing frame rate buzz from the loudspeakers. All this has nothing to do with the cable’s basic electrical parameters (R, L & C), except insofar as they affect its behaviour as an aerial. So popular theory may be irrelevant. It is also transient; what we believe to be the time domain effect. Subjectively, we know it makes the pitch of notes sound ‘watery’, and slightly indeterminate.

Digital cables have been more resistant to claims about variations in sound quality than analogue cables, but all of a sudden out of the theoretical woodwork comes a mechanism — indeterminacy of the time domain transition being imposed by limited transmission (cable) bandwidth causing jitter, as well as imperfect termination causing reflections. Here’s a mechanism by which digital signals through a cable are degraded.

And, sure enough, all of a sudden we can measure jitter in digital cables at Hi-Fi World with our Rohde & Schwarz UPV audio analyser. Worse, Rafael Todes has clearly identified this jitter in listening tests — so that’s the idea of digital cables being perfect out of the window! One minute digital cables are conceptually incapable of affecting sound quality, the next they are guilty and damned.

So we end up with the peculiar situation where wow is an issue, and it isn’t an issue! I can measure it and hear it and it is an issue for me. I get my ear bent by others who feel it isn’t an issue! I can measure it and show it isn’t an issue — I can measure it and show it isn’t an issue! One minute digital cables are conceptually incapable of affecting sound quality, the next they are guilty and damned.

We are all well aware cables are a very contentious subject, but readers consistently claim to hear substantial differences and, quite frankly, so do I (and most other reviewers).

The mechanisms that cause these effects are little understood, but that doesn’t mean they don’t exist. Once upon a time digital cables could not affect sound quality; now they are more able to do this than analogue cables.

To paraphrase Donald Rumsfeld: “there are things we know, things we don’t know and things we don’t know we don’t know”. NK

Hi Andrew.
Noel has addressed the turntable and cable issue, so allow me to end with power blocks. For years now, we have been told to focus on the source of our hi-fi to extract maximum data. Experts, worldwide, tell users to spend the largest percentage of their budget on a turntable (or CD player or similar for digital users). In fact, the source signal is your mains supply.

“You’ve heard the ‘rubbish in, rubbish out’ maxim. If you don’t
LETTERS & EMAILS

Mains cables reduce noise from the mains and improve sound quality, says Paul Rigby.

address the mains signal before it hits your turntable and/or CD player then you will never recover the lost signal or fully eradicate the distortive noise that enters your chain from this point. Power blocks (and cables, for that matter) can help to tackle distortion, every audiophile’s nemesis. It’s this distortion: the sub-type, the quantity and how its interacting with your hi-fi and your room, that results in modifications to sound quality or, specifically, that bass and trumpet reference stated in your letter.

If you don’t believe me, visit your dealer and ask for a demo and hear the changes for yourself. A well-designed and implemented suite of top-quality cables, power blocks, plus other isolatory accessories, can transform your entire hi-fi, kind regards, PR

PERFECT RELATIONSHIP

I’ve been looking for a hi-fi system that meets all of my musical needs since the middle 80s and like the perfect relationship I’ve come to realise it isn’t ever going to exist. I didn’t realise that though for a long time, so spent lots of money, time and sweat buying and selling, switching this and that, upgrading only to find it often wasn’t better — just different. As a consequence though I’ve listened to a great range of components and systems — some grand and some definitely budget. Strongly, it’s not the “grand” ones that gave me the greatest pleasure. I had an original Sugden a21 with some Leak Sandwich ‘speakers, a Marantz CD 94 and Thorens deck and it sounded great. I also used the same CD player with a Cyrus 2 driving Celestion Ditton 66s and that was an unexpected match made in heaven. Similarly a pair of Leak TL 12+ power amps (breathed on by Haden Boardman) with a Craft pre amp, a Townshend Rock / Excelibur and Tannoy 12 inch Dual Concentrics was also excellent.

Anyway, I ended up over recent years with a decent system, on paper at least, but I really wasn’t too happy with the sound but tolerated it. Recently I started to think about some of the components I’ve liked in the past and started looking around for them. As a consequence of picking up some second hand I’ve now got a system that maybe shouldn’t work but it does. The front end is a Technics 1210 turntable with a Goldring 1042 on the original arm, a Rotel RCD 965bx LE CD player and a Yamaha NS CT810 tuner. All were bargains, especially the tuner. I bought that for £ 50 in mint condition from Steve’s Hi-Fi in St Leonard’s which is unfortunately now closed. It came with the original receipt from 1974 and all documentation. Despite that I expected little from it but when I connected it up I immediately put my existing tuner up for sale and the Yamaha has been in situ ever since.

When I thought about amplifiers I kept coming back to Exposure. I had a super VIII power amp with VI power supply and VII pre amp many years ago and always regretted replacing them so I looked around for the same amps and found some in great condition. They were maybe a bit over-priced but given the money I’ve wasted over the years I thought they were worth the investment. They were, they sound great and deserve their classic status. Even the in-built phono stage is as good as my stand alone one from a well reviewed company.

Speakers have proven to be a bit of a challenge that continues. Given my hi-fi history I have a few speakers kicking around and tried the system with a pair of Heybrook Quartets which was a surprisingly good match. I’ve also used some Tannoy 12 inch dual concentrics (I used a similar combination with my original Exposures) and that was a good match as well but a bit too much for my very small listening room.

All in all, though I am very happy. I have a system that has killed my decades old upgrade bug. I enjoy music more now than ever before — I’m not listening for extraneous detail, I’m not worried about whether the bass has too much bloom or whether the horn section has too much rasp. In fact, I may even stop buying hi-fi mags now! Well maybe not.

I will change the Technics arm and I’ll probably buy a modern take on the BBC type speaker - maybe Spendors - but that will be it. You never know, I may even adopt the same strategy with relationships - I wonder whatever happened to what’s her name?

Regards,
Geoff Fielding

CABLES

Please can you answer the following question regarding the appropriate level of money to spend on cables when assembling a hi-fi system. There seem to be two schools of thought as regards to

Geoff Fielding went back to his first love, an Exposure Super VIII amplifier, and has been happy ever since.
Hi Michael. The trouble with 'schools of thought' is that they assume blacks and whites in a market which is overwhelmed with greys. Cables (along with shelving, isolation and mains solutions) are too often deemed an afterthought, largely because they are bereft of switches, flashing lights and moving parts. Yet, they are just as - if not more - important than principle components. If you sort these ancillary areas correctly, you remove a series of very large sonic bottlenecks, reduce distortion and allow your ears to truly hear your hi-fi for the first time.

Allow me to add a third theory, therefore. Pack up your hi-fi, travel down to your nearest dealer, ask him to connect increasingly more expensive cables to your system - start with Atlas, Tellurium Q and Black Rhodium I suggest - and, when you have stopped hearing improvements, then the cables are no longer the bottleneck in your system. And if you can't afford those cables? Then you've just discovered your very elderly or modestly priced system with cables at various price points and have consistently found that the better the cable, the less it inhibits the flow of the electrical signal, resulting in better sound quality, regardless of the cost of the partnering equipment.

A good example of this are my Quad 303 amplifiers. The original cabling, as supplied by Quad, carries a signal but does the sound little favours, probably contributing to the reputation that they seem to have acquired for being a bit soft sounding. Mine are wired with mains leads made by Isotek, fitted with the miniature Bulgin plugs that Quad used for the mains input. The interconnects are Atlas Electra, which retailed at £500 per metre pair when I got them several years ago. These were custom made, being fitted with phono sockets at the pre-amp end and four pin DIN plugs at the amp end. The cables greatly exceed the value of the amplifiers but the results are worth every penny, with the vague cloudy sound gone and a very open, tonally rich, and better timed one taking its place.

I would recommend including mains leads, and preferably a mains purifier in your budget. With the advent of modern switch-mode power supplies being fitted to everything from computers to fridges, mains borne noise is now a major hindrance to your audio equipment's performance. There are also RFI (Radio Frequency Interference) issues nowadays, caused by wi-fi transmitters, mobile phones and the plethora of electronic gadgets that are deemed necessary to modern living.

Removing this pollution through a combination of properly screened cables and mains purifiers will have the most amazingly beneficial effects on the sound coming from even very elderly or modestly priced components.

I don't think that there is a fixed percentage ratio of equipment versus cabling that should be adhered to. I would quite honestly recommend spending as much as you can on the cables, with the knowledge that as other components get upgraded, high quality cables will transfer to the new components and help to extract the best available performance from them.

I honestly believe that due to poor cabling a lot of listeners never actually get to hear the full potential of the systems, and that cables should not be regarded as accessories but vital components in their own right. After all, they carry the fuel (electricity) into the system, and transmit the signal between the units. Get this wrong and the most expensive and capable hi-fi will sound at best uninspired, and at worst, unlistenable to. 

TB
Another day, another DAC. It's not quite accurate that a digital convertor is being released every day but it certainly seems they are. The growing importance of computer-based music and digital downloads drive the trend.

Which makes sorting the wheat from the chaff ever more important; when one pops up from Audiolab it demands serious attention.

The company has forged a considerable reputation for its digital products in recent years, due to the influence of designer John Westlake – the man responsible for the DacMagic which caused such a stir when it first appeared.

To say the M-DAC is a fully-featured affair would be something of an understatement. It can handle up to 24bit/192kHz resolution files, boasts seven user-selectable digital filters, a display which can output just about any piece of information you could wish for, a full range of inputs and even an output level control to enable its use as a pre-amp. Oh, and a remote control. With all this complexity a read of the instruction manual is recommended before switching on.

Out of the box it is a sturdy unit weighing in at 4.95kg. The front is dominated by a large rotary control knob in the centre with the display at one side and four small buttons on the other for menu, input and filter selection along with the power on/off button and a headphone socket (which, incidentally, is powered by its own discrete circuit).

The rear contains both balanced and unbalanced stereo outputs together with a USB 2.0 input port and two optical and two coaxial inputs. There's also a set of S/PDIF optical and coaxial outputs should they be required.

Inside is a high-quality ESS Sabre32 9018 DAC chip, discrete transistor circuitry and copious power supply filtering. Audiolab also
says special attention has been paid to jitter attenuation to ensure all sources are optimally converted once they reach the DAC.

Power comes from a chunky wall-watt type external supply and a small but fully functional remote completes the package.

Setting up the M-DAC for use with a Mac and iPad was relatively straightforward and issue-free (OS 10.4.11 and above recommended). For PCs the Audiolab loads its own drivers — and there's a handy nine pages of instructions in the manual to make sure you can complete the necessary installation.

Once up and running the M-DAC is a breeze to operate. All settings can be accessed via the remote control while the front screen can display a whole wealth of information including nominal or exact incoming signal rate — which is useful for ensuring that high-definition is actually exactly what it says. It'll even display track and time information from a CD.

As mentioned above, the unit can also be used directly into a power amplifier, which might make a tempting proposition for some by taking one stage (and box) out of the signal chain. In this case the volume dial also doubles as a balance control. Alternatively volume and balance duties can be disabled for use into a pre-amp.

SOUND QUALITY
With all the various filter and control options on offer it's difficult to know where to start when listening so I opted for Audiolab's own recommended Optimal Transient settings. The company says these provide the most natural and pure sonic performance if not the best technical specification.

Plugging in a MacBook Pro and trying a series of high-definition tracks from 24/96kHz upwards, the M-DAC shows that for all its technical complexity it is an assured and thoroughly musical piece of equipment.

Frequency extremes were well-extented, bass firm and assured without the slightest hint of overhang while treble was sweet and open. Detail retrieval was also exceptional.

The Vince Guaraldi Trio's 'A Charlie Brown Christmas' in 24/192 from HDtracks showed the M-DAC's impressive qualities. Guaraldi's piano was dynamic with a tremendously spacious presentation and the children's chorus comes over as refreshingly crisp with individual voices easy to delineate.

Switching between the three different Optimal Transient options revealed subtle shifts in the sound although there was no night and day difference.

Playing the same Vince Guaraldi Trio's tracks through the remaining four filter options (Sharp Rolloff, Slow Rolloff, Minimum Phase and Optimal Spectrum) showed much greater differences.

Optimal Spectrum, in particular, seemed significantly sharper and more transparent but became slightly more fatiguing over long-term listening while Slow Rolloff was less clean and clear but sounded smoother and more analogue in nature.

Interestingly, moving away from high-definition playback and onto plain vanilla CD and the effects of the filters seemed even more pronounced.

Here Optimal Spectrum gave the most obvious CD-like reproduction — albeit one of the best, rhythmically-assured and sure-footed you're likely to hear from a £600 DAC — while Optimal Transient added a palpably denser hue to the sound.

But that's the beauty of having the various filter options. Playing Keith Jarrett's 'Koln Concert', his solo piano seemed to have just a shade more body and solidity to it with the Minimum Phase filter selected, while Nick Cave's scabrous, growling vocals on 'The Curse Of Milhaven' sounded suitably doom-laden on Optimal Transient.

In the end, choice of filter will depend very much on the quality of the recording and personal taste, which makes the M-DAC such a superb listening device.

Putting the various filter options aside, at its heart the Audiolab is a very accomplished music-maker.

It has a really bewitching quality with a solidity of sound that isn't always apparent with some rivals. One of its finest attributes is its ability to unravel complex pieces of music without ever sounding overly-analytical or losing the feel of the piece.

Play the dense cacophony of sound on John Coltrane's 'Ascension' via the M-DAC and it's possible to track the various players as they weave their individual paths through the piece.

Switch to Tim Hagans' 'Asiento' and the Audiolab lets you know all about the trumpeter's technical expertise and effortless command of his instrument's upper registers.

Definition over the entire frequency spectrum is admirably even-handed, meaning the M-DAC stays agile at all times. There is a real weight to the bass on the opening of The Pixies 'Debaser' yet when the chiming guitars kick-in the Audiolab shifts gear effortlessly as the pace of the music changes. There's masses of information here but the sound stays precise and controlled.

ULTIMATE STUDIO EXPERIENCE

"These are supremely musical mini-monitors with astounding bass punch and rhythmic ability allied to class-leading resolution."

Hi-Fi World, July 2013

LS50
50th Anniversary Model

Enjoy your music precisely the way it was first recorded. Unheard of in such a compact design, LS50 delivers a deeply rich, multi-dimensional 'soundstage experience' that is out of all proportion to its size. Designed using KEF’s cutting-edge acoustic modeling, LS50 is the ultimate mini monitor for the home.

www.kef.com
A full range of inputs allows for connection to any digital source. There are unbalanced and balanced (XLR) analogue outputs. The power supply is external.

individual elements in each piece.

As a final point, most of the time the Audiolab M-DAC was used with fixed-volume output feeding a Naim pre-amp.

But engaging the volume control and feeding it straight into a power amplifier showed it was no slouch in this area too. The volume attenuation is nicely weighted and the sound retained its rhythmic propulsion and overall detail. At worst, it perhaps sounded a little more veiled at low volumes – but nothing that would negate against building a system from the M-DAC and a good power amplifier.

CONCLUSION

There is so much to like about the Audiolab M-DAC it’s hard to know where to start.

Its huge feature count is an obvious asset. The various filter options really do help tailor the sound to the benefit of different recordings and delivery formats. Once you’re used to them you soon become obvious just how useful they can be even if you do settle on one for most listening sessions.

But this would be meaningless if, at heart, the Audiolab wasn’t a very, very good DAC indeed. Which it undoubtedly is. Put simply, it revels in one for most listening sessions. As mentioned at the start of the review, there’s no shortage of standalone digital-to-analogue convertors on the market nowadays – but the M-DAC has to rank among the very best at or anywhere near its price. It comes highly recommended.

MEASURED PERFORMANCE

Frequency response of the Audiolab M-DAC measured flat from 4Hz to 72kHz (-1dB) with a 192kHz sample rate signal, at widest — meaning with the Minimum Phase filter selected. This applies only to the Coaxial electrical S/PDIF digital input, since the optical input worked to 96kHz sample rate maximum; it would not work with eight 176.4kHz or 192kHz sample rate, usually an optical receiver limitation.

The seven filters split into categories and, interestingly, those Audiolab pick out as optimal are those I gravitate to as well. They are ‘slow’ filters that give least high frequency extension, but exhibit no pre-ringing and in use sound ‘dark’, or damped. They are the Optimal Transient set of three, In addition are the usual suspects, meaning Sharp, Minimal Phase and Optimal, all which find broad use because they don’t limit hard fought for FRIQUENCY RESPONSE 192k

DISTORTION, -60dB, 24bit

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## Frequency Response (-1dB)

- **Frequency response**
  - **CD**: 2Hz - 72kHz
  - **Distortion**: (%)
    - 0dB: 0.002
    - -60dB: 0.013
  - **Separation (1kHz)**: 121dB
  - **Noise (IEC A)**: -123dB
  - **Dynamic range**: 124dB
  - **Output**: 2.2/4.4V

**- 0.013% with 24bit,**

As mentioned at the start of the review, there’s no shortage of standalone digital-to-analogue convertors on the market nowadays – but the M-DAC has to rank among the very best at or anywhere near its price. It comes highly recommended.
Not so long ago, we tested the RX-A820 AV receiver. Now its identical-looking £900 replacement has arrived. And other than a few tweaks here and there, Yamaha tells me, little has changed. We'll discover if that's a good thing shortly.

One of the problems with traditional cinema and multi-channel music is that lots of speakers are required. In today's ever-shrinking homes, trying to find space for them is problematic. Furthermore, the vast majority of home cinema gear is—in musical terms—inferior to purpose-designed hi-fi systems.

Our second Yamaha product is a 'compromise' solution. Known as a 'Soundbar', it uses clever techniques (see 'How it Works' box) to yield a believable soundfield from a single loudspeaker box, when fed surround-sound. And it can be used for better sound, including surround-sound, from the TV.

But first, I'll look at their new RX-A830 AV receiver. Like its predecessor, it adheres to Yamaha's 'Aventage' school of design. That means a fifth stabilising foot for mechanical rigidity, carefully-selected components and attention paid to interior layout. You still get the generous complement of seven HDMI inputs that accept DSD and are 3D-ready, plus another on the front panel. There are two HDMI outputs (for simultaneous connection of flat-panel TV and projector), 4k upscaling/passthrough, seven channels of amplification, FM/AM and digital radio tuners, music streaming and USB playback, oodles of 'Cinema DSP' magic and even a basic MM phono stage.

All of this is controllable via a handset that works a nicely-designed on-screen graphical user-interface, or a freely-downloadable iOS/Android control App. Oh, and networking is Ethernet only—unless you purchase an optional wireless 'dongle' that

Martin Pipe examines two very different approaches to surround-sound from Yamaha, their RX-A830 AV receiver and YSP-3300 Soundbar.
get four digital audio inputs (two optical), two audio-only analogue inputs and two AV inputs with component/composite connectivity. All of this can be flexibly-configured, and analogue video is converted to HDMI. However, as before there’s no dedicated tape loop or digital audio output.

All rather familiar. So where are the differences? For a start, the front-panel HDMI port now supports the MHL (Mobile High-definition Link) protocol. In practical terms this means the RX-A830 will let you experience full-HD video and multi-channel/stereo audio stored on a smartphone (which also needs to support MHL) with your TV and the smartphone (which also needs to channel/stereo audio stored on a)

As before, the onboard MM preamp, no doubt implemented with a cheap op-amp, is no substitute for a decent phono stage. It pays only lip-service to vinyl’s potential, even with a modest Technics SL1210 equipped with Philips GP422 cartridge and the DSPs turned off (Pure Direct mode). The soundstage was rather congested, and Candy’s Room (from Bruce Springsteen’s Darkness on the Edge of Town) was bestowed with a rather forward and aggressive edge. The LP’s next track - Racing in the Streets, a simpler piano-led number – fared better. A notable upper-bass colouration adds a certain warmth to vocals; if the Pure Direct mode is however replaced by the DSP-driven ‘straight’ mode then an obvious boxiness is audible. The sound is thicker too, and there’s a definite masking of fine detail. In straight mode, though, your sub is active (depending on your speaker setup) and you gain access to an effective compressed-music enhancer.

Although the Pro-Logic II mode is useful for excavating Dolby surround-sound from two-channel sources like digital TV and archive media like VHS hi-fi tapes and laserdisc, the real DSP ‘killer app’ is Yamaha’s exclusive venue-emulating soundfield modes. Party Mode squashes the dynamic range, engages all channels and adds artificial ‘excitement’ to your music. A Philips LP containing a recording of Mozart’s Piano Concerto 21 (LSO/Rowicki/Haebler) was then treated to the ‘Hall in Vienna’ DSP. The simulated acoustics add a moderately-reverberant spaciousness to the music, giving it a ‘live’ feel. One...
would like to imagine that the Vienna hall in question played host to one of the original 18th-century performances, possibly with Mozart himself in attendance, but as Yamaha doesn’t reveal the specific venues that’s nothing more than a flight of fancy.

The ‘Tuner’ Internet radio facility is a definite boon, and some of the stations on offer benefit from excellent sound. Although you can add ‘bookmarks’ to your favourite stations, doing so requires a web browser. And while stations are listed by genre or location, there’s no ‘search’ facility. Napster subscribers will be pleased to learn that their streaming service is supported. Apple AirPlay is too, which is more than can be said of the Onkyo competition. Windows and Linux users can stream music from DLNA servers or play music from USB. The player dealt with everything I threw at it, from MP3s to a painstaking 24/96 FLAC ‘rip’ of the original Columbia Miles Davis’ ‘Kind of Blue’ LP. The latter classic played perfectly with no streaming ‘glitches’, and the RX-A830’s innate warmth if anything complemented the music.

Talking jazz takes me to the receiver’s surround-sound performance, on movies as well as music. Spinning an old favourite – The Matrix, on HD-DVD – makes for an immersive experience. Yes, there’s the usual high-octane action, this is impeccably-steered, demonstrating a good use of the various channels – and the explosions show that the subwoofer is properly-controlled. A slight glassiness was evident on occasions, notably when spent cartridge shells were being ejected. But a more subtle scene (when Neo meets the Oracle) makes good use of background ambience. Some classic jazz plays in the background.

Yamaha may claim that tweaks to the RX-A830 have resulted in an improvement to sound quality, but I’m not convinced. Certainly as far as I can recall the RX-A820 wasn’t as ‘boxy’ in its DSP modes, delivering a more neutral presentation with music with the same Rogers GS6/GS5/C33/AS60 speaker system.

On the plus side, the new model is a great movie performer – and the ability to handle high-res FLAC files is beneficial.

**CONCLUSION**

An SACD of Elton John’s Goodbye Yellow Brick Road also shows off the RX-A830’s surround prowess, the extra channels giving new depth to tracks like Benny and the Jets.

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**YAMAHA RX-A830 £900**

**GOOD – worth auditioning**

**VERDICT**

Music suffered a little from colouration, but the rather more obvious artificiality of music soundtracks was done full justice by the RX-A830.

- good movie performance that harnesses surround-sound potential
- well-featured
- Yamaha’s DSP modes unmatched
- hi-res FLACs and Internet radio

**AGAINST**

- veiled detail and DSP ‘boxiness’
- no digital output for recorders, etc.

Yamaha
+ 44 (0)844 811 1116
http://uk.yamaha.com/

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**MEASURED PERFORMANCE**

The RX-A830 produced 144 Watts into 2 Ohms and 225 Watts into 4 Ohms, so it’s powerful and will go loud. The chassis remained cool under test. With a damping factor of 34 the amplifier will maintain good bass control and likely have quite dry bass.

Distortion was low, measuring 0.08% at 10kHz, delivering one Watt into a 4 Ohm load. Harmonics were extended through, this being classic crossover distortion, our analysis shows. There may be a hint of sharpness in the sound from this, but it will be small.

Frequency response was wide, measuring 2Hz-120kHz with Pure Direct selected to bypass the input Analogue-to-Digital Converter (ADC). The input ADC limits bandwidth to 2kHz (48k sample rate) by sharp anti-alias filtering and overloaded at 2.6V in, so it just has enough headroom for the analogue output of a CD player. Noise from the ADC was relatively low at -94dB but distortion at -60dB on the high side at 0.6%, third harmonic. With analogue inputs Pure Direct is always best used to avoid the ADC, all receivers.

The VHF/FM tuner measured well, having a frequency response that rolled down slowly from 4kHz upward, just enough to give a smooth sound. With treble -1dB at 10kHz it will not sound warm however. Full quieting (minimum hiss) occurred at 0.95mV and stereo sensitivity was high at 19μV.

The phono stage was accurately equalised up to 20kHz, and gain rolled down below 20kHz to give some small attenuation to warps, level being -3dB at 5kHz. Sensitivity was normal at 5mV for an MM cartridge and overload satisfactorily high at 80mV. Hiss was low at -76dB, noise from the cartridge swamping this. The Yamaha RX-A830 measured well all round. It has no weak spots, and I can recall the RX-A820 wasn’t as ‘boxy’ in its DSP modes, delivering a more neutral presentation with music with the same Rogers GS6/GS5/C33/AS60 speaker system.

---

**S/POIF (24/192)**

**Frequency response** 2kHz-61kHz

**Distortion (-60dB)** 0.12%

**VHF/FM**

**Frequency response** 35Hz-10kHz

**Separation** 46dB

**Noise** -69dB

**Full quieting at** 0.95mV

**Distortion (50% mod)** 0.08%

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**FREQUENCY RESPONSE S/POIF**

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**AMP DISTORTION, 10kHz, 1W**

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**YAMAHA RX-A830 £900**

**GOOD – worth auditioning**

**VERDICT**

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**AGAINST**

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Yamaha
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http://uk.yamaha.com/
REVIEW

More sound, less speaker?

Soundbars are designed to sit below a widescreen TV, giving better sound than that possible from the TV's own small, flat stereo loudspeakers. Cleverly, they have also been equipped with sound steering technology, enabling them to deliver surround-sound into a room, from TV (rare), Blu-ray or DVD.

To do this Yamaha licensed One Limited's focused-beam 'digital sound projection' technology – discussed in the boxout on page 36. From a single box, listeners can enjoy a pretty good emulation of multichannel sound with none of the domestic complications associated with 5.1 or 7.1 speaker setups driven by AV receivers. The Soundbar offers a clever alternative to a full surround-sound system in effect, one that's very room friendly.

The latest distillation of Yamaha's work can be found in the YSP-3300 reviewed here – and its bigger brother, the YSP-4300 that adds an FM tuner and USB playback, plus 22 beam drivers instead of 16.

The bar is placed under a screen or on a wall (with an optional bracket). An accompanying wireless subwoofer covers the lowest frequencies; mid-range is handled by a pair of 6.5cm drivers built into the Soundbar.

Like an AV receiver the £1,000 YSP-3300 also acts as an HDMI switching centre, passing the selected video to your TV while 'picking off' the audio for the loudspeakers. Two optical digital inputs, and an analogue one, are provided too, so outside items, like CD player or tuner can be connected.

A wireless 'dongle' allows music from iPods to be played. The latter also has a USB port that, when connected to your computer system, allows it to act as a 'virtual soundcard'. You can then listen to your audio with existing applications like Winamp, VLC and iTunes. With this in mind, the YSP-3300's compressed-music enhancer could be useful.

Another similarity with Yamaha's AV receivers is a microphone-driven auto-calibration system. 'IntelliBeam' is, if anything, even more essential here bearing in mind the unusual nature of the system. The supplied microphone fits into a cardboard stand that can be positioned in different areas, and...
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Analogue and digital inputs are provided, so external sources like CD player or tuner can be connected. HDMI inputs cater for Blu-ray and DVD players. The HDMI output to the TV carries an Audio Return Channel (ARC) so TV sound can be fed to the Soundbar, but the TV must have ARC too.

the calibration results placed into one of three memories selected via a pleasantly-designed handset. This function is very useful, as it means that listening can be optimised for specific locations within the room.

Changes can be made, and it’s easy to adjust levels and ‘play with the beams’. In addition to the usual standard and high-def Dolby and DTS decoding modes that you would normally associate with AV receivers are Pro-Logic II and a handful of the venue-simulating DSP modes that define one of Yamaha’s major contributions to the field.

Considering the complexities and compromise nature of this product relative to multi-speaker arrangements, the YSP-3300 acquitted itself well sonically – certainly with Blu-ray movies like Transformers (I was using a Cambridge 751BD Blu-ray player for playback). An enveloping soundfield is created in the listening position, and it’s retained (within reason) even if you move around. In other words, everyone sitting on a sofa should enjoy the experience. Ambient scenes don’t however benefit as much as the impressively-rendered ‘gung-ho’ action sequences; a mild colouration can affect vocals (notably centre-channel dialogue) although intelligibility is never lost. Until, that is, you play the system too loud – then obvious strain sets in. But by its very nature the YSP-3300 is intended for environments that lack space.

So far, on the whole, so good – especially considering that there’s no need to worry; sub apart, about installing speakers. In the interests of maintaining excitement, movie soundtracks tend to be bombastic, exaggerated and forward. Music is rather more revealing of absolute performance; here, you get an enjoyable if not particularly detailed presentation. The YSP-3300 cannot decode DSD streams, but will give you multi-channel music from such sources if your player is set to PCM output. The atmosphere of ‘Funeral for a Friend’ that opens Elton John’s Goodbye Yellow Brick Road was portrayed well, but when the song segues into Love Lies Bleeding the aforementioned midband colouration spoilt John’s voice. With two-channel material, the soundstage seemed rather artificial relative to my Naim Nait 3-based music system, which also ‘filled in’ more of the musical subtleties.

**SOUND STEERING HOW IT WORKS**

Back in 2004, Pioneer – one of the leading proponents of plasma flat-panel displays – introduced a matching audio system. Weighing in at 50kg, the £25,000 PDSP-1 ‘digital sound projector’ was a revolutionary product. At that time, a conventional 5.1 speaker system was needed to reproduce multi-channel audio from DVDs. The ‘aspirational’ PDSP-1 could do the same thing from a single five inch-thick panel that typically sat under the screen.

On its surface were no fewer than 254 tiny drive units, each powered by its own PWM amplifier. These were driven by some cutting-edge DSP, and contributed to the generation and steering of up to seven individually-focused sound ‘beams’ that were aimed either directly at the listener or reflected off walls. Listeners gained the impression that sound was coming from all around them. So effective was the illusion that you would jerk your head around, looking behind you for ‘speakers’ that weren’t there.

It may have been a Japanese product, but making the whole thing possible was British ‘phased-array beam-forming’ technology – from a company called 1 Limited (now Cambridge Mechatronics). The PDSP-1 may have worked very well, but its stratospheric price ensured that few were sold. Not long thereafter, Pioneer arch-competitor Yamaha stepped in and acquired a 1 licence. Its digital sound projectors were considerably cheaper than Pioneer’s, using fewer transducers. Yamaha’s extensive DSP experience must have come in handy too.

The YSP-3300 tested here employs an array of only 16 ‘beam drivers’, flanked by two mid-range drivers and reinforced by an external subwoofer. Whereas the Pioneer needed 254 drive units to cover the audible spectrum, the Yamaha is able to make do with fewer, because conventional drive units handle lower frequencies – where less ‘directivity’ is evident. As with the digital sound projection concept itself, it’s a compromise – but a very clever one.

YAMAHA

YSP-3300 £1.000

GOOD - worth auditing

VERDICT

I wouldn't want to use the YSP-3300 exclusively for music listening, but it will convert the HD-ready flat-panel TV and Blu-ray player of your lounge into a space-efficient home cinema of good potential. You can then keep your 'listening room' as it is!

FOR

- the only external speaker you'll need to worry about is the supplied sub!

- a decent performance from movie soundtracks

- Dongle-driven wireless music capabilities of practical value

AGAINST

- no network audio playback

- music reproduction lacks finesse and believability

- midband 'boxiness' can colour vocals

Yamaha
+ 44 (0)844 811 1116
http://uk.yamaha.com/
NuForce has built a strong reputation for good-sounding Class D amplification. While this mode of operation has had a rather mixed history in hi-fi circles, there's no doubt when done well it can sound impressive. Indeed NuForce's Reference 9SE V2 monoblocks feature in this very magazine's World Standards section. Since then the company has updated its V2 power modules to V3 status — two of which feature in the 1A-18 integrated.

NuForce say they are capable of outputting 135 Watts into 8 Ohms, rising to 235 Watts into 4 Ohms and 335 Watts into 2 Ohm loads. Out the box, it's certainly a distinctive-looking unit — standing just 2 inches tall and housed in a sandblasted black or silver anodized case. It does, however, stretch back some 16 inches which negates the slimline profile and may cause a problem on one or two hi-fi racks.

Inside the case NuForce says the IA-18 draws on the design of the company's P-20 flagship pre-amplifier. It features five line inputs — each of which has its own volume adjustment for precise level matching between sources.

Volume control is via a thin-film switched-resistor ladder network, meaning that only a single resistor is ever in the signal path at any volume setting. Some 99 increments of 0.5dB each are available.

The Cross Matrix Array capacitor module between the pre and power sections is said to deliver clean DC to enable the power amps to drive almost any loudspeaker with absolute authority and harmonic integrity. Control is via touch-sensitive pads on the front panel which take a little getting used to, but once mastered are relatively straightforward. Alternatively, there's the unusually shaped wand-like remote control, which is a model of simplicity and good design.

**SOUND QUALITY**

NuForce claims any listener will be impressed by the IA-18's crystalline, fatigue-free and holographic soundstage, coupled to exceptional detail retrieval. For once, that's not just manufacturer's hyperbole. Hooked up to a pair of Q Acoustics' little Concept 20 standmounts the NuForce produces a clean, clear articulate sound.

There's a crystalline clarity to its presentation that makes Nils Lofgren's guitar strings really zing on 'Keith Don't Go'. It's a fine recording and the NuForce allows you to hear just how good it is.

That clarity — allied to the ample power reserves — means it's easy to push up the volume without the sound congealing.

It also means detail lovers will find plenty to like. The NuForce allows you to hear into complex mixes with ease.

Jon Myles listens to a quality Class D amplifier, the NuForce IA-18.
On Ornette Coleman’s ‘Free Jazz’ it’s immediately evident you are listening to two separate jazz combos – one through each speaker. Some lesser amplifiers can reduce this record to a cacophonous sludge but the NuForce picks it apart with aplomb.

Compared to my reference SuperNait there’s a little more spaciousness around individual notes but perhaps less of the Naim’s rhythmic drive. The IA-18 doesn’t push the music along in quite the manner of Salisbury’s finest but it does let you hear more of the nuances of individual players.

Some may level the accusation of a lack of character – but it’s more the NuForce not imposing its own sound on the music.

One aspect of this is a seemingly lower noise floor. Orchestral crescendos on the Oregon Symphony’s ‘Music For A Time Of War’ hit you with tremendous power – starting and stopping with alacrity.

Switching to a pair of Spendor SP100Rs and this slimline integrator showed it could really shake a room. Jah Wobble’s bass lines on ‘Passage To Hades’ thundered out, the big Spendors seeming to love the clean power delivery on offer.

The 99-step volume control also matched volume.

Five RCA inputs offer balance-matched volume.

Yes, some may prefer slightly more ‘character’ in their amplification but that would missing the point. The NuForce sets out to reproduce exactly what’s on your discs or downloads with nothing added or taken away and does a damn fine job of it.

Add in its distinctive looks and commendable build quality and the NuForce is an amplifier definitely worth being heard.

"close your eyes and Sinead O'Connor could almost be in the room"

VERDICT

A very impressive integrated amplifier from NuForce. Bags of detail, clean sound and fantastic imaging. Definitely worth hearing.

Outstanding - amongst the best

Power - very clean sound

detail - slim

AGAINST - deep chassis

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QUAD's reputation as a manufacturer of hi-fi products that deliver musical accuracy through technical prowess is legendary and is nowhere more evident than in the Platinum series of components. Platinum is the pinnacle of QUAD design, a series of CD/DAC Pre and Power amplifiers that provides everything you need, bar the loudspeakers, to replay music recordings as they were meant to be heard – naturally. Platinum is the flagship of the QUAD range, a new set of electronics from a brand that has been famous for quality amplification since 1936. Like all QUAD designs, Platinum's purpose is the 'closest approach to the original sound' – in Platinum's case closer than ever before.
Here's your chance to win the superb T-01 MC Timestep moving coil (MC) phono stage we reviewed in our April 2013 issue.

'Timestep are more recently known in the audio field as developers and manufacturers of power supply units for the Technics SL 1200 series of turntables. This is their first commercially available phonostage, although owner, Dave Cawley, told me that he built his first one as far back as 1981, to partner a Dynavector Ruby Carat cartridge.

Several designs later, the T-01 MC became a reality, boasting discrete dual mono circuits fed by a custom made toroidal transformer. RIAA equalisation is passive and gain provided by four Toshiba FETs (Field Effect Transistors) per channel. The signal inputs via lossless gold plated PTFE input connectors and by a Dale CMF55 input matching resistor. Resistance is factory set at 100 Ohms, which matches most modern moving coil cartridges. Other values can be provided on request. Dave says that this resistor, and the Wima polypropylene RIAA capacitors, were the two most sonically influential choices of component in the finished design.

The power supply uses four Shottkey diodes made by Vishay, and is accessed by an IEC socket at the back right of the casework. Between this and the four gold plated phono sockets for the signal, is a Ground Lift switch. This disconnects the internal electronics from the earth, should an earth loop be causing hum, but keeps the chassis earthed through the mains for safety.

The slim casework (measuring 445 x 310 x 48mm, w x d x h) is made from high grade aluminium, finished in black. The only control is the power-on knob on the front left, which is accompanied by an orange LED, that is set to glow gently, not light the room up like a stage set.'

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OWNER COMMENT - FERDINAND ROEHHRIG

have you considered the benefits of changing the tonearm in your system?

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STANDARDS

WORLD STANDARDS

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

TURNTABLES

REGA RP1 2010 £225
Pleasing sound, fine build and ease of set-up and use make this a great first ‘real’ hi-fi turntable.

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

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

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

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

MICHELL GYRODEC SE 2005 £1,138
Design icon with superlative build and finish. Sound is beautifully smooth, effortless and exceptionally expansive. No longer peerless at the price, but still a brilliant platform.

MARANTZ TT-1551 2005 £1,299
Cracking all in one deck/arm/cartridge combination, this must surely be the best sounding ‘plug and play package at this price point.

ACOUSTIC SOLID SEQUEL 2007 £5,845
Stylish high end vinyl spinner with industrial strength build quality and a sound to match. Exceedingly neutral yet powerful sound is edge-of-the-seat stuff.

BRINKMANN BARDO 2010 £5,845
Unique high end direct drive turntable with amazing grip and focus, albeit not the most romantic of natures.

EAT FORTE SEQUOIA 2010 £4,750
Excellent premium price turntable with power, precision and passion aplenty, but relaxed and easy going by nature too. Great value package with the Pro-ject Evo 12" arm option.

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

SME MODEL 10A 1995 £4,556
Exquisitely engineered deck and SME V tonearm combo that's an extremely accomplished performer with classical music.

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

DR FEICKERT WOODPECKER 2010 £3,445
Elegant deck with great low frequency solidity, coherent soundstaging and a precise midband.

LINN LP12SE 2010 £3,510
Surely hi-fi's most iconic turntable, the legendary Sondek goes from strength to strength. New Keel subchassis and Radikal DC motor add precision and grip to one of the world's most musical disc spinners. Expensive, though.

ACOUSTIC SIGNATURE STORM 2011 £3,612
An excellent high end design with a smooth, solid, open and lyrical sound and razor sharp styling and build.

FLETCHER AUDIO OMEGA .5 2010 £3,699
Charming high end turntable that’s a fitting testament to the late Tom Fletcher.

PALMER 3 2010 £3,750
Eccentric hand built high end turntable with a pleasingly smooth, sweet and lucid sound.

E.A.T. FORTE S EVO 12 2010 £4,750
Lavishly finished two box, two motor turntable with gorgeous Ikeda 407 tonearm bundled. Exceptionally stable and unfussy performer with a relaxed but highly enjoyable gait.

TONEARMS

REGA RB251 2009 £136
Capable way past its price point, the new 3-point mount version of the classic RB250 serves up a taut and detailed sound. A little lean for some tastes, but responds well to re-wiring and counterweight modification.

MICHELL TECNOARM A 2003 £642
The late John Michell's clever reworking of the Rega theme, using drilling, drilling and re-wiring! Surely the best overall performer under £500.
STANDARDS

ORIGIN LIVE SILVER 3C 2010 £599
Excellent mid-price tonearm with a clean and open yet lyrical sound.

HADDOCK GH-242 EXPORT 2010 £770
Consistently musical, lyrical sounding tonearm, but needs the right turntable. Excellent value.

SME 309 1989 £767
Mid-price SME comes complete with cut-to-fit aluminium arm tube and detachable headshell. Tight, neutral sound with good tonality, but lacks the IV's pace and precision.

FUNK FIRM FXR II 2010 £1,175
Clever reworking of the ubiquitous Rega platform, the FXR II offers a wonderfully musical, almost unipivot like performance.

AUDIO ORIGAMI PU7 2007 £1,300
The classic Syrius PU3 updated to spectacular effect. Hand made to order, with any mass, length and colour you care for. Fit, finish and sound truly impressive.

NAIM ARO 1987 £1,425
Charmingly unipivot is poor at frequency extremes but sublime in the midband; truly emotive and insightful.

HELIUS OMEGA 2008 £1,595
Stylish and solid lump of arm with fabulous build quality, that turns in a dynamic and weighty performance.

SME SERIES IV 1988 £1,620
Offers nine tenths of the SME IV's magic at just over half price. Exquisitely built and finished, and a design classic. Faces stiff competition, but lovely nevertheless.

SME 3125 2010 £1,750
Twelve inch magnesium alloy arm tube plus SME V bearings makes an impressive transcription tool with an insightful yet composed sound. Superbive build completes the package.

GRAHAM PHANTOM 2006 £3,160
Sonicly stunning arm with magnificent bass dexterity and soundstaging. Build quality up to SME standards, which is really saying something!

TRI-PLANAR PRECISION 2006 £3,600
Immaculate build, exquisite design and one of the most naturally musical and lucid sounds around.

SME SERIES V 1987 £2,389
Vice-like bass with incredible weight, ultra clear midband and treble aostound, although some don't like its matter of factness.

LINN EKOS SE 2010 £3,700
Subtle mods over the years, including revised bearings and the recent new wiring has kept it a serious contender in the superarm stakes. Has a commanding musicality all of its own.

OL ENTERPRISE 3C 2010 £4,500
Few if any pivoted arms come close to this arm's combination of liquid musicality and forensic grip.

CARTRIDGES

AUDIO TECHNICA AT-95E 1984 £25
Great starter cartridge that's detailed and musical beyond its price. Super glue the stylus in for better sound!

AUDIO TECHNICA AT-F3/III 2010 £189
Great value entry level moving coil with detail and grip you just can't get from similarly priced moving magnets.

ORTOFON 2M RED/BLUE 2007 £60/£130
Modern, high resolution budget moving magnets that are always an engaging listen.

GOLDRING G1042 1994 £339
One of the best MMs going, with sweet and extended treble and punchy, muscular bass.

ORTOFON VIVO BLUE 2007 £375
Super new budget moving coil cartridge from respected Danish manufacturer; a real step up from previous efforts.

DENON DL103R 2006 £295
Awkward to get working properly with a poor mounting arrangement, yet it rewards with a musical performance that makes similar priced cartridges sound cold.

DYNAVECTOR DV10X52003 £295
Distant descendent of the classic Ultimo 10X, this has warmth and sweetness in spades, allied to a punchy bass. Beats G1042 comfortably.

ORTOFON 2M BLACK 2007 £350
Staggeringly good high-end MM that uses a stylus from the MC Jubilee and easily rivals similarly-priced MCs.

DYNAVECTOR DV30X-H2003 £295
Deliciously sweet sound with fantastic get-up-and-go makes this a great value budget MC. High output version works a treat with valve phono stages too.

AUDIO TECHNICA AT-OC9MLIII 2010 £299
New stylus and cantilever breathe life into this feisty, punchy and detailed performer.

ORTOFON RONDO BRONZE 2005 £500
Excellent mid-price moving coil with real rhythmic alacrity and a decent deal of finessed.

LYRA DORIAN 2007 £649
Incisive and musical, this baby Lyra is one of the most powerful and revealing MCs at its price point. Beware the sharp treble, though!

BENZ MICRO WOOD SL 2010 £945
Highly finessed Swiss moving coil that plays music with riflebark precision.

ORTOFON Cadenza Blue 2009 £1,000
Musical, out of the box sound, allied to real finesse, makes this a great do-it-all high end moving coil.

ORTOFON Cadenza Bronze 2010 £1,350
Smooth and engaging high end MC with a slightly warmer and more relaxed presentation than its superb bigger brother.

ORTOFON Cadenza Black 2010 £1,650
Ultra incisive, transparent and dimensional moving coil with grip and punch aplenty.

ORTOFON MC Windfeld 2008 £2,250
Ortofon's new flagship MC is a sophisticated and alluring performer that takes the vinyl experience to a new level.

Koetsu Red K Signature 2007 £2,399
The new K Signature adds a hefty dose of insight and finesse to the already impressive Red and the results are fabulous.
DIGITAL SOURCES

MUSICAL FIDELITY V-DAC £170
A classic, concise, low distortion sound belies the giveaway price. Supremely value for money.

CAMBRIDGE AUDIO DAC MAGIC
2010 £230
A flexible new DAC, this is an impressively rhythmic and detailed performer.

ARCAM rDAC
2010 £300
Cracking budget DAC sporting a fulsome and musical sound with gorgeous build and styling.

CAMBRIDGE AUDIO
Clear, concise, low distortion sound belies and space.

SOUND QUALITY

ARCAM rDAC 2010 £300
Superlative value for money.

CAMBRIDGE AUDIO
ARCAM rDAC 2010 £300
Superbly finessed sounding DAC at the price.

STELLO DA/100 SIGNATURE £750
Superbly finished sounding DAC at the price, with strong driving bass and plenty of air and space.

CAMBRIDGE AUDIO AZUR 864C
2006 £800
Well built CD player with a silky, yet detailed sound and a whole host of useful facilities. Excellent value for money.

NAIM CDSI
2008 £895
Naim's new italic 'Y' variant improves even further on the original mid-price classic, offering super tight, grippy and musical sound.

ROKSAN KANDY K2 CD
2010 £900
A charmingly musical performer at the price, this is a surprisingly sophisticated CD player for the money.

BENCHMARK DAC-15 2009 £930
Power, precision and poise - allied to real seat-of-the-pants musicality, this DAC justifies its premium price.

MUSICAL FIDELITY M3 CD
2011 £995
Excellent mid-price machine with slick slot loading and an open and inviting sound.

ELECTROCOMPANIE I ELECTROMIG 2008 £1,250
Quirky but highly capable digital converter with an effective wireless radio option (£250) and balanced outputs.

SIMAUDIO MOON 300D
2010 £1,290
Lovely fluid sounding DAC with a deep, dark, velvety tonality.

CYRUS CDS SE
2008 £1,350
Bespoke servo evolution mechanism makes this the most musically engaging machine at the price, with superb overall tonal balance.

DENON DCD2801AE
2010 £1,700
Powerful, open sound allied to a rich tonality and satisfying subtlety make this an excellent mid-price buy.

NAIM DAC 2010 £1,995
Superb high end digital converter with a probing, punchy and forensically detailed sound.

MERIDIAN G08.2 2011 £2,400
Everyman's modern high end CD player, the stylish, well made Meridian has an extremely enjoyable yet refined and accurate sound.

MARANTZ SA-KI PEARL CD
2010 £2,500
Finely honed affordable high end silver disc spinner, this has a musical lucidity that's unexpected at this price.

LEEMA ANTILLA IIS ECO
2011 £2,995
Stable and smooth yet superbly detailed and musically engaging, this is class of the £1,000 CD player field.

CHORD QBD64
2008 £3,000
Bespoke architecture gives a uniquely musical sound that's beguiling yet proffers dizzying incision and grip.

ELECTROCOMPANIEI EMC-1UP
2009 £3,450
Quirky yet extremely capable high end upsampling CD spinner, with a musical fluency that beguiles more than it impresses.

ACCUSTIC ARTS CDPMK2
2007 £3,905
Stylish not to everyone's taste but build quality is impeccable and the performance is stunningly musical.

ESOTERIC X-05
2010 £4,495
Superbly affordable high end CD/SACD spinner with excellent build, massive detail and great poise.

WEISS DAC202
2010 £4,600
Brilliantly open and insightful sounding DAC with a range of useful features.

ELECTROCOMPANIEI EMP-1SS
2011 £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.

NAIM CDS3
2003 £7,050
The most polished Naim CD to date; tremendously capable and musical, but lacks the Rottweiler quality of the cheaper CDX2-XPS2.

dCS DEBUSHY 2011 £7,500
Compact, stylish DAC bringing the gloriously smooth, sheer, spacious sound of dCS to a wider audience.

ACUSTIC ARTS DRIVE I M2K2 TUBE DAC 2007 £7,980
Superbly built high end CD transport and DAC combo that shows just what the format can be capable of. Very tangible, musical sound with wonderful dynamics and glinting harmonics. Only curious styling and clunky build detract from its brilliance.

DCS PAGANINI DAC £9,999
Digital rarely sounds better; dCS's bespoke Ring DAC makes for power, punch and insight on an epic scale. Add clock and upsampler for an even more profound experience.

NAIM CDS55/555PS £200 £14,000
Very probably the best CD player yet made - certainly the most expensive: a digital tour de force.

NETWORK

NAIM HDX
2009 £4,405
Interesting one-box network enabled hard disk music system gives superb sonics together with impressive ease of use.

LINN KLINMAX DS
2007 £9,600
Landmark network music player, offering brilliant sonics at up to 24/96 resolution from hard disk/NAS. Expensive, but you can hear why.

PHONO STAGES

CAMBRIDGE AUDIO 640P 2009 £370
Expensive, detailed, powerful sound makes this a leading sub-£1,000 contender.

Graham Slee Era Gold V
2004 £370
Warm, open and musical nature makes this a great budget phono stage.

ASTIN TREW AT8000 2010 £880
Expensive, detailed, powerful sound makes this a leading sub-£1,000 contender.

CHORD CHORDETTE DUAL 2010 £999
Well presented mid price designed with detailed sound and USB input for archiving.
Just as the name suggests, this is a lovely way to play LP with an exceptionally open and lucid sound.

**A.M.T. AUDIO KORA 3T LTD**
2010 £995
Exceptionally musical and natural sounding all discrete transistor phono stage, with highly lucid, valve-like presentation.

**AVID PULSUS**
2010 £1,100
Powerful, propulsive, expansive sound puts this right at the top of the £1,000 phono stage tree.

**QUAD QC24P**
2007 £1,200
Dynamic performer that can be used on its own as a complete phono-level preamp.

**ICON AUDIO PS3**
2008 £1,500
Super sounding valve phono preamplifier, with an expansive, engaging and organic nature that makes vinyl sheer joy!

**SUTHERLAND 20/20**
2010 £1,999
Well engineered, smooth sounding solid-state phono stage with a charm of its own.

**EMILLE ALLURE**
2010 £2,495
Just as the name suggests, this is a lovely way to play LP with an exceptionally open and lucid sound.

**AVID PULSARE**
2010 £3,800
This superbly built, well specified phono stage has a powerful and authoritative sound that bristles with detail and energy.

**WHHEST PS.30 RDT SE2011**
2011 £4,500
The least solid-state sounding Whest we've heard, this builds on the family strengths of precision and grip but adds a welcome poise and fluidity.

**NAT AUDIO SIGNATURE**
2011 £5,633
Sophisticated sounding, unusually engineered MM and MC phono stage, but faces stiff competition at this lofty price.

**AMPLIFIERS**
**ICON AUDIO STEREO 40/III**
2010 £1,200
Excellent starter tube integrated, with plenty of detail and an expansively musical sound.

**NAIM NAIT 5i**
2007 £725
The iconic 'Y' version remains one of the most musically competent and dynamically engaging integrateds at the price.

**AUDIOLAB 8000A**
2006 £400
In another life, this sold for three times the price, making it a stand-out bargain now. Very clean, powerful and tidy sound but not the world's most beguiling.

**CAMBRIDGE 840A V2**
2007 £750
Version 2 addresses version 1's weaknesses to turn in a mightily accomplished performance, offering power, finesse and detail.

**SUGDEN MISTRIO**
2010 £1,225
Sugden's first Class AB integrated in a long time surprises; rollickingly good fun, it loses surprisingly little in smoothness to its Class AB siblings.

**NAIM NAIT XS**
2009 £1,250
With much of the sound of the Supernait at half the price, this is powerful, articulate and smooth beyond class expectations.

**CREEK DESTINY 2**
2010 £1,445
Beautifully voiced integrated amplifier with a distinctly seductive, tube-like sound. A solid-state superstar!

**SUGDEN A21A S2**
2008 £1,600
Crystalline clarity, dizzying speed and forensic detailing makes this seminal design the most distinctive seductive, tube-like sound. A solid-state superstar!

**CYRUS XPDP**
2010 £1,500
A quality integrated that suits all genres of music providing insight and clarity in a compact but flexible package.

**ANATEK ASOR**
2007 £1,600
Simple integrated amplifier with superb bass grip and effortless dynamics.

**VINCENT SA-234MK**
2010 £1,749
Big, powerful and expansive sounding hybrid transistor amplifier, with a lively, musical nature.

**NAIM SUPERNAIT**
2007 £2,475
Integrated tour de force from Naim that combines impressive functionality and connectivity with superb sound.

**AUDIO RESEARCH VSI60**
2009 £2,290
Load of tube power allied to a strong bass and smooth open midband makes this a grinning little headphone amplifier with an open, effortless sound and big sound stage. It has plenty of gain so will accept any power amp. A tuneful beauty.

**CREEK OBH-22**
2008 £350
A valve preamplifier with an open, effortless sound and big sound stage. It has plenty of gain so will accept any power amp. A tuneful beauty.

**CREEK OBH-22**
2012 £1520.00
A valve preamplifier with an open, effortless sound and big sound stage. It has plenty of gain so will accept any power amp. A tuneful beauty.

**SIM AUDIO MOON 600s**
2010 £5,750
Sturdy build, useful facilities and a wonderful, relaxed, seamless and even-handed sound will win this many friends.

**MUSICAL FIDELITY AMS35i**
2010 £6,000
One of the best high end integrateds we've come across, this combines hear-through transparency with musical get-up-and-go.

**DARTZEL CTH-8550**
2010 £16,500
Charismatic and quirky high end solid-state integrated amplifier with superb sound and a charming visage.

**HEADPHONE AMPLIFIERS**
**FIDELITY AUDIO HPA 100**
2011 £350
Great little headphone amplifier with a lively yet refined and open sound.

**MUSICAL FIDELITY X-CAN V8**
2008 £350
Open and explicitly detailed sound plus serious bass wallop and the ability to drive anything to very high levels makes this a great partner for most mid-to-high end headphones.

**PREAMPLIFIERS**
**MING DA MD7-SE**
2012 £1520.00
A valve preamplifier with an open, effortless sound and big sound stage. It has plenty of gain so will accept any power amp. A tuneful beauty.

**CREEK OBH-22**
2008 £350
A valve preamplifier with an open, effortless sound and big sound stage. It has plenty of gain so will accept any power amp. A tuneful beauty.

**MELODY PURE**
2007 £3,295
The clarity and openness of valves plus firm grip and fine detail make this a preamplifier why. Wonderfully exuberant sound that can only come from a top quality tube design.
**MF AUDIO CLASSIC**

**CII SILVER**  
2010 £6,500  
One of the best preamplifiers we've heard at any price, this transformer coupled marvel does very little wrong; its powerful, clean, open yet delicate sound is unmatched at or near the price.

**NUFORCE P-9**  
2007 £2,200  
Impressive two box preamp with superb resolution and an engaging sound.

**POWER AMPLIFIERS**

**XTZ AP-100**  
2010 £520  
Decently smooth yet usefully muscular, this power amp punches way beyond its price point in sonic and value terms.

**QUAD 909**  
2001 £900  
The latest current-dumper has a smooth and expensive character with enough wallop to drive most loads. Not the most musical, but superb value all the same. Lovely build, finish and Quad's legendary service are nice.

**NUFORCE REFERENCE 95E V2**  
2006 £1,750  
Brilliant value for money monoblocks with massive power and super-clean, three-dimensional sound.

**DPA SA-1**  
2010 £2,050  
Pacey, engaging and rhythmic almost to a fault, this solid-state power amp isn't the world's most powerful but is none the worse for it.

**QUAD II-40**  
2005 £3,230  
Modern tube monoblock power amplifiers with plenty of power, liquid and open midband and spacious, airy treble. Explicit, engaging sound, but not as euphonic as some.

**ELECTROCOMPANIET NEMO**  
2009 £4,450 (EACH)  
The Norwegian power station is as cool as a glacier tonally yet impresses with its sheer physicality and fleetness of foot. 600W per channel makes for a massive bang per buck.

**ICON AUDIO MB845 MkII**  
2010 £5,500  
With 120W from big 845 valves right down to low frequencies, this power amplifier has massive dynamics and bass swing, yet is easy on the ear.

**QUAD II-80**  
2005 £6,000  
Quad's best ever power amplifier, this is a dramatic performer with a silky but dark tonality, blistering dynamics, serious power and a compellingly musical sound. They don't come much better.

**MUSICAL FIDELITY AM550**  
2010 £7,000  
Mighty, assured high end full Class A integrat- ed proffering icy clarity allied to real musicality. Lacks the lucidity of the best tube amps but redeems with power and punch.

**LOUDSPEAKERS**

**Q ACOUSTICS 2020**  
2010 £140  
Great little standmounters with a friendly, fun yet surprisingly refined grit. Excellent value starrrer speakers.

**ACOUSTIC ENERGY AEI CLASSIC**  
2006 £845  
Brilliantly successful remake of an iconic design; not flawless, but surely one of the most musical loudspeakers ever made.

**MY AUDIO DESIGN**  
2011 £1,350  
Exceptionally smooth, spacious and refined mini monitors that beguile and excite in equal measure.

**ELAC B5243**  
2010 £1,000  
More transparent and spacious than they've a right to be at this price, these refined mid-price standmounters represent top value.

**RRR FS100**  
2007 £1,055  
Mind-boggling amount of loudspeaker for the money. Big and sturdily built with serious bass and awesome soundstage scale. A real bargain.

**ONE THING AUDIO ESL5**  
2007 £1,450  
One Thing Audio's modifications keep the good old ESL5 at the very top of the game.

**GURU CM-16P**  
2007 £1,295  
Quirky but adorable standmounters that are way off the pace in respect of detail and power; but well capable at playing a tune and pulling you in to the music.

**USHER BE-718**  
2007 £1,600  
Beryllium tweeters work superbly, allied to a fast and punchy bass driver. The result is subtle, smooth and emotive.

**ISOPHON GALILEO**  
2007 £7,100  
Big standmounters that really grip the music and offer quite startling dynamics and grip.

**MY AUDIO DESIGN**  
2010 £3,299  
Powerful, dynamic, musical yet refined, this unconventional point-source design yields dramatic sonic benefits.
**STANDARDS**

**SPENDOR S8E** 2008 £1,895
Generously large, silky smooth delivery, this dynamic sounding floorstander is an excellent all-rounder.

**MONITOR AUDIO PL.100** 2008 £2,300
The flagship 'Platinum' series standmounter has a lovely warm and delicate sound with supersilicic treble.

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

**EMMINENT TECHNOLOGY LFT8B** 2010 £2,300
Brilliant ribbon/moving coil hybrid with seamless, delicate and expansive yet tremendously musical nature.

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

**REVOLVER CYGNIS** 2006 £5,999
Revolver pull out all the stops and show what they can do with this magnificent flagship loudspeaker. A superb monitor that is like a mini B&W 801D in many ways.

**MOWGAN AUDIO MASON**
Massively capable loudspeakers that offer dynamics, scale and clarity in an elegantly simple package. Wide range of finishes, too.

**B&O BEOLAB 9** 2007 £5,000
Massively capable loudspeaker. Not an easy load to drive, however.

**TANNOY DEFINITION DC10T** 2010 £5,000
Wonderfully wide and open, super fast and amazingly engaging to listen to.

**ISOTEK AQUARIUS** 2010 £795
Highly accomplished premium priced mains conditioner that delivers the sonic goods, unlike many others.

**ISOTEK AQUARIUS 2010 £'95**
In many respects, the ultimate studio conditioner; dazzling clarity and speed with commanding scale and dynamics.

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

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

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

**HEADPHONES**

**JAYS V-JAYS** 2010 £49
Wonderful little budget over-ear portable phones with a clean, smooth sound to beat the best of the rest at the price.

**SENNHEISER HD-590** 1998 £199
The company's best real-world cans to date. Superb build and fine sound makes these the spiritual successor to the HD400s.

**SENNHEISER PX-100** 2002 £29
For lightweights and open back cans ideal for personal, but good enough for real hi-fi use. Superb build allied to a smooth and engaging performance makes them the spiritual successor to the HD400s.

**SENNHEISER HE-10** 2009 £10,500
Excellent build and fine sound makes these build units superlative value for money.

**GOLDRING DR150** 2006 £70
Excellent build and fine sound makes these build units superlative value for money.

**SENNHEISER HD-590** 1998 £199
The company's best real-world cans to date. Open and smooth with plenty of detail. Brightly lit midband makes them an ideal partner for a valve headphone amp.

**SENNHEISER HD-650** 2004 £250
A super all round reference design with crisp, detailed and even sound allied to superlative build and comfort. Cable upgrade yields great results.

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SENNEISER HD800 2010 £1,000
The ultimate expression of the Sennheiser philosophy offers massive speed, clarity and insight, although lacks some of the charm of the softer, more beguiling rival Staxes.

STAX SR-007T OMEGA
H/SM-007T 2006 £2,890
Simply the best headphones we've ever heard at any price, these sweedy translucent electrostatic earphones are like no other head- phone, or loudspeaker for that matter...

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

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

CHORD COMPANY CHAMELEON 2 £90/M
One of our favourites, these are musical performers with a smooth yet open sound.

DNH RESON 2002 £40/M
Neutral and transparent - a steal!

VHD ULTIMATE THE FIRST 2004 £260/0.6M
Carbon interconnects that help you forget the electronics and concentrate on the music. Miraculous transparency, Tight and tuneful bass mixed with air and space results in a cracking cable for the money.

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

MISSING LINK CRYO REFERENCE 2008 £375
Currently our favourite 'affordable high end' interconnects, with a deliciously smooth, open and subtle sound without a hint of edge or grain. Superb value, insuch as it's as good as some designs at three times the price.

TUNERS
DENON TU-1500AE 2006 £120
Excellent entry level analogue tuner; slick sonics and fine feature count make it a bargain.

CAMBRIDGE AUDIO 640T 2005 £250
Sweet sounding digital/analogue hybrid with fine build and finish at the price.

ARCAM FMJ T32 2009 £550
Excellent hybrid FM/DAB+ tuner with a smooth, engaging sound. Factor in its fine build and it's a super value package.

CREEK CLASSIC TUNER
2006 £550
No tuner offers better sound per pound, wonderfully three dimensional and smooth from bottom to top.

MICROMEGA FM-10 2010 £750
Don't let the modest proportions fool you, this is a state-of-the-art modern analogue tuner with bespoke internals giving a warm, expansive sound.

MYRIAD MXT-2000 2005 £800
Sumpuous sound and excellent build is at most will ever need in a tuner; superb.

MAGNUM DYNALAB MD-90T 2010 £1,295
Exceptionally able, but commensurately priced, audiophile tuner that cannot fail to charm.

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

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

NAD C-715DAB 2008 £429
Small, neat looks cover a truly capable system that shows just what a compact design can achieve.

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

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

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

ARCAM SOLO 2005 £1,249
Excellent all-in-one system, with a warm, smooth and balanced sound to match the features and style.

LINN CLASSIK MUSIC 2008 £1,250
Next update of the original and best one-box stereo system; superbly musical sound beats equivalently priced separates.

NAIM UNITIQUTE 2010 £1,350
GREAT little half width one-box system with truly impressive sound allied to a wealth of source options.

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

LINN CLASSIK MOVIE 2007 £2,250
Superbly built all-in-one that offers excellent sound across all formats and is surprisingly easy to use.

MERIDIAN SOOLOOS 2.1 2010 £6,990
Thanks to its crisp styling and bright, colour- ful touchscreen, plus excellent search facilities this is one hard disk music system with a difference. Best partnered to Meridian active loudspeakers.

MARANTZ' LEGEND' 2007 £23,000
The combination of SA-751 disc player, SC- 752 preamp and MA-952 monoblocks deliverers jaw-dropping performance.
once upon a time a big red button labelled Record was common. Not any more. Recording has seemingly gone out of fashion, or perhaps it has been killed off: remember the slogan 'Home Taping is Killing Music' set against a skull and crossbones? The music industry has never been happy for consumers to record. We now have file copying, but it isn't much use if you want to record the radio, your LPs, conversation, a song or live music.

The Olympus LS-12 and LS-14 are handheld, battery powered, digital audio recorders that are small and light enough (170 gms with batteries) to be carried around. Measuring 140mm high, 65mm wide and 25mm deep, they'll fit a large pocket. They can record sound from their microphones or from a line input, in high resolution digital, (24/96), meaning better quality than CD. The basic LS-12 costs just £130 and the more capable LS-14 £170. And they both have a big, red Record button. Is this what every audiophile needs at home? Or are those prices suspiciously low?

These portable audio recorders are purposed for live music recording and interviews, more than high fidelity, yet with 24bit resolution and 96kHz sample rate as a top quality option they potentially offer better sound quality than CD. Where most dictation machines have a tiny on-board mic hidden in their body, behind a small pinhole to the outer world that destroys quality, these recorders have large, conspicuous stereo microphones with an unhindered acoustic view of their surroundings — and our measurements showed they work well.

Recordings are stored to internal memory, 2GB in the LS-12 and 4GB in the LS-14, or in an optional SD plug-in card, 32GB maximum. A line input makes recording from the tape output of a hi-fi amplifier possible, so here's a way of recording LPs with quality better than CD, or so I hoped when checking their specs.

The LS-12 offers a good set of features and ability, and the LS-14 builds on them. They share basic parts and functions, but most significantly the LS-14 has an extra microphone (called Tresmic) that extends low frequency response, from 80Hz down to 20Hz our measurements showed, to better capture bass frequencies. Olympus also add facilities and improve finish, making the LS-14 slightly more visually attractive than the '12. The addition of a Low Cut filter (100Hz / 300Hz / Off) is most important, but there's also a Voice Guide that won't stop talking so I rushed to switch it off!

Recordings can be made in normal PCM, from '44.1kHz/16bit' (their nomenclature) sample rate mono, suitable for voice at CD quality, 44.1kHz/16bit stereo, 48kHz/16bit and in 88.1 and 96kHz sample rates at 24bit resolution. As Olympus’ recording times chart makes clear, the highest quality option of 24bit/96kHz brings recording time down to 40 mins on the LS-12 with 2GB of memory and 1hr 35mins on the LS-14. Lowering quality increases recording time and most people will be happy with the many hours available at CD quality. For those that need more recording time, an SD card can be added, or mp3 quality can be selected, reaching down to 128kbps stereo, or 64kbps mono, the latter giving 52/117hrs of voice recording on internal memory, or up to 1000hrs on a 32GB SD card.

PCM recording produces an automatically numbered WAV file, that increments upward by 1 for every new recording, so stopping and starting doesn't erase an earlier
file. Recording was a two button process: press Record once to go into Record pause, indicated by Record button surround flashing red intermittently, then press again to start recording. Record pause allows recording gain to be set, as well as headphone volume, on the jog dial. This all worked well, an orange indicator and Over legend on the display warning of overload. A limiter (voice / music) can be selected to avoid the worst affects of overload.

It’s best to monitor whilst recording on headphones, but replay can also be heard through a small on-board loudspeaker. At high gains handling noise becomes an issue, so the body can be tripod mounted.

A 3.5mm jack input for an external mic allows specialised directional gun mics and such like to be used, that Olympus can supply from their accessory range, or can be bought from someone like StudioSparcs.

What interested me was a line input through a 3.5mm stereo jack. This allows recording from the hi-fi and Olympus have configured it well for this purpose. Maximum input sensitivity was 200mV and minimum 3V (overload) — fine for an amplifier’s tape output sockets. I ran both units successfully via this line input from a Marantz AV receiver’s tape out, recording VHF/FM radio, and directly from an Icon Audio PS3 valve phono preamplifier, fed by Ortofon Cadenza Bronze MC cartridge, in an SME312S arm on Garrard 401 turntable. There were no difficulties, except that the Ground lift of the PS3 had to be off whilst recording, so this ability of the LS-14 has to be used carefully. Twice I used, quickly finding the mic gain riding, whilst avoiding the need to manually adjust gain. ‘Manual’ is what I used, quickly finding the mic gain settings don’t apply here.

Three recording modes are fitted, selected by a front dial: Smart, Manual and Quick. There is also a musical instrument tuning function.

And finally, batteries. Two removable AA batteries are used; there is no on-board lithium-ion rechargeable battery. Re-chargeable AAs can be used of course, charged on an external charger. Olympus say in excess of 40 hours recording time is possible. Both recorders auto-switch off when not used and their display illumination shuts down quickly too; this can be set up to 1 min maximum — not a lot because the display is barely legible in low light with no illumination. Pressing Stop (or any button) triggers screen illumination.

**IN USE**

The microphones were almost as accurate as our measuring microphone, tests showed, so they’re truly high quality, not just designed to look the part. The LS-12 mics don’t capture much bass below 80Hz, but the Tresmic of the LS-14 took it down to subsonic frequencies and captured lows well, again correctly in terms of level.

Low frequencies can be a nuisance in a recording, introducing all sorts of rumbling and booming sounds you never realised were there whilst recording, so this ability of the LS-14 has to be used carefully. Two bass (high pass) filters allow deep bass to be cut out. You can alternatively post-EQ deep bass out with an editor like Audacity. The LS-14 has been tailored to capture drums and bass fully, something the LS-12 cannot do, although again post-EQ will help the ‘12 here.

Of the three record modes, ‘Quick’ dynamically adjusts record level. It’s the usual gain riding system that works well enough for general use. ‘Smart’ senses peak level during a pre-record pause and then records with this input gain setting. It gives better quality by eliminating gain riding, whilst avoiding the need to manually adjust gain. ‘Manual’ is what I used, quickly finding the mic gain settings don’t apply here. An optional limiter gain-rides to minimise overload; it doesn’t prevent it but does lessen its effects; at high gains hiss can be heard to ride up and down, as you’d expect. I liked the way headphone volume and record level (which affects headphone volume) could be set with the rotary jog dial in Record Pause. But the screen is small, and graphics and text were small, thin and spindly and not so easy to read. The record level display covers 40dB. Display reaction time was slow and there was no colour to differentiate between acceptable (green) and overload (red). The display panel was a tad basic in all areas: speed, legibility and clarity of message, but adequate.

Measurement showed noise in the mic amps (or from the mics themselves) to be significant and in use I heard this. At full record gain, low level sounds from my surroundings were clearly audible, handling noise, loud and clicks and spits I made with my mouth (at 0.5m) were enough to cause overload. But hiss was also clearly audible; these recorders are not the quietest. They are fine for general use, but not true high fidelity or, in the pro world, pro quality. At this point you won’t be surprised to learn there’s also an LS-100, price £350, that offers better performance, but it’s a semi-pro machine with XLR sockets and such like. The LS-12 and 14 are simpler and relatively easy to use.

Let me get their limitation into

**Small loudspeaker at rear, 3.5mm earphone and headphone jacks and mini-USB socket.**
The DAC Box DS allows you to bring your digital music to life. Whether you have a network streaming device, a CD Player or a computer loaded with your downloaded music; this innovative DAC can take it all and transport it to your hi-fi system with optimum fidelity. Now at a NEW PRICE!

**£299.00 SRP**

**DAC Box DS**

- Top-Grade D/A converter chip
- USB 'Type B', optical and coaxial inputs
- 24bit/192kHz asynchronous USB streaming
- Display readout shows incoming bit depth
- 8 times oversampling design
- 2 selectable filter settings
- Premium Components

**Box Design**

Whether you want to add an iPod or computer music library to your existing Hi-Fi setup, or you’re starting a main or secondary system from scratch, Box Design by Pro-Ject Audio Systems is a fantastic way for all music lovers to bring more high-quality audio into their lives.

Every Box Design product combines premium build-quality and exceptional sound with a small size and an attractive price...

STREAMERS - DACS - AMPLIFIERS - iPOD DOCKS - HEADPHONE AMPLIFIERS - CD PLAYERS

Box Design by Pro-Ject Audio Systems
is distributed in the UK by Henley Designs Ltd.
Web: henleydesigns.co.uk  |  Telephone: 01235 511 166  |  Email: sales@henleydesigns.co.uk
perspective. Measurement showed that noise and distortion in the mic / line preamps, although low, was enough to compromise ultimate performance; through the line input 24bit recording resolution gave no better results than 16bit, dynamic range measuring a low 87dB with both. This is below CD (16bit) that easily manages 98dB dynamic range and 24bit that gives at least 110dB, so dynamic range is disappointingly low, -10dB down. But at the same time it is no disaster; when recording LP disc surface noise drowned input amplifier noise, for example.

**SOUND QUALITY**
Recording LP to CD worked well and delivered good results by general standards. There was a somewhat cold, hard quality to Duffy's voice singing Warwick Avenue that I'm not used to, the recording being clearly different to the original, less full bodied, cool in tonal character as explained and a bit lacking in life or soul. But technically it wasn't in obvious tonal error or noisy and would pass muster in most situations I suspect. Much the same quality affected all recordings I made.

Whilst I wouldn't choose to run a recording from either machine instead of the original through my hi-fi (WAD 300B valve amplifier, Martin Logan ElectroMotion loudspeakers), they sounded pleasant enough when played through headphones from the LS-12 or 14, and decent too when the line output was used to drive the hi-fi.

I got punchier results by transferring the WAV recordings to an Astell&Kern AK 120 portable player and driving the system from this, but although this improved dynamics and peppered things up, it didn't offer a complete cure; the coldness of character was there and a certain lacklustre quality.

Similar recordings made with a Furutech Esprit preamplifier were better, altogether more lively and dynamic sounding, but the Esprit is £835 – quite a price gap. This illustrates what superb value both Olympus recorders are, I feel.

Live recording at full gain and overloading the mics with finger snaps showed the limiter successfully avoided digital distortion, even though overload was registered. Sudden gain reduction caused hiss to quickly disappear and then rise back up slowly of course, due to gain riding, but this is inevitable. I suspect background noise would be enough in most environments to overwhelm this and use of full gain unrealistic, even when bird watching! However, a quiet studio may well make hiss just audible at high gain.

Sound quality from microphone recordings was good, certainly in terms of tonal balance. There was again a rather hard, 'tin can' tonality and a lack of real smoothness or finesse, the mic capsules determining quality in this case. At the price these are minor criticisms though. I felt '96kHz/24bit' was a bit more open sounding and airy than 44.1kHz/16bit but not more insightful.

**CONCLUSION**
I ended up very impressed by these recorders. They're well engineered all round and do a massive job, acting as recorders and players. They can be used for high quality dictation, live music recording, singing, instrument / band practice and much else, including making digital recordings from an amplifier's tape output sockets. The recordings can be transferred to a computer and stored, edited or played. Or they can be played on the recorder, through either its small loudspeaker (tinny sounding) or headphones. Volume through high quality insensitive headphones like the Philips Fidelio X1s I used was limited though. I transferred recordings to a high resolution portable player able to give more volume.

For most people the LS-12 will be good enough, but those who want deep bass need the LS-14. At their absurdly low price both recorders are amazing value – modern digital workhorses worth having, complete with a big, red Record button. At last!

### MEASURED PERFORMANCE
The LS12 and 14 measured identically, except for their mic performance, so the results here apply to both models. Frequency response was flat to 46kHz with 24/36 resolution selected, so there's plenty of bandwidth. Selecting 16bit or 24bit made no difference to level because noise and preamplifier distortion swamped distortion from the ADC/DAC, overwhelming even 16bit quantisation noise. At full line gain noise measured -80dB from line input to output and distortion 1.8% due mainly to second and third harmonics that came from the mic amplifiers. The line input needed just 0.2V (200mV) for 0dB at full recording gain so they will work from an amplifier's tape output. All the same, 24bit resolution is a bit academic with these recorders, because their preamps are noisy and produce analogue distortion.

Line input overload was a high 3V, so there's plenty of range here and overload is unlikely in use.

Output from the headphone socket was 0.3V, a normal enough figure, if not enough to drive insensitive 'phones loud.

The microphones were accurate and had a response that reached 16kHz. Low frequencies rolled down fast below 80Hz on the LS12 but the LS14's bass mic took a lot more down than 20Hz, making it truly a wideband and accurate recorder.

Both mics were flat and accurate over their operating range, giving a result identical to our B&K/Kjaer measuring microphone with a wideband loudspeaker as source. These hand held recorders measured well enough, but they are not quite hi-fi, at least through the analogue line input – there's too much noise and distortion. They are able to record from an amplifier's tape output, as well as from their microphones, and they can be used as music players, through the on-board loudspeaker or headphones. NK

**FREQUENCY RESPONSE, 96k**

<table>
<thead>
<tr>
<th>Frequency response (-1dB)</th>
<th>CD</th>
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<tr>
<td>Distortion (%)</td>
<td>0dB</td>
<td>0.04</td>
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<td></td>
<td>-80dB</td>
<td>1.8</td>
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<tr>
<td>Separation (1kHz)</td>
<td>92dB</td>
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<tr>
<td>Noise (IEC A)</td>
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<td>Dynamic range</td>
<td>87dB</td>
<td></td>
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<td>Output</td>
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</tr>
<tr>
<td>Sensitivity</td>
<td>0.2V</td>
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</tr>
</tbody>
</table>

**MIC RESPONSE, LS-12**

- **Sensitivity**
  - Small illegible screen
- **Value**
  - Keenly priced
- **Verdict**
  - Excellent digital recorders for music, speech and audio. Pocketable and cheap.
- **For**
  - Mic and line recording
  - Good quality
  - Portable
  - Easy to use
- **Against**
  - Not quite hi-fi
  - Small illegible screen

Olympus UK
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www.olympus.co.uk
WHITTLEBURY
A wealth of new products will be on view at the National Audio Show, Whittlebury Hall, Northamptonshire, this year. Here's a quick preview of new products that’ll be there.

ICON AUDIO
Icon Audio will be presenting the first public appearance of the new KT150 amplifiers. The KT150 is a new valve that provides KT88 type properties but with more power. See this month's news section for amplifier upgrade prices.

Also look out for the PS1 MKII £999.95 (MM) and PS3 MKII £1899.95 (MM) phono amps with redesigned power supplies: both will be available with a MC option. Finally, the Stereo 845 integrated amp (£5999.95) will be on show, offering 40+40W from massive 845 valves.

Click on www.iconaudio.com or call 0116 244 0593 for more information.

HENLEY DESIGNS
In a room packed with new products you will be able to view the Pro-Ject 1 Xpression Carbon (£575), an update of the 1 Xpression III turntable, including an improved one-piece carbon fibre tone-arm with over-sized support, new DC power supply and motor isolation, high-gloss platter and sorbothane-damped counterweight. It is fitted with a new Ortofon 2M Silver cartridge (a 2M Red with silver coils).

The Pro-Ject Signature (£7,500), a new flagship turntable, will be on show along with the Pro-Ject Stream Box DSA (£999), a streamer, Internet radio player, DAC and multi-input integrated amplifier in one box.

Audio-Technica will be present with its ADX range of open-backed headphones (£150-£925) while the Roksan Oxygene CD Player (from £2,500) and integrated amplifier (from £3,000) will also be present alongside the Audiovector Discreet streaming and active loudspeaker system (from £1,850).

Call 01235 511 166 or click on www.henleydesigns.co.uk for more information.

HIFI HEADPHONES
This outfit will be showing the Final Audio Design Pandora full size headphones for the first time in the UK. When finally released, it will be priced at around £3,000. Check out the accompanying image that also features the FI-BA-SS IEM (£1,100).

Click on www.hifiheadphones.co.uk or call 01903 768910 for more information.
SHOW PREVIEW

QUADRAL

Available for viewing will be: the new IPSO speaker series (from £199), outdoor/weatherproof 2-way speaker, in three sizes; the Qube 7 (from £250), an addition to the company's subwoofer range; the Magique TV system (from £650) and the Rondo active desktop speakers (from £650) — ideal for multi-media, Bluetooth use and USB connectivity.

Also look out for the Aurum Orkan Active (from £6,950) and Altan Active handmade speakers (£TBA), featuring the company's Aurum Electronic amp technology and the re-designed Platinum M (from £395 to £3,500) range of speakers. Expect a new Aurum Electronic pre-amp (£2,750) and power amp (£3,195).

Call 01785 748 446 or click on www.quadralgb-le.co.uk for more information.

DECENT AUDIO

Decent Audio will be focusing on the Audeze planar magnetic headphones. The LCD-2 (£75) and LCD-3 (£1,725) use planar magnetic technology in a 'around the ear' design.

Call 05602 054669 or click on www.decentaudio.co.uk for more information

ALACRITY AUDIO

The company will be launching the Caterthun 8 loudspeaker (from £3499); pictured on the left with the Caterthun Classic to the right. The new design features the same operating technology as the Classics but, says the company, the new design offers, "More."

Call 01273 697848 or click on www.alacrityaudio.co.uk

INSPIRE HIFI

Inspire will be showing the Monarch Direct Drive turntable and the new, entry level, Black Magic. An array of both 9" and 12" arms will be available including the Ortofon TA series. Watch out for the new Audio Origami UNI tonearm on an Inspire-upgraded Vivid Linn LP12.

Call 01246 472222 or click on www.inspirehifi.co.uk for more information
MAINS CABLES R US
Back for a third consecutive year, MCRU will be showing the Clearaudio Concept MM turntable that retails for under £1,000 and comes set-up with arm and cartridge direct from the factory. The company is also supporting Longdog Audio. Owned by engineer, Nick Gorham, Longdog will be presenting the LDA VDT1 24bit/192 kHz DSD DAC. This valve output, transformer-coupled DAC has been designed and built in the UK.
Click on www.mains-cables-r-us.co.uk or call 07908 056978 for more information.

CLARO AUDIO
New from the company is a power supply to go with its Clarity Dual Turntable that both stabilises the speed and limits the power into the turntable.
Click on www.claro-audio.co.uk or call 01423 79993 for more information.

HIGH END CABLE
New from High End Cable will be the Raidho D-1 speakers (from £14,400), featuring a sealed ribbon tweeter and diamond/carbonite mid-bass driver, the first UK showing of Nordost’s Valhalla 2 cable (interconnects from £6,000 per metre per pair), Panda Feet cable supports (£100 for a set of four) for ribbons, ovals and round cables as well as cable lifts at a fiver a pop. Finally, retailing at £695 are The ONE speakers aimed at desktop and bookshelf mounting.
Click on www.highendcable.co.uk or call 01775 761880 for more information.

DIVERSE VINYL
Among a host of vinyl, the company will be launching a new release by Eleanor McEvoy. 'If You Leave' will be making its vinyl debut on Diverse Records along with a new release by Eddi Reader, 'The Songs Of Robert Burns'.
Click on www.diversevinyl.com or call 01633 259661 for more information.

RUSS ANDREWS
Russ Andrews Accessories will be showing a new range of power cords. The PowerKord 100 (from £150), 300 (from £230) and 500 (from £440) feature major improvements.
Call 01539 797300 or click on www.russandrews.com for more information.
TIMESTEP
Timestep will be showing its Technics-based EVO IR turntable. Fitted with the new SME J shaped arm and conventional removable headshell. Also on display will be the T-01MC Phonostage.
Click on www.soundhifi.com or call 01803 83366 for more details.

TEDDY PARDO
A new module adds 192kHZ asynchronous USB input to the TeddyDAC (£866). It is based on the XMOS chip, enhanced by ultra low jitter clocks. The company is proud of the power supply that, it says, provides an “analogue sound”.
The PR1 pre-amp (£1,166) is a solid state affair featuring low noise JFET transistors, Tantalum and PPS capacitors and WBT NextGen sockets. All components are mounted on a six layer immersion gold FR4 PCB.
The MB100 monoblock amplifiers provide 100W of power for £1,732. Featuring a regulated power supply, it includes a similar design philosophy to the pre-amp.
Click on www.teddypardo.com for more information.

GARRARD/LORICRAFT
A Loricraft/Garrard 501 (£14,000) featuring a new electronic power supply including a computer controlled stabilised variable speed control, will be exhibited. Fingers crossed that the Loricraft/Garrard 601 (£6,500) and the Loricraft Trident turntable (£4,750), based on the 601, will also be present.
Call 01488 72267 or click www.garrard501.com

SOUND FOUNDATIONS
Clearaudio’s The Master Innovation turntable (£14,500) sits in-between the Statement turntable (£90,000) and Innovation (£6,400), and features the non-contact magnetic drive found on the Statement as well as the ceramic magnetic bearing. Existing Clearaudio Innovation customers can upgrade to the Master Innovation from £9,100.
Watch out for the Performance DC that integrates a high-torque, smooth and quiet DC motor into the chassis. The motor is similar to that used in Clearaudio’s high-end Ovation and Innovation series turntables. A new 40mm thick black POM platter sits next to the new Clearaudio Clarify tonearm that features a woven carbon fibre arm tube. Completing the package is the Clearaudio Virtuoso v2 MM cartridge (£2,495), with a resonance-optimized ebony body.
Call 01276 501 392 or click on www.soundfoundations.co.uk

THE MUSIC ROOM
Check out the Burmester 101 integrated amplifier (£4,080) with the 102 CD player at the same price.
The new Zingali speaker range (from £3,250) was pre-viewed in Munich. Featuring the Omniray horn and new pedestal, it acts a quarter wave guide which focuses the energy from the down-firing bass reflex system.
In the headphone area — the Headzone — watch for the UK premier of the Abyss AB-1266 headphones (£3,495).
Call 0141 333 9700 or click on www.music-room.com for more information.
HI-FI WORLD WILL BE EXHIBITING AT THE NATIONAL AUDIO SHOW 2013
PLEASE COME AND SEE US THERE!

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Alacritity Audio
Art Vinyl
Audio Cabinet
Audio Emotion
Audio Fly
Audio Fibre
Audio Quest
Audio-Technica
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Audionote
Audiovector
AURALIC
Black Rhodium
Blue Horizon
Box Design by-
Pro-Ject Audio

Brian and Trevor
Bredmann Acoustics
Carbor
Claro Audio
Classic Album Sundays
Clearaudio
Clearlight Audio
Concert Fidelity
Custom Design
dCS
Diverse Vinyl
Final Audio Design
Furutech
Gato Audio
Gearbox Records
German Maestro
Harman Kardon
Hewlett Packard
Hi-Fi Racks
Hi-Fi Headphones
Hi-Fi Plus
High End Cable
IAC Audio
iFi
Insignia Hi-Fi
IsoTek
JBL
Krak Audio
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Lorincraft Audio
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Whittlebury Hall Hotel. Situated in the very heart of the UK, in rural Northamptonshire providing the perfect location for the National Audio Show.
**THE RIGHT NOTE**

New at the show will be the: Aurender W20 streamer (£12,999), featuring two hard discs including a 240GB SSD plus OCXO word clocks; Vertex Aletheia DAC 1.5 (£15,995), featuring no upsampling, noise shaping or filtering but extensive anti-distortive technologies and VTL S200 valve power amp (£9,800) featuring 200W of power, SmartTube automatic biasing and tetrode/triode switching.

**Z:AXIS**

Z:Axis Audio will be officially launching the Concert Fidelity brand in the UK including the ZL-200 Mono Power Amplifier (£26,300); LSX2 Pre amplifier (£12,900) and DAC 040 BD (£7,900) along with their own support system, the Ariya-Sacca (£7,600).

In addition, you will also be able to see MBL’s CD transport 1621a (£18,900) with TAD Labs Compact Reference1 (CR1) loudspeakers (£36,995).

Click on [www.zaxisaudio.com](http://www.zaxisaudio.com) or call 01273 891750 for more information.

**KRALK AUDIO**

First up is the new mini monitor speaker, the BC-30 (£349), each pair hand crafted from a single sheet of birch plywood. Next, is Version 2 of the Atips-1 (£749) speaker featuring the new cast aluminum bass driver.

Finally, there will be a new stand for the Atips-1 called the XB-1 (£349), a passive design bass extender, the stand bolts directly to the rear of the speaker and extends the transmission line port through a series of baffles.

Click on [www.kralkaudio.com](http://www.kralkaudio.com) for more information.
The wacky Colorfly C4 Pro digital audio player has been around since 2010. We were offered a review sample some time ago, but took one look at it and declined: "It's like something out of Starsky and Hutch" commented reviewer Rafael Iodes, who totes an Astell&Kern AK120 portable. Perhaps, but the C4 has gathered a large following and gets good reviews all the same: users typically say it sounds fantastic and it blew them away (etc). So we asked to review the top C4 Pro.

What does the C4 Pro do? It is a portable music player that offers sound quality better than CD. Not only can it drive headphones, but also a hi-fi system. It's powered by an on-board rechargeable, non-replaceable battery power supply. It has 32GB of internal memory to score music, plus one slot that can accept a 32GB micro-SD card, giving 64GB music storage in all. A 64GB card is not recognised, say Colorfly.

In real life the C4 Pro is as eccentric as it appears in photographs. The contrast between its 1970s aesthetics, and 21st century ability to play highest resolution digital files is peculiar, even bizarre. I can think of few products that look or feel as antiquated as this one, yet house latest technologies, purposed for tomorrow — meaning better sound quality than CD.

There are no moving parts, such as an LP inside. Music is downloaded from a computer and stored in flash memory. The provision of a line out jack socket means the C4 Pro can be hooked up to a hi-fi amplifier’s CD or Aux input and used as a 'CD player'. By this I mean it can play CD files to deliver CD sound quality, or high resolution files for better quality than CD. As an aside — you can only download high resolution files; they are not commonly available by other means; you won’t be buying them in HMV (don’t even ask). Unencrypted, they are easily transferable, typically on a memory stick, between friends perhaps.

The player is 'portable' but not easily pocketable, because of its size. The case measures 126mm high 77mm wide and 26mm deep; it would fit only the largest pockets on — say — cargo trousers. A weight of 260gms makes it feel pretty solid too.

Part of its weight and bulk is attributable to a carved walnut sleeve. Also adding to weight and size are the volume slider, a rocker switch and mechanical control panels, as well as an old-style 1/4in headphone jack, no less, the logic of which I'll explain later.

Faux aged-bronze trims contrast with the American black walnut case, and at top sits a relatively large display panel that, unlike Astell&Kern’s, is not touch sensitive. It does, however, have a sharp and clear colour display showing music level, track progress, bit depth and sample rate, track info, and the logos SRC (Sample Rate Conversion) and EQ applied. I liked the main feature of this panel, its sound level meter. Calibrated to cover a wide 60dB range it shows where music has been recorded in the dynamic range available, as well as its intrinsic dynamic range. So Eagles tracks hovered just below maximum (0dB) to sound loud and had a limited range from soft to loud of 20dB, whilst modern quality recordings were quieter but covered a much wider range. It was nice to see such a well thought out and informative display.

There are two headphone outputs: one uses a small 3.5mm headphone jack and the other a bulky 1/4in jack. The logic of this isn’t immediately obvious, but measurement showed the large socket delivers no less than 1.9V — as
for headphones. Level can be reduced with the volume control but with sensitive phones this means setting volume very low, at which point much as a CD player and too much output, if useable with headphones. However, subjectively I preferred the 1/4in jack and used it for headphone listening.

What looks like analogue phono sockets on the bottom panel are in fact an S/PDIF digital audio input and output. The input allows the player to be used as a DAC, and the output means an external DAC can be used if wished.

The internal DAC is a Cirrus Logic CS4398. There is also a CS8422 sample rate convertor whose main purpose is to up-sample CD to 24/192 resolution, Colorfly say. You can't get rid of 16bit quantisation noise or conjure up supersonic data from nowhere by doing this, but you can use better filters for small benefit.

Also on the bottom panel are a mini-USB socket for charging and uploading music files from a computer, a micro-SD card slot and a reset facility that I used a number of times. Although reset was quick, the small hole needs a paper clip or similar, which a user may not have when travelling — not such a good idea.

Colorfly claim to use top quality parts internally, for best sound quality. A temperature compensated crystal oscillator has top notch clock stability, to minimise jitter. The analogue slider volume control comes from Alps, renown for the Alps Blue potentiometer used by nearly every hi-fi manufacturer; it's an obligatory part of proven and accepted high quality. An analogue volume control doesn't sacrifice dynamic range like a digital volume control and this one controls both headphone outputs. Elna Silmic II electrolytic capacitors are used for "better tone". Colorfly do appear to have made serious effort in the sound quality stakes, at least in component specification.

Our C4 Pro came with outboard charging unit that delivers 5V down a USB cable to the 3.7V battery inside. I suspect from the handbook this is aimed at the German market; it had a European two-pin plug that needs an adaptor for the UK. Ours didn't work (this may have been due to poor contact in the adaptor) so I used an Apple iPhone charger. Once charged the Colorfly played for 8 hours in a continuous looping test where the current drawing display panel was used little, so expect 8 hours as a maximum and around 7.5 hours as a likely real life playing time. That's a day's play perhaps. The C4 Pro can be set to play whilst charging, done whilst connecting to a computer. Plugging it into a Mac or PC turns it on and starts charging, its internal memory appearing as a removable 'mass storage device' on-screen (Mac).

**IN USE**

Seeing FLAC in the file compatibility listing I merrily loaded up a small test library of 24/96 and 24/192 FLAC files and was greeted by a buzzing noise through the headphones; the C4 Pro does not play FLAC at anything above 16bit resolution and 16bit is yesterday. It only plays hi-res in basic uncompressed WAV format. A lot of hi-res comes as FLAC because it is free, popular, has metadata and halves file sizes, equivalently halving download times and storage capacity.

The solution to this difficulty is to use XLD on a Mac, or dbpoweramp on a PC, to convert such files to WAV; I used XLD, causing a small folder containing ten 24/96 test songs to expand 60%, from 774MB to 1.25GB. The internal memory will hold around 250 24/96 WAV songs (or half that with 24/192).

In real life my Astell&Kern AK120 carries all sorts of stuff: old analogue recordings in 24/192, CD rips in miserable 16/44.1 and swathes of recent hi-res, mostly in 24/96, making song capacity prediction impossible. But as a guide a CD track that is typically 60MB in WAV, will occupy 195MB at 24/96 resolution, and 390MB at 24/192 resolution. So although the Colorfly's 64GB total storage capacity is adequate, the need to use uncompressed WAV substantially diminishes the number of songs it can carry, as well as necessitating transcoding WAV.

In addition to WAV the player also handles MP3, Ogg Vorbis and APE. Colorfly say I loaded CD rips (16/44.1) compressed by FLAC and these did play. So, all in all, the C4 Pro

**Excellent display panel shows wide 60dB music range, with red meter indicator. Bit depth and sample rate are shown too.**

is limited in file format compatibility and is looking dated here — and don't ask about DSD.

The peculiar rocker switch is a spring loaded temporary 'make' type that gives direct access to sample rate conversion and six music EQs: Normal, Rock, Pop, Classic, Bass and Jazz. Just press the switch to scroll through them. I listened to them and heard the usual basic EQs being applied; nothing special here; I stuck with Normal but some may want Bass to give portable 'phones a kick.

Sample rate conversion (SRC) changes resolution as well as sample rate, typically being used to 'improve' CD by increasing its resolution from 16bit to 24bit, and sample rate from 44.1kHz to 96kHz or even 192kHz. Sounds good, but there's no information that can be recovered...
Introducing the multi-award winning Debut Carbon from Pro-Ject Audio Systems. The Debut record player is an icon of the entry-level audiophile market, and this latest incarnation elevates the model to a new level of audio quality.

**Debut Carbon**

Brand new one-piece 8.6" Carbon Fibre tonearm - New motor isolation set-up - Upgraded 12" platter with higher mass - New mains supply method - Cable junction box - Ortofon 2m Red Pre-Fitted - Available in 7 high-gloss colours

Pro-Ject Audio Systems is distributed in the UK by
Henley Designs Ltd.
Telephone: 01235 511 166
Email: info@henleydesigns.co.uk
Web: www.henleydesigns.co.uk
Alps parts in the past this is the sort of improvement they bring, lifting the mundane a step toward the sublime.

With Tom Petty's 'Refugee' (24/96) I was aware that, as I suspected working through CD rips, the C4 Pro is brighter than the AK120, faster and sharper, more forceful. There was a sheen to treble that gave the presentation a hard edge. It lifted horns of the Berlin Philharmoniker playing Dvorak's Cello Concerto, making them stand out, but gave strings a little glare. The bass line in Diana Krall's 'Narrow Daylight' was clean and firm, and piano chords rang out strongly; this is a big and bold sounding player. Plectrum on steel guitar strings sent shards of sound through my ears; I can understand why users declare that having heard this player "all else is gaslight" to borrow someone's infamous phrase upon hearing CD. But although I was mightily impressed I also had some slight reservations. The darkness in silences wasn't quite there, nor the silky smoothness of hi-res done well that I have become used to.

All of which is to say the C4 Pro has a Technicolour sound that is fast and forceful, and has superb treble resolution too. It is gripping and exciting, if a little hard and fast in character; you won't be nodding off listening to this one!

**CONCLUSION**

1970s fantabulous, the Colorfly C4 Pro is one wacky device. Ignoring the cluster of its styling and file format limitations, it has an exciting sound that seemingly lifts hi-res higher, making listening a thrill. It isn't quite the bees knees in sophistication, in any area: styling, sound or usability. Pull it out beside someone using an iPod and they'll collapse laughing. Unfortunately, no matter how good its sound, at the price it is not now competitive; similarly priced rivals offer pocket-ability, a more neutral sound and wider file format range.

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**SOUND QUALITY**

Which brings me onto sound quality. Rafael's comment seemed apposite: the C4's sound was 1970s too, but in a good way. It was muscular and expansive, like Starsky's Gran Torino, but similarly less than svelte. Enjoy the power; forget sophistication!

With a CD rip of the Eagles' 'Somebody' the C4 Pro put up a massive sound stage, painting the band in a big broad picture across it. There was a strong sense of grip in the timing, and dynamics were large; I immediately realised this player has a exciting presentation, one that's visceral with Rock. The Hammond had a big fruity presence in the mix as it swirled in the background and the bass line was thunderous, through the AK120, faster and sharper, more forceful.

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**CONCLUSION**

1970s fantabulous, the Colorfly C4 Pro is one wacky device. Ignoring the cluster of its styling and file format limitations, it has an exciting sound that seemingly lifts hi-res higher, making listening a thrill. It isn't quite the bees knees in sophistication, in any area: styling, sound or usability. Pull it out beside someone using an iPod and they'll collapse laughing. Unfortunately, no matter how good its sound, at the price it is not now competitive; similarly priced rivals offer pocket-ability, a more neutral sound and wider file format range.

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**SOUND QUALITY**

Which brings me onto sound quality. Rafael's comment seemed apposite: the C4's sound was 1970s too, but in a good way. It was muscular and expansive, like Starsky's Gran Torino, but similarly less than svelte. Enjoy the power; forget sophistication!

With a CD rip of the Eagles' 'Somebody' the C4 Pro put up a massive sound stage, painting the band in a big broad picture across it. There was a strong sense of grip in the timing, and dynamics were large; I immediately realised this player has a exciting presentation, one that's visceral with Rock. The Hammond had a big fruity presence in the mix as it swirled in the background and the bass line was thunderous, through the AK120, faster and sharper, more forceful. Plectrum on steel guitar strings sent shards of sound through my ears; I can understand why users declare that having heard this player "all else is gaslight" to borrow someone's infamous phrase upon hearing CD. But although I was mightily impressed I also had some slight reservations. The darkness in silences wasn't quite there, nor the silky smoothness of hi-res done well that I have become used to.

All of which is to say the C4 Pro has a Technicolour sound that is fast and forceful, and has superb treble resolution too. It is gripping and exciting, if a little hard and fast in character; you won't be nodding off listening to this one!
Small Q

Q Acoustics have updated their 2020i 'speakers with a new cabinet and dedicated stands, to produce the Concept 20 here. Jon Myles finds them a little wonder.

What makes a good loudspeaker? Drive units? Cabinet construction? Or, in the case of a standmount, what it sits on?

In reality, as we all know, it's a combination of all three. Which brings us to the Q Acoustics Concept 20.

In essence this is the company's well-regarded budget 2020i model with a new cabinet and — to bring the best out of them — a dedicated stand adding £200 to the cost.

So whereas the 2020is are £210 a pair the Concept 20 with stands will set you back £550. Which does start to put them up against some serious competition — including Q Acoustics own 2050i floorstander costing £575. But take a closer look at the Concept 20s and you start to see their thinking.

Essentially, they take the 2020i drive units — a soft-dome tweeter with carbon fibre and ceramic-coated paper mid/bass, and a slightly tweaked crossover — then put them in a vastly improved cabinet.

In essence the Concept 20 enclosure uses a box-within-a-box design with inner and outer enclosures of 10mm MDF panels separated by a compliant compound called Gelcore, said to dampen any panel resonances by turning the unwanted energy into heat.
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The tweeter still remains decoupled from the front panel to reduce any vibration from the mid/bass unit muddying high frequencies.

But other changes from the 2020s include bi-wireable speaker terminals mounted on the rear panel below the reflex port rather than in a plastic tray at the base of the speaker.

Then there's the dedicated stands. Yes, they cost £200 - but in terms of material value for money that doesn't seem excessive. Standing 66cm high, the metal top plate again has a Gelcore filling for damping with three threaded metal discs that screw into the underside of the speaker to hold it firm.

The main pillar is made of MDF and three floor spikes finished things off. The rear pair are mounted to a thick glass bracket and adjustable for level while the front spike is fixed in place. In practice they make it extremely easy to achieve levelling without too much stress - which isn't something you can say about every stand.

Put together it's an undeniably handsome pairing with a reassuring solidity and sense of purpose.

**SOUND QUALITY**

Firmly secured on their stands, placed clear of a rear wall and given a slight toe-in you can hear the benefits of the Concept 20's cabinet. At just 26cm tall bass quantity and dynamic extension are never going to be prodigious - but there is still an enticing sound on offer.

Their biggest strength is an admirable coherence and freedom from boxiness. Keep the volume at a reasonable level and they sound true to their nature and rhythmically assured.

The fiery trumpeter playing of Tim Hagans on 'Asiento' was hard-hitting yet composed. The higher registers tuneful and rhythmically assured.

And secured to the dedicated stands the soundstage is impressively wide. In fact, they may be a virtual perquisite. Moving the speakers to another pair of stands (albeit cheaper models) saw the sound take a noticeable dip in quality.

Nothing that would make you think they were seriously compromised by alternative stands, but enough to realise how much the dedicated stands contribute to sound quality.

Back on their preferred residence Chick Corea's 'Further Explorations' came over well - the Concepts doing a good job of reproducing the late Paul Motian's elastic drumming.

In fact, this is where these speakers really shine. Simple, acoustic music can sound sublime, having a palpable presence and sense of atmosphere.

**CONCLUSION**

The Concept 20s are a superb update of Q Acoustics 2020s, showing just how much difference an improved cabinet can make. To get the best from them, though, the dedicated stands have to be used. It takes the price to £550 and starts to push them up against some tough competition which will give greater frequency extension.

But if you are in the market for a small standmount speaker that looks excellent, has a well-balanced sound and won't let you down then this is one to listen to.

---

**MEASURED PERFORMANCE**

In keeping with all Q Acoustics loudspeakers, the Concept 20s had an impressively flat frequency response, our third-octave analysis shows. Not only does this give a nice even sound free from tonal aberrations, it's also indicative of low coloration. Treble lift is slight just enough to ensure highs are clear and obvious, without being forced. There's no crossover dip around 3kHz, so detailing will be strong. Output at lower frequencies doesn't rise at all and this suggests the Concept 20s will have quite dry, restrained bass, not a warm or fat sound, and this was confirmed by our decay analysis.

Forward output from the bass unit rolls down below 150Hz, suggesting the 'speakers have been designed to work close to a rear wall. The port peaks around 50Hz and its output was very high, no less than +16dB above the bass unit at 50Hz (+16dB is common) so it provides all the bass and it will likely sound 'bouncy'.

Impedance measured 6.5Ohms but the bass unit is a 4Ohm model, like most these days, so that is the minimum load value. Sensitivity was high as small loudspeakers go, measuring 88dB from one nominal Watt of input (2.8V). A 40 Watt amp will go loud.

A 200mS decay analysis shows the Concept 20s to be very low in coloration, and the cabinet isn't at all hot at low frequencies. Bass quality should be good but an amplifier with heft (Naim) may be needed for bass weight.

The Concept 20 is tightly engineered and won't let you down then this is one to listen to.

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**IMPEDANCE**

**FREQUENCY RESPONSE**

- limited frequency extremes
- best with dedicated stands
- limited frequency extremes

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**OCTOBER 2013 HI FI WORLD**
The new MC Anna from Ortofon sits at the highest echelon of Moving Coil cartridges. This state-of-the-art product is representative of numerous design elements and ideals pioneered by one of the world-leaders in analogue technologies. As a result, the MC Anna is truly capable of the highest degree of performance possible, and will provide a sound which is literally unsurpassed. The MC Anna is named after and inspired by the world-renowned operatic soprano, Anna Netrebko.

The stylish Xpression cartridge from Ortofon bridges the gap between SP1i-type designs and High-End models like the MC Windfeld and MC Anna, which are designed for headshell mounting. The result is a high-performance moving coil cartridge with the convenience of a standard headshell connector. By using some of the best technologies available to them, Ortofon have made the Xpression into not just a convenient and attractive design, but also one of the finest sounding cartridges available on the market.

The Cadenza series represents another example of Ortofon’s constant push toward technological perfection. By taking various design characteristics acquired through market leaders, such as the MC Jubilee and Kontrapunkt series, Ortofon have developed Cadenza to elevate any decent Hi-Fi system to a whole new level. The range consists of 5 different models, including a Mono version, but they all adhere to Ortofon’s core principles of accurate information retrieval and phenomenal sound performance.

Ortofon is distributed in the UK by Henley Designs Ltd.
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"we audiophiles are good for something after all"

Paul Rigby

You know...it brings a tear to the eye. Not just for me but to a group of people whose creativity was largely ignored.

Take yourself back to the early eighties and that critical time when punk had lost focus. Gone was the individuality and philosophical purity of the movement. In came commerciality and leather jackets. Johnny Rotten wore safety pins because he was too poor to buy new clothes - the pins held his old clothes together. The band-wagon jumping, 'me too' brigade adopted the safety pin as a Disneyland affectation. That's why post punk bands emerged. The quest for a new purity combined with the allure of new technology.

Synthesisers were still expensive but dropping rapidly in price and getting your hands on one meant that the punk ethic could continue in a more restricted form. Now, you didn't even have to learn three chords. You just had to use a single finger to prod a synth key and it would make a noise weird enough to get you noticed.

So post punk rapidly splintered into a host of sub-genres, one of which became minimal wave, a new construction of electronic music. Innocent and naive in the most positive of senses, it featured a pioneering spirit and a musical output that was raw and basic in its construction, producing simple repetitive patterns and vocals that often circled around them.

Notably, this early synth movement attracted influences from avant-garde philosophies such as futurism, as well as numerous later developments in technology such as the MIDI interface and the sequencer. Developments in technology such as the MIDI interface and the sequencer.

As you might expect, Maier's creativity was largely ignored.

The results are worth it, though, because this music, previously locked, decaying within a cassette shell, is not only given a new lease of life, it also finds a new audience and, wonderfully, new heart to the artists who had, after all thirty to thirty-five years old. Sometimes we need two or three full days to squeeze the best results from a tape."

The results are worth it, though, because this music, previously locked, decaying within a cassette shell, is not only given a new lease of life, it also finds a new audience and, wonderfully, new heart to the artists who had, mostly, left their creative endeavors and found a proper job", Maier confirmed.

"A great side-effect of these releases is that many artists start to produce music again, building websites for their artistic projects, meeting old friends and band-partners. They are proud of what they have achieved and happy with the recognition they have finally received".

You see? We audiophiles are good for something after all.
VTL S-200 Signature Stereo Power Amplifier

The S-200 bears a similar sonic signature to its bigger brother, the MB-450 Series III Signature monoblocks. The mid bass authority and control is excellent while the midrange and top end reflect natural timbres and instrument colors effortlessly. The amplifier's agility and speed, its very low noise floor, and its ability to drive a wide range of speakers are distinct features that few other tube amplifiers in this price category can offer.

This 200 watts/channel stereo amplifier is packed with technology VTL has spent years developing. A fully balanced differential input stage drives a differential phase splitter and a lower impedance push-pull output stage with a custom made, fully balanced, interleaved and coupled output transformer. Like its stable mates, the amplifier incorporates VTL's SmartTube technology with automatic bias adjustment and fault sensing, making this amplifier especially welcome to music lovers who value ease of use.

With the S-200, there's no need to guess when or if a tube may need to be replaced. To keep the output tube operating point constant and stabilize the critical power supplies, even under AC and main power supply fluctuations, the S-200 deploys adjustable precision-regulated bias and screen supplies, yielding tonal stability and sonic integrity especially during complex, dynamic signal conditions.

The S-200 also features a user adjustable Damping Factor feedback control that allows the user to adjust the amplifier's output impedance by varying the amount of negative feedback. Impedance can now be precisely set to suit the listener's taste, and to improve control of the loudspeaker loads to deliver best performance.

At Kog Audio, we select the most exceptional products in order to give music lovers unmatched enjoyment, and build systems that will exceed expectations and provide pleasure for years. Please visit our website for information, links and reviews for all our products.
Although I buy a lot of second hand records from the local second-hand shops, charity outlets, and also our local recycling centre which has a Resale Area and is my current favourite record shop, I do buy new pressings as well. The most recent of these is the new Shpongle album ‘Museum of Consciousness’, their fifth release since forming in 1998.

What made this release different to their previous offerings was the automatic inclusion of a free digital download of the album, regardless of whether I bought the vinyl or CD versions. With the CD there is a free High Quality MP3 download at 320 kbps, while with the vinyl there is a choice of MP3 HD (iTunes and iPod compatible), High quality MP3 (320 kbps), Apple Lossless or FLAC.

There are also options to get just a downloaded version, but in doing so the purchaser misses out on the booklets and the 3D lenticular cover which looks good on the CD version, but amazing on the LP casework.

Digital options like these are becoming increasingly common with most new album releases. In fact I cannot think of anything that I have bought new in the last 12 months that didn’t have a download supplied with the vinyl. I like the concept, since it leaves the purchaser with a high resolution copy for use at home and an easily accessed digital version to load into a phone or whatever portable music player that you favour.

The inclusion of this extra with the CD is new to me, but again it makes storing a copy on a hard drive very simple, and since a lot of current computers are not now equipped with disc drives, this is obviously the direction that the market is having to take as a result.

How much this lack of a disc drive will further depress CD sales is anyone’s guess. According to some figures, they are down 14% in the first six months of this year compared with the same period in 2012, while at the same time (according to Nielsen Soundscan) in the UK there were 2.9 million LP sales in the same period, a rise of 33.5% over the first six months of 2012.

Interestingly, although these sales are being driven, to a certain extent, by the reissue market, the majority of contemporary music being bought by the traditional market for such sounds — the teen, 20 and 30 something age groups, most of whom were brought up with CD as the main music carrier.

There has been discussion about resurgence of the 7 inch single market, amongst teens but the figures released from this year’s “Record Store Day” (held on the third Saturday of April every year since 2007) show this market sector cannot wholly account for the growth in sales. On this day the sales of analogue discs were made up as follows: 1,249 7” albums, 25,100 12” albums, 27,642 7” singles and 15,545 12” singles, an increase of 60% over last year.

To put this in perspective, in the first six months of 2013 there were 142 million album sales globally and vinyl accounted for 2% of this market.

Looking further into the subject I found that the dance music sector, which was the driving force in maintaining vinyl’s existence during the dark days of the 1990s, is declining as DJs move over to using CD players such as the ubiquitous Pioneer CDJ1000 or hard-drive based systems such as Serato or Traktor Pro 2.

There is also a growing trend to DJ in clubs using the music video released with the track, displayed on big screens. This trend will further harm CD sales because this type of media is downloaded from the record company websites.

Another area of music where sales are showing a worrying decrease is classical music. The Nielsion figures for America in 2012, compared to 2011, show a 20.5% drop in total classical album sales from 9,400,000 to 7,500,000. The digital / download classical music sales for the same period showed an increase from 2,300,000 to 2,600,000, but this was not enough to offset the overall decrease.

Virtually all classical music sales are in some form of digital format, the vinyl classical market being mostly occupied by reissues of classic LPs from the fifties and sixties.

Whether a move towards vinyl issues of these recordings would help turn the tide is unknown. I, for one, would be far more likely to buy contemporary classical recordings if they were available on vinyl,(there are a lot of superb performers gracing our concert halls at the moment). As it is, I tend to avoid the CD releases, and stick to the second-hand delights of the Decca SXL series and the like from the fifties and sixties, and enjoy the more lifelike performances and better sound quality that this gives me when compared to the over-edited renditions that seem to comprise most of the modern CD repertoire.

An old friend of mine had a favourite saying that “the only constant is change itself”. This is proving very true of the retail music markets. Over the years we have been told that vinyl is dead and that CD was perfect. Where the future lies, I don’t know, but I think vinyl has demonstrated that it is here to stay for a good while yet, as the silver disc loses ground rapidly. 

Tony Bolton
Vinyl is black!

The Evo! What an evocative name and rightly so too! The SL-1200 evolved from a Hi Fi turntable into a DJ deck and now we turn it back into a Hi Fi turntable again! Fitted with the legendary SME 309 tonearm and the Audio Technica AT33EV your emotions will run wild. The AT33EV is itself an evolutionary cartridge hence its EV suffix and matches the SME 309 so well. We have worked with direct drive turntables and moving coil cartridges for over 30 years now and the EVO has evolved into a mature product that is quite simply a world beater. We can supply completely new units with 5 year guarantees. used ones with 2 year guarantees, or we can convert your own..

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"cathode resistors and capacitors either blow up or burn out"

Valve amplifiers can – and too often do – destroy themselves in spectacular fashion. Big blue flashes come from the output valves, then there’s a bang and, after some very nasty sounds through the speakers, all falls silent. There may be a burning smell.

It’s enough to put anyone off using one, but I’ve been running a World Audio Design 300B for twenty years now and it’s been trouble free. It really is down to the manufacturer and how much power they are trying to get from a valve. Push them too hard and they will fail spectacularly.

I’m constantly reminded about all this when dealing with valve amps., and the issue came up obliquely with the Audio Research VS75 I review this month. Not because their amps blow up – precisely the opposite – but because they take precautions to prevent them blowing up. And the KT120 tube is part of this tale.

Let me tell you how valve amps fail, something too many valve amp manufacturers fail to understand.

If a power valve is asked to handle more than its rated power the anode will overheat, and so will the electrode structure around it. It will not necessarily glow cherry red, as happens when overheating is extreme. Instead, the metalwork is thermally cycled beyond its long term survival limits and eventually warps so severely the huge voltage on the anode, 500V-800V, flashes over to the grid and cathode when the fine gaps between them diminish. Once this process starts and bright blue flashes appear, it’s only a short time before total failure occurs.

In total failure, when the anode contacts the cathode, full HT is put across cathode resistors and capacitors and they either blow up or burn out. Worse, the surge of current through the output transformer primary can burn this out too.

What is left is a sorry mess and often an amplifier beyond economic repair. HT fuses should save the output transformer but some designers like to avoid fuses “because they affect sound quality”. I suspect they don’t know why a fuse is crucial.

So, how to minimise such total failure? Obviously, a valve must not be over run. Unfortunately, when I see absurd claimed power outputs of – say – 70 Watts from one pair of KT88s, I know the manufacturer is either over stating the true power produced or that the amplifier isn’t going to last long. However, complicating the issue is the quality of the valve used.

When power valves were produced by GEC, Marconi and Mullard, they were high quality items and their failure rates low. Modern valves from less sophisticated factories in Eastern Europe, Russia and China are not only less capable, but they are more prone to failure and to batch variation. At World Audio Design we once bought a batch of KT88s and every one failed! Luckily, no amplifier was damaged as a result of this, but it illustrates what is happening out there in the real world.

Old valves were successfully manufactured to very tight tolerances. I once used a GZ37 rectifier from Mullard in a prototype amp and all was fine. When I plugged in current production versions every one flashed over, even though I was running the valve below its rated voltage. I ended up using a wider tolerance SU4G that never flashed over, but it was much bigger.

And that’s what we see with the new KT120. It is a modern revision of the KT88 Kinkless Tetrode, with a bigger anode able to dissipate more power. Its electrode structure is strengthened to resist thermal distortion and the possibility of flash over. It probably better suits current production processes too.

That’s all fine. But now to one last wrinkle. Some valves fail early, meaning they work when tested before leaving the factory, only to fail shortly afterward in the customer’s home. Great!

The only way to avoid this is to soak test every valve, and this is what Audio Research do. It is time consuming and expensive, but you get an amplifier that’ll work as intended for the life of the output valve. Audio Research recommend you purchase new, soak tested valves from them also when replacing tubes, but they are more expensive than unsoaked tubes of course.

So now you can see why Audio Research have chosen the KT120, leaving behind the well built and reliable 6550 they once used.

The twist to this tale is that, having found the KT120 a big success, its manufacturer Tung Sol have now come up with a plug-in upgrade, the KT150 – and we are running ‘150s at Hi-Fi World right now.

The KT150 has slightly higher anode dissipation, 75 Watts instead of 60 Watts, and a stronger and non-resonant glass bulb shaped like a gherkin, giving it a distinct appearance. It also has a smoother, darker sound.

Although the KT120 gives more power than a KT88, it is rugged, reliable and cheap – around £40 – it can sound sharp, even fierce. The KT150 is designed to sound better, whilst being even stronger, but it costs £100 – more than a 300B. That’s expensive. All the same, providing manufacturers don’t over-drive them, blue flashes and destruction will hopefully be a thing of the past with these new Kinkless Tetrodes.
Talk to true jazz fans and Jarrett is considered to be nothing short of a genius. A brilliant pianist, he is seen as a consummate innovator, completely changing the face of solo piano work in terms of improv. For this new reissue from BGO, the well produced CD includes two albums: 'Mysteries' and 'Shades', both released in 1973, a prolific period of recording which saw Jarrett release five albums within that single year.

For 'Mysteries', Jarrett utilised his quintet structure but adopted a more experimental, exploratory sequence meaning that this album, while excellent, is aimed at true Jarrett fans only. It features a selection of top-notch highlights, however, including the reflective John Coltrane-like title track that spans fifteen minutes.

For 'Shades', the quintet, featuring bassist Charlie Haden, drummer Paul Motian and percussionist Guilherme Franco keeps the band moving at a pace with 'Shades of Jazz' offering a memorable melody and innovative improvisations, Jarrett being ably accompanied by sax player Dewey Redman. The pace of the album increases somewhat when the almost gospel-infused track 'Southern Smiles' kicks in along with 'Rose Petals' but starts to truly motor during 'Diatribe'.

Also look out for other BGO releases this month including Gentle Giant's classic harder rock, concept piece, 'Three Friends' (1972) and the under-rated, complexity of 'Octopus' (1972), Jerry Lee Lewis is back with two sixties' outings, recorded just before he took a left turn into country: 'The Return Of Rock' (1965) and 'Soul My Way' (1967). Check out Clover's 'Unavailable' (1977) and 'Love On The Wire' (1977), while the Incredible String Band's 'Hard Rope & Silken Twine' (1974), was the band's last album before disbanding.

Yates, once touted as the white Ray Charles, was a singer and pianist who, in conjunction with his partner, Billy Adams, created more singles for Sun Records than most of the other artists on the roster. Adams started singing early with his brother and sister, as a kids gospel group in Mississippi, recruiting a young man who sang with them for a while. A certain Elvis Presley. Later, as Yates progressed, he would hang out with the likes of Carl Perkins and Jerry Lee Lewis, travelling around in a hearse. During these times, Lewis was seen as unreliable, so Yates often had to step in for Jerry Lee as the headliner: reports say that Yates could play piano just like the Wild One.

But it was that early Presley connection which forged a relationship with the King when Yates was employed as Presley's bodyguard for a time, although Yates' own career continued unabated. According to Sun boss, Sam Philips, "Bill had an awful lot of soul in his voice. He was probably as versatile as any artist I've ever worked with."

This excellent CD features all of the 45 singles created for Sun and Home Of The Blues (an independent Memphis label publishing post-Sun blues and pre-Stax soul) along with unissued tracks and alternative versions along with a rare single issued on the Pixie label.

Also look for other releases from Bear Family, including 'Rock Me Baby - The Sun Years Plus' from Yates' colleague, Billy Adams, also on Sun and working as a bandleader, drummer and singer. Doctor Ross And His Jump And Jive Boys' 'Juke Box Boogie' features the Sun and Chess singles plus unissued singles recorded at Sun. Finally The Drifters' 'Rock' features the band's rock'n'roll recordings plus alternative takes.
A three CD set that features those singles that 'should' have been a hit but were not and then faded from view. So what we've got here is a wealth of top quality artists such as Bobby Darin, the Everly Brothers, Johnny Cash, Perry Como and Johnny Mathis. Each and every one was flushed down the loo of pop chartdom.

Maybe Gene Vincent, for example concocted the wrong nonsense word combination. His previous hit, 'Be-Bop-a-Lula' couldn't be replicated with the more elaborate 'B-I-Bickey-Bi, Bo-Bo-Go', in 1957. Can't think why. Meanwhile Little Miss Dynamite didn't quite make the grade with a namesake song title, 'Dynamite' in the same year. But why did Lonnie Donegan not succeed with 'Midnight Special' in 1958? The man was a skiffle phenomenon. Maybe it was the right song/wrong audience?

Emmons wasn't just the best steel guitar player in Nashville, he was one of the best that there has ever been. Playing the thing since the age of eleven certainly helped. He took to the instrument like a duck to the wet stuff, turning pro by the age of sixteen and, in 1956, fulfilled his first pro gig as he stepped in for Walter Haynes, backing country novelty song king and balladeer, Little Jimmy Dickens.

He did well enough to appear with them at the prestigious Grand Ole Opry and on several singles (a Dickens track, 'When Your House Is Not A Home', is featured on this CD). By 1957, he was recording solo singles. From there, Emmons played with luminaries such as Ernest Tubbs (late-fifties), Ray Price (1963) and Roger Miller (1969). Emmons left to resume his solo career in 1973, releasing an array of albums.
Here is our list of the great and good from audio's glorious past, products that have earned their place in hi-fi history. You'll also see some oddities which aren't classic as such, but are great used buys. The year of introduction is given, alongside the original UK launch price.

**DIGITAL**

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

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

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

**MARANTZ CD73** 1983 £700
A riot of gold brushed aluminium and LEDs, this distinctive machine squeezed every last ounce from its 16x4 DAC - super musical!

**MARANTZ SA-1200** £5,000
The greatest argument for SACD. This sublime Ken Ishiwata design is utterly musically convincing with both CD and SACD, beating most audiophile CD spinners hands down.

**MUSICAL FIDELITY TRIVISTA** 2002 £4,000
When playing SACDs, the sweetest, most lucid and lyrical digital disc spinner we've heard. Old school stereo, pure DSD design. CD sound is up in the £1000 class, too! Future classic.

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

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

**SONY CDP-R1/DAS-R11987 £3,000
**
Sony's first two boxers was right first time. Tolucalean, but probably the most detailed and architectural sounding machine of the eighties.

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

**TECHNICS SL-1200** 1987 £800
CD version of the Technics SL-1200 turntable. Massively built to withstand the rigours of "pro" use and laden with facilities - a great eighties icon. Sonically, it's pure fun, with hefty bass that can still show weedy modern players a thing or two!

**YAMAHA CD-X1** 1993 £340
Nicely built 16x2 machine with a very sharp and detailed sound; sometimes too much so. Excellent ergonomics, unlike almost every other rival of the time.

**MUSICAL FIDELITY TRIVISTA** 2002 £4,000
When playing SACDs, the sweetest, most lucid and lyrical digital disc spinner we've heard. Old school stereo, pure DSD design. CD sound is up in the £1000 class, too! Future classic.

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

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

**SONY CDP-R1/DAS-R11987 £3,000
**
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PINK TRIANGLE
DACAPTO
1993 £ N/A
Exquisite; the warmest and most lyrical 16bit digital audio we have ever heard. Clever plug-in digital filter modules really worked!

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

GOLDRING LENO CO
GL75
1970 £15.65
Simple, well engineered motor unit with soft, sweet sound and reasonable tonearm. Good spares and servicing support even today from specialists. Eminently tweakable. Similar 88 and 99 motor units are budget 3/1/TI124 rivals.

LIMAX AXI S
1987 £253
Simplified cut-price version of the Sondek complete with LVX arm. Elegant and decadently performing mid-price package. Later version with Akira tonearm better.

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

SOUNDARMS
ACOS LUSTRE GST-1
1975 £46
The archetypal S-shaped seventies arm; good, playful and involving sound in its day, but now aged and undynamic now.

TECHNICS SP10
1973 £400
Sennheiser Japanese engineering. Sonics depend on phonoamps, but a well mounted SP10II will give any modern a hard time, especially in respect of bass power and midband accuracy.

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

GARRAND 301/401
1953 £19
Heavy metal - tremendously strong and articulate with only a veiled treble to let it down. In many respects, better than the seventies 'superdecks' that succeeded it.

ROKSAN XEREXES
1984 £550
Supposedly the first to 'better' the LP12. Super tight and clean sound, with excellent transients. Less musical than the Sondek, but more neutral. Sagging plinth top-plates make them a dubious used buy.

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

THORENS TD12
1959 £ N/A
The template for virtually every 1970s 'superdeck', this iconic design was the only real competition for Garrard's 301. It was sweeter and more lyrical, yet lighter and less impactful in the bass.

TOWNSHEND ROCK
1979 £ N/A
The product of academic research by the Cranfield Institute, this novel machine has an extremely clean and fluid sound. Substantially modified through the years, and capable of superb results even today.

TORIO LO-7D
1978 £600
The best 'all-in-one' turntable package ever made, Trio/Kenwood threw their 'engineering best practice' book at this one with starting results. Clean, powerful and three-dimension al sound, ultimately limited by the tonearm.

TONEOARMS
ADC ACCUTRAC
1991 £90
Fine finish can't compensate for this ultra low mass arm's limited sonics - a good starter arm if you've only got a few quid to spend.

MICHEL GYRODEC
1981 £599
Thanks to its stunning visuals, this bold design wasn't accorded the respect it deserved until recently. Early examples sound cold and mechanical, but now right on the pace. Clean, solid and architectural sound.

TECHNICS SP10B
1973 £400
Superb superdecks. The template for virtually every 1970s 'superdeck', this iconic design was the only real competition for Garrard's 301. It was sweeter and more lyrical, yet lighter and less impactful in the bass.

REGA RB300
1983 £88
Inspired budget esoterica. Detailed, tight, neutral sound but tonally grey sounding in absolute terms. Responds well to tweaking, and its cheaper RB250 brother better still.
but the final LVIII version worth seeking out.  
HADCOCK GH28 1976 £46  
Evergreen unisport with lovely sweet, fluid sound. Excellent service backup.

NAIM ARO 1986 £875  
Truly endearing and charismatic performer—wonderfully engaging mid-band makes up for softened frequency extremes.

TECHNICS EPA-501 1979 £N/A  
Popular partner for late seventies Technics motor units. Nice build and Titanium Nitride tube can't compensate for muddling sound.

INTEGRATED AMPLIFIERS/COMBOS  
DELTEC 1987 £1900  
Fast, dry and with excellent transients, this first DPA integrated is the real deal for eighties obsessives. Ridiculously punchy 80W per channel from a tiny, half-size box. Radical, cool and more than a little strange.

ROGERS A75 1978 £220  
The prototypical Audiolab 8000a—lots of sensible facilities, a goodly power output and nice sound in one box. The later A75II and A100 versions offered improved sonics and were seriously sweet and open to listen to.

EXPOSURE VII/VIII 1985 £625  
Seminal mid-eights Exposure pre-power, offering most of what rival Naim amps did with just that little bit extra smoothness and sweetness. Still, it's by no means 'sweet' by today's standards, being lean, punchy, musical. It's also possessed of that quintessentially eighties look—frumpy black steel boxes with rough silk screened logos!

MUSICAL FIDELITY A11985 £350  
Beguiling Class A integrated with exquisite styling. Questionable reliability.

NAIM NAIT 1984 £350  
Superb rhythms and dynamics make it truly musical, but tonally monochromatic. Fine phone stage, very low power.

Audiophile reports go back to 1976 and the Audiolab 8000A (above). Designed by Richard Taylor, it was one of the earliest integrateds to claim 'true' Class A operation. It certainly had the looks of a Class A amp, and punchy, solid state sound to match.
LECON AC-I 1973 £ N/A
Amazing styling courtesy of Allan Boothroyd can't disguise its rather clunky sound, but a design classic nonetheless.

LECON API 1973 £ N/A
Madcap cylindrical styling alluded to its 'tower' type, ever. allied to a very clean and open Class A sound - brilliant, but dull.

LECON TC-1 1986 £ N/A
This Tom Evans-designed black box started the trend for high performance offboard phono stages. Charismatic, musical and punchy - if lacking in finesse.

MUSICAL FIDELITY XA200 1996 £ 700W of sweet smooth transistor stomp in a grooved tube! Under-rated oddity.

CREEK OBH-8 SE 1996 £ 180
Punchy, rhythmic character with oodles of detail makes this a great budget audiophile classic. Partner with a Goldring G1042 for an unbeatable budget combination.

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

LEAK STEREO 60 1984 £ N/A
Leak's biggest valve power amp offers 35 Watts per channel and more low end welly than the smaller Stereo 20. Despite concerns over reliability their rarity means high prices are the order of the day.

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

LEAK POINT ONE, TL10, TL12.1, TL12 PLUS 1949 £ 28
Early classics that are getting expensive. Overhauling is de rigueur before use, using original parts if possible. Surprisingly crisp and musical sound, that's far more modern than Quad II. Deeply impressive when in fine fettle.

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LEAK TROUGHLINE 1956 £25
Series I an interesting ornament but limited to 88-100MHz only II and III are arguably the best-sounding tuners ever. Adaptation for stereo easy via phono multiplex socket, fed to a modern outboard decoder they’re deliciously lucid with true dimensionality.

ANALOGUE RECORDERS

YAMAHA TC-800GL 1977 £179
Early classic with skii-board styling courtesy of Mario Bellini. Middling sonic by modern standards, but cool nonetheless!

QUAD FM4 1983 £40
Supreme ergonomics and styling allied to a pleasingly lyrical sound with plenty of sweetness and detail made this one of the best tuners around upon its launch.

REVOX B760 1975 £520
More of a semi-pro machine than a domestic bit of kit, the Revox offers superlative measured performance although the sound isn’t quite as staggering as the numbers. Fine nonetheless, and surely the most durable tuner here!

ROGERS T75 1977 £125
Superb mid-price British audiophile design, complete with understated black fascia. Fine sound in the true Rogers mould – smooth and sweet with fine dimensionality.

SANSUI TU-9900 1976 £300
A flagship Japanese tuner designed to steal sales from the likes of Accuphase and Revox, it boasts superlative RF performance and an extremely smooth and lucid sound, along with very fine build and finish.

SONY ST-9500 1977 £232
One of the first Dolby FM-equipped tuners, a format that came to nought. Still, it was Sony’s most expensive tuner to date, and boasted a very good sound quality allied to brilliant ergonomics.

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

TECHNICS ST-8080 1976 £180
National Panasonic’s specialist hi-fi brand was a big hitter back then, and this is no exception. Superb FM stage makes for a very clean and smooth listen with lots of detail and depth.

AIWA XD-099 1989 £600
Aiwa’s Nak beater didn’t, but it wasn’t half bad nonetheless. Massive spec even included a 16x4 DAC!

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

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

REVOX A77 1968 £145
The first domestic open reel that the pros used at home. Superbly made, but sonically off the pace these days. B77 better, but couldn’t match the Japanese.

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

SONY TC-377 1972 £60
A competitor to the Akai 4000D open reel machine, the Sony offered better sound quality and is still no slouch by modern standards.

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

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

SONY TCD-X 1999 £599
Super clean sound makes this an amazing portable, but fragile.

LOUDSPEAKERS

ACOUSTIC RESEARCH

AR 185 1978 £125
Yank designed, British built loudspeaker became a budget staple for many rock fans, thanks to the great speed from the paper drivers, although finesse was most definitely not their forte...

BBC LS3/5A 1972 £80
Extremely low colouration design is amazing in some respects – articulation, stage depth, clarity – and useless in others (both frequency extremes). Came in wide variety of guises from various manufacturers building it under licence. Partner with Rogers AB1 subwoofers for an extra two octaves of bass!

LOWTHER PM6A 1957 £18
This seminal full-range driver is still manufactured. High sensitivity, as fitted to many classic horn designs.

HH ELECTRONICS TPA-560

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

JR 149 1977 £120
Infamous cylindrical speaker that was ignored for decades but now back in fashion! Based on classic KEF T27 / B110 combo as seen in the BBC LS3/5a. Doesn’t play loud, needs a powerful transistor amplifier, but rewards with fine clarity and imaging.

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CLASSIC CONTACTS

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GT AUDIO
(Graham Tricker, Bucks)
Leak Troughline specialists. Also Quad and most classic tuners, radios and amplifiers restored, repaired.
Tel: 01895 833099
Mob: 07960 962579
www.gtaudio.com

TECHNICAL AND GENERAL
(East Sussex)
Turntable parts - wide range of spares and accessories, plus arms and cartridges.
Tel: 01892 654534

CARTRIDGE MAN
(Len Gregory, London)
Specialist cartridge re-tipping service and repairs. High quality special cartridges.
Tel: 020 8688 6565
Email: thecartridgeman@talktalk.net
www.thecartridgeman.com

QUAD ELECTROACoustics
(Cambs) Quad’s service department, able to repair almost all Quad products, from the very first. Also Audiolab, Mission & Wharfedale.
Tel: 0845 4580011 www.quad-hifi.co.uk

KEF R105
1977 £785
Three way Bextrene-based floorstander (complete with castors) give a truly wildband listen and massive (500W) power handling.
A very neutral, spacious and polite sounding design, but rhythmically well off the pace. The quintessential nineteen seventies loudspeaker.

IMF TLS50
1976 £550
Warm and powerful nineteen seventies behemoths with transmission loading and a mixture of KEF and Celestion drive units. Impressively physical wildband sound but rhythms aren’t its forte.

MISSION 770
1980 £375
Back in its day, it was an innovative product and one of the first of the polypropylene designs. Warm, smooth, clean and powerful sound.

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

HEYBROOK HBI
1982 £130
Peter Comeau-designed standmounters with an amazingly lyrical yet decently refined sound. Good enough to partner with very high end ancillaries, yet great with budget kit too. A classic.

QUAD ESL63
1980 £1200
An update of the ESL57, with stiffer cabinets. Until the 98, the best of the Quad electrostatics.

CELESTION SL64
1984 £350
Smallish two way design complete with aluminium dome tweeter and plastic mid-bass unit set the blueprint for nineteen eighties loudspeakers. Very open and clean sounding, albeit course at high frequencies and limp in the bass. Speakers would never be the same again...

MISSION 752
1995 £695
Cracking Henry Azima-designed floorstanders combined HDA drive units and metal dome tweeters with surprisingly warm results. Benign load characteristics makes them great for valves.

YAMAHA NS1000
1977 £532
High tech Beryllium midband and tweeter domes and bruteish 12" woofers in massive sealed mirror image cabs equals stunning transparency, speed and wallops allied to superb transparency and ultra low distortion. Partner carefully!

MISSION X-SPACE
1999 £499
The first mass production sub and sat system using NXT panels is a sure-fire future classic - not flawless, but a tantalisingly unboxy sound nevertheless!

CLASSICS

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CLASSIC NAKAMICHI
(Paul Wilkins, Worthing, West Sussex). Restore, Repair & Service Nakamichi Cassette Decks.
Tel: 01903 695695
Email: paul@bowersandwilkins.co.uk
www.bowersandwilkins.co.uk

ONE THING
(Conventry) Specialist in electrostatic panel manufacture and repair. Can refurbish ESL 57s and 63s as well as Leak Troughlines and Quad Rs.
Email: one.thing@ntsworld.com
www.onethingaudio.com

LORICRAFT AUDIO
(Terry O’ Sullivan, Bucks) Garrard 301/401 and their own 501 repair, spares and service.
Tel: 01488 72267
www.garrard501.co.uk

EXPERT STYLUS COMPANY
(Mynah Hodgson, Surrey) Stylus replacement service for all types of cartridge, including precision profiling for 78s.
Tel: 01372 276604
Email: w.hodgson@becclick.com

WEMBLEY LOUDSPEAKER
(Bristol) Unit 2, 16 Midland Street, St Phillips, Bristol. Tel: 0117 925 6015
www.wembleyloudspeaker.com

OCTAVE AUDIO WOODWORKING
(Bristol) Unit 2, 16 Midland Street, St Phillips, Bristol. Tel: 0117 925 6015
www.octaveaudio.co.uk

SOUTER TRANSFORMERS
(Brian Soverton, Ipswich)
Large range of audio transformers for valve amps, cartridges, line drive, interstage plus all associated services.
Tel: 01473 252794
www.sower.co.uk

TANNNOY WESTMINSTER
1985 £4500
Folded horn monitors which certainly sound good if you have the space. Not the sort in toasters but can drive large rooms and image like few others.

SPENDOR BCI
1976 £240
Celestion HF1300 tweeter meets bespoke Spendor Bextrene mid-bass unit - and the result is a beautifully warm yet well focussed sound. A little bass bloom necessitates careful low-end mounting, but these prove that the seventies had some fine designs after all!

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

MAGNEPLANAR SMGA
1980 £800
Technology loudspeaker with genuinely musical abilities; fast, smooth, open, dry.

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ORIGIN LIVE SOVEREIGN TURNTABLE 86
Paul Rigby listens to a top flight turntable from Origin Live.

REGA CARBON CARTRIDGE 93
Tony Bolton listens to a new budget cartridge from Rega.

News

MUSIC ON VINYL BLOW OUT!

All available via Music On Vinyl (www.musiconvinyl.com) and starting with Bonnie Raitt's debut, self-titled 1971 release. A mixture of blues, folk and R&B, the album is packaged with a subtle delivery and low-key backing, allowing the LP to flow over you.

Now the Latin jazz of Tito Puente. From 1958 comes 'Dance Mania', his magnificent and best-selling work featuring a hard mambo style that is propulsive and driving. 'Neat Beat' (1957) is a contrast, however. A basic big, swing band sound, it shows Puente's diversity successfully.

Another double, this time from The Doobie Brothers. 'Toulouse Street' (1972) has an Eagles approach to pop/rock with jazz and R&B folded in. Still sounding fresh today, it is always a fascinating listen. 'Takin' It To The Streets' (1976) was the group's first album with Malcolm McDonald turning the sound mellow and soulful, while continuing the attractive interplay of styles.

Also look out for Tim Buckley's 'Happy Sad', his most underrated work, from 1969, which mines Buckley's jazz interest with six beautiful songs; J.J. Cale's 'Okie', infused with country and gospel, it's a blues, low-key release from 1974. Finally, check out the fourth album from Suicidal Tendencies, 'Lights Camera Revolution' (1990), one of their best efforts, the band sound self-assured, highly motivated and plain angry. Brilliant!
MUNSTER MUSIC

Direct from Spain is a pair of rare collections. Los Saicos' (Psychos in English) 'Demolicion!' (Munster; www.munster-records.com) shows the garage potential of this mid-sixties outfit. The band's entire recorded EP collection is featured on this LP and aggressive stuff it is too: menacing, hostile and primeval.

Formed in 1963, despite the original members performing throughout the fifties Olympic were a Prague-based beat group and have become the longest active group in the Czech Republic. This Munster double album features a compilation of tracks from 1965-1971.

ROCK WITH ROLL

Coming down hard is this month's shard of vinyl rock, headed by the new album from Dio. 'Finding The Sacred Heart: Live In Philly 1986' sees ex-Black Sabbath and Rainbow man, Ronnie James Dio on the Sacred Heart tour, playing hits and songs from the divisive 1985 album, although this set is a stormer.

Next is a series of Music On Vinyl (www.musiconvinyl.co.uk) reissues. First up is the classic prog LP from Camel, 1976's 'Moonmadness' featuring Floyd-esque layered guitar, synths and accessible songs within a loosely-based concept shell.

John Mayall's blues-rock is next and 'Bare Wires' (1968). Featuring a new line up and expanding to seven members, the music also expanded. The LP begins with the 'Bare Wires Suite' spanning twenty-three minutes. A successful album, it reached No 3 in the UK charts.

'Live Taste' (1971) features Rory Gallagher, this LP hasn't been available on vinyl since its original release. A storming live blues rock sequence. Also look out for Sanctuary's 'Into The Mirror Black' (1990), combining thrash and heavy metal, this is the first reissue since the original release and was the band's final album that included a host of fine songs and musicianship.

FORCIONE FROM NAIR

Forcione, offered via Naim's record label (www.naimlabel.com) is an important and skilful guitarist. In fact, he's been described as the Jimi Hendrix of the acoustic guitar. On Heartplay (2006) with legendary bassist, Charlie Haden, however, his approach is low key and restrained but no less effective with his work being romantic, rhythmic but always inventive.

'Dedicato' examines the man's influences which stretch from jazz to world and classical but without delineated and clunky boundaries. There's a real sense of flow and ease merged with passion in Forcione's delivery.

From 2005, 'Tears Of Joy' continues the theme which not only provides food for the soul but audiophile vibes for the ears. His well recorded albums are rated highly enough for Dali speakers to feature Forcione on their well regarded sample CDs.

Also look out for the 'Quartet In Concert' (2007) double album, a superb concert that was recorded at The Trinity Centre, Tunbridge Wells.

...AND FINALLY

Limited to 300 copies, Luck Of Eden Hall's newly released 'Butterfly Revolutions Vol 1 & 2' (Headspin; http://www.headspinrecords.nl) combines both volumes (previously available on two separate CDs) together and features modern psychedelia, dreamy rock and spaced-out vibes. Allow your spirit to escape.

From Adrian Munsey (composer) & Andrew Powell (arranger from everyone from Cockney Rebel to David Gilmour) comes 'Full Circle', a double album featuring Elin Manahan Thomas and the Philharmonic Orchestra. A soundtrack to an invisible film, it offers romance and a lush arrangement.
Crown jewel

Paul Rigby thinks Origin Live's Sovereign Mk.3 turntable, Enterprise C arm and Champion cartridge are fit for a king.

Origin Live's latest turntable, the Sovereign Mk.3, features a transformer upgrade, the Enterprise C arm in its 12in version and the Champion cartridge, a wholly new design made for Origin Live by Soundsmith of the USA.

The turntable, spanning 450x380x160mm, is a massy affair, weighing in at 34kg (including the platter). "Turntables do sound better if there is mass in the design," said Mark Baker, Origin Live's boss, "to stop ground and airborne vibration having too much effect on the deck. The mass is present in the three chromed, steel pods and the slice of steel alloy situated between the two acrylic sandwich slices on the plinth."

The platter is made from a carefully constructed acrylic with low internal stresses. When acrylic is cast in large slabs, if it's not cooled very carefully it will gradually build internal stresses. "The cheap acrylic platters out there tend to be made in Mexico where there's no control whatsoever. It's taken me the best part of fifteen years to source this type of acrylic".

It has also taken time to find the bespoke motor and bearing consisting of a hardened steel ball running on a tungsten carbide plate. Origin Live originally used a suspended system but dropped it for, "...a single point system. It's a bit like star-earthing and it's very efficient. If you take the platter off, you will see that it is held together with a single bolt which is the position of the pivot." Assembling the turntable was lengthy and difficult. Care and attention is required, not helped by the rambling, rather indistinct manual (the arm instructions suffer in the
The 12in version of the Enterprise C arm is a dual pivot design featuring a carbon fibre tube enhanced by four extra layers, including ebony, "The headshell is constructed from a different material, a conscious decision done to disperse vibration."

The arm uses steel bearings in tungsten steel cups while the low friction yoke is massy to help bass and dynamics.

The arm design is simple in outline. For example, the thread and ball anti-skating mechanism, "...is superior to springs which resonate and to magnets which have a lot of damping affects and prevent freedom of movement."

The Champion cartridge is a six-sided, fully shielded, moving iron design based on "proprietary" composite chassis, telescoping aluminium alloy cantilever and a Line Contact nude diamond stylus. Weighing in at 10.25g, it works best with a light, 1.7-1.9g, of tracking force. The mounting screws were able to pass through the headshell and into tapped threads, for a firm fitting. The stylus is not user-removable; if damaged it must be returned for repair.

So why moving iron and not moving coil? President and chief engineer for Soundsmith, Peter Ledermann, was adamant. "In a moving coil, it is difficult to reduce the coil size beyond a certain point. Moving iron, which is very difficult to build, has advantages in this area because the magnet and the coils are stationary. So, you can reduce the size of the iron that is inside the magnetic path and the damping system is much more effective. This means that the cantilever and stylus can respond and recover much more quickly."

Ledermann also referred to the natural resonant frequencies that, after the mass reduction, are moved up in the frequency range in the Champion. This reduces cartridge 'jitter' and improves the contact of the stylus along the groove wall, reducing groove noise, "When you stay in better statistical contact with the groove wall and the amplitude of the jitter is reduced, you are actually going to hear what's on the record. If the stylus is leaving the groove wall and it's banging its way down the groove, it still generates a voltage because it's in motion. So what you hear are artefacts from the cartridge, trying to do its best," said

The Champion cartridge body has tapped screw holes. It is a 'moving iron' where magnet and signal coils are housed in the body. Output is low from Moving Iron.
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Also huge ex demo cartridge sole

Also huge ex demo cartridge sole

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Ledermann.

One of the intriguing aspects of this system review is the price ratio of the individual components. Origin's system comprises a £5,000 turntable, £5,000 arm and £2,500 cartridge.

"My views on the 'ratio' have changed a lot over the years", said Baker. "The fact is that you can get a lot of very good decks at fairly low prices. Our low cost decks compete with decks that would normally cost you £10,000. The argument is based on what is available, though. Fifteen years ago, there were no great arms out there. Those that were fetched £500 - considered a real top grade arm price in those days!"

That has changed now. I'd say that our Onyx, at £450, out-performs most £3,000 arms. The Enterprise arm is at such a level that you don't need a £10,000 turntable. The question is, in today's terms, with turntable quality already so high, how much more improvement do you really get by spending £13,000 over £3,000 on a deck? Probably, not a lot. The room for improvement, the current place where great strides are being made, is in the arm sector".

**SOUND QUALITY**

I first focused on the Sovereign/Enterprise combination, using my reference Benz Glider cartridge on both systems. Spinning Frank Sinatra's 'The September Of My Years', the Origin pair exuded tremendous focus and the stereo image was rock solid while the soundstage was wide and high: a real 'stage' performance, in fact. The entire backing orchestra was tight and very 'together' as a unit. They were perky and alert in their task.

What also was obvious to the ear was the low distortion. The Origin pairing produced a quite stunning degree of clarity that allowed the Sinatra voice to sound resonant and, during lower midrange sequences, deeply emotional at times. Similarly, instrumental separation was quite startling, as the treble from a simple triangle offered a warm, gentle yet quite incisive presentation. There was appreciable space between sweeping violins and plucked strings.

Turning to rock and The Stranglers' Radio I Session track, 'Down In The Sewer', running at 45rpm, the low distortion allowed the treble to become expressive with well formed cymbals being pulled from the melange while once blurry lyrics were easily distinguishable. The synth-based organ had an airy, light presentation and midrange that never neglected subtle detail. Bass guitar lacked obvious weight but, because it was highly focused, it avoided bloom and bass artefacts, being punchy and direct but revealing with impressive transients and tonal information.

Onto classical and the 'Opening Dance' of Sullivan & Mackerras' 'Pineapple Poll' which provided a spacious soundstage. Upper mids were sparkling with strings being light and lively. Brass impressed in terms of its metallic attack without being aggressive to the ear. Even the triangle was delicate, it's reverb tail extending splendidly.

Turning to the Champion, I used an Ortofon Cadenza Black moving coil (£1,800) as a reference to see if a moving iron could challenge this, five globe winning MC unit. During a violin sequence, while the Champion didn't have that relaxed, rich sweep of the Cadenza's strings, it did offer an impressive transient response and Sinatra's vocal performance was incisive.

Moving to The Stranglers, the track was effusive: exuding energy and vitality. The synth organ, often a dominant force of the early part of the track, became the star of the entire song as the Champion extracted detail from its complex runs.

Hugh Cornwall's lead vocal was aggressive and emotive while the bass guitar was balanced within the mix. Percussion was rhythmic, musical and tight but it never bloomed or leaked into the rest of the sonic spectrum.

The classical piece, 'Pineapple

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The 12in arm sits on an extended support. The motor sits in a cut-out and is moved to set belt tension. The arm cable is secured by a P clip in final assembly.
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MEASURED PERFORMANCE

The main arm tube bending mode was well suppressed, giving the structure an impressively stable behaviour free from specific bending modes. This gives strong dynamics, better stereo staging at lower frequencies (drums etc) and less coloration. A single, sharp resonance remains at 1.3kHz and some liveliness from the head shell above this frequency but the arm still measures well by overall market standards.

Turntable speed was initially +1.2% fast. Belt tension affected speed, so speed must be adjusted after the motor has been positioned. The speed adjuster was difficult to access and relatively sensitive: a small rotation of the screw changed speed substantially. Once set to the right speed there was some wow and a little flutter in the system (after perfect test disc centring), resulting in a total weighted Wow & Flutter value of 0.18%, where 0.12% or so is expected from belt drive.

Frequency response of the Soundsmith Champion cartridge measured flat to 12kHz into a 47k (MM) load, with no peaking of the sort suggested. A very similar result was achieved with 1k and 600 Ohm loads (shown), but treble does start to fall at lower load values. The balance shown here suggests the Champion will have a smooth, easy sound, free from peaky treble. Tracking was good at 1.8gms, with low distortion and in the midband.

As with Soundsmith moving iron cartridges lateral distortion was high at 2.6%, slight waveform triangulation (third harmonic) possibly due to geometric errors in the generator. Cartridges usually produce 0.5% second harmonic in this test. VTA measured 26 degrees and vertical distortion 4.6%, a common enough value. This amount of distortion will sharpen the sound.

Output measured a low 0.56mV at 5cms/sec rms; MMs typically manage 0.2% at 1kHz. Channel separation values were unbalanced, 20dB right residual and -28dB left residual, indicating incorrectly aligned modulation axes in the generator. There is still enough separation for stereo though. The Champion didn’t measure well in some areas, those where Soundsmiths are consistently below the norm.

The Enterprise C arm measured well and will give excellent results, as it has done in the past. The Sovereign turntable needs honing to lower wow. NK

REFERENCE SYSTEM

Avid Acutus/SME IV/Benz Glider
Icon PS3 Phono amplifier
Aesthetic Calypso pre-amp
Icon Audio MB845 Mk.II monoblocks
Quad ESL-57 speakers with One Thing upgrade
Nordost QBS Quantum Qbase power block
Tellurium Blue power cables
Atlas Mavros speaker cables
Atlas Mavros interconnects

CONCLUSION

The combination of the Sovereign and the Enterprise, in its 12in incarnation, was startling in terms of sound quality.

The Champion provides a transparent, open performance that sometimes pushes the upper mids to the very limit of easy listening but it also enjoys investigating a track to the full, providing an informative listen.

As a whole, the system is absorbing, offering a focused and perceptive listen. The cartridge needs to be compared with rival designs to see if it meets your aural taste and it needs special loading in the phono stage.

ORIGIN LIVE

Sovereign
MK.3 with 12" Mounting £4,860

Enterprise C
ARM 12" £4,995

MEASURABLE PERFORMANCE

Speed error +1.2%
Wow 0.2%
Flutter 0.08%

Total Wow & Flutter 0.18%

Tracking force 1.8gms
Weight 10.2gms
Vertical tracking angle 26 degrees
Frequency response 20Hz - 12kHz
Channel separation 20dB

Tracking ability (300Hz)
lateral 90μm
vertical 45μm

Distortion (45kHz)
lateral 2.7%
vertical 4.6%

Output (5cms/sec rms) 0.56 mV

FREQUENCY RESPONSE 600
QUALITY FIDELITY & VINTAGE AM
turntables/tonearms

- Michell Focus 1
- Linn Basik turntable no arm or lid
- Graham Slew Era Gold with PSU1
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- Clearaudio Master Reference with TDL RTL3 black finish boxed £275

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Tony Bolton tries out a budget moving magnet cartridge from Rega Research

Every so often a product comes along that gives me a feeling of deja vu. In the case of the Rega Carbon cartridge, as soon as I took it out of the box it seemed somehow familiar, and it took me a while to place the family resemblance to the long running Audio Technica AT91 moving magnet cartridge.

This was confirmed when talking to Essex based Rega Research, who advised me that the Carbon is made as an OEM product for them by Audio Technica, but is built to their specification.

The main difference between the two units is the usage of a carbon cantilever that gives the Rega cartridge its name. Attached to the end of this is a conical stylus. The whole assembly is user replaceable.

The unit was designed to fit into the recently introduced RP1 turntable where it is supplied pre-aligned, merely requiring the counter-weight to be attached and balanced to 1.75g. This surprised me since the instructions suggest a tracking force of between 2 and 3g, and in my Hadcock 242 Cryo unipivot arm, I found that a downforce of 2.3g seemed to provide the best combination of tracking ability and sonic performance.

Setting it up was easy due to the rectangular body and easily visible cantilever. I aligned it using the UNI-DIN alignment that I have come to favour over either Baerwald or Loeffgren settings. (See HFW Sept 2013 Pp.86 - 87). I then played the cartridge for a good twenty hours to run it in before commencing serious listening.

It is some years since I last listened to a cartridge retailing at a two figure price level, so before I went any further I dug out a Goldring Elektra cartridge just to retune my ears to this sort of price point.

SOUND QUALITY
Having reset my ears, albeit at a price that was half as much again as that of the Carbon, I settled down with Beethoven’s ‘Emperor Piano Concerto’, and was pleasantly surprised at the competence of the conical stylus in tracking some very complex wave forms when the piano and orchestra reached crescendoes. The music retained a good level of cohesion, and although there was a bit of confusion over hard struck chords combining with the power of the full orchestra, overall it was a very creditable performance and one that immediately made me start to respect this little device.

If I was being super critical then I would have said that the piano had a little bit of a jangle to some of the sounds. The complex harmonics of this instrument are amongst the most demanding of any to reproduce accurately, but, to be honest, the Elektra, with an elliptical stylus, did very little better. When you consider the price of the

The square edges of the cartridge body make alignment an easy task.

Carbon, I thought that the sound was very good indeed.

This particular record is a very good condition mono original pressing and there are few pops or crackles. The ones that are present were handled with a grace that again
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Ingenium
"the sound was controlled enough to be acceptable even under this sort of duress."

The carbon cantilever that differentiates this cartridge from its Audio Technica AT91 cousin, tipped with a conical stylus, belied the price tag of the cartridge. I stayed in mono, but moved up to an early '70s compilation of early Billie Holiday songs recorded in the 1930s before her voice became a metaphor for angst and drug abuse. Her 1936 version of 'These Foolish Things', accompanied by Teddy Wilson and his orchestra, had a gentle flowing swing to it that was Wilson and his orchestra, had a gentle flowing swing to it that was enjoyable, quite tightly timed and presented with a focussed and quite detailed soundstage.

Having acquitted itself so well so far, I decided to give the Carbon a real test and put on 'Ball and Chain' from the 'Cheap Thrills' LP. The guitars were presented with an exciting listen, and the difficulties of Janis's voice were overcome in a fairly creditable manner. There were a couple of points where things started to edge towards abrasive, but the difficulties were good enough for a budget moving-magnet (MM) cartridge, especially in the mid-range where the Carbon stayed in the groove of a 25cms/sec torture track – unexpected. It just got through 20cms/sec with slight mistracking, and this is a real test and put on 'Ball and Chain' from the 'Cheap Thrills' LP.

**CONCLUSION**

I must admit that I was not expecting much when I first started listening to the Rega Carbon cartridge. The combination of a budget cartridge with a conical tip made me a bit wary, but I can honestly say that I was both surprised and pleased with the way it performed. I certainly don't see it worrying cartridges at three times the price but there are some at double the price that could not give such a capable rendition of the music that it is tracking in the grooves. If you are looking for a starter cartridge, or something cheap but capable, then this seems to be the place to look. The carbon cantilever seemed to me to be a major improvement over the aluminium one fitted to the related Audio Technica AT 91, and gave a less peaky and more balanced sound. As such it is a real bargain and comes thoroughly recommended.

**SYSTEM USED:**

- Linn Sondek/ Hadcock 242 Cryo/ Goldring Elektra
- Luxman E200 phonostage
- Ming Da Dynasty Duet 300B amp
- Kelly KT3 loudspeakers

**MEASURED PERFORMANCE**

- **Vertical tracking force (VTF) quoted by manufacturer: 2.5gms**
- **Angle of 30 degrees. Output was adequate at 5mV, but budget Ortofon is better. Channel separation was adequate at 22dB and the generator's mod. axes well aligned.**
- **The Carbon is very light at 5gms, such a capable rendition of the music.**
- **Distortion was low on lateral 45pm**
- **FREQUENCY RESPONSE**
- **Output (5cms/sec rms) 5.2mV**
- **Vertical (1kHz) 18cms/sec.**
- **Distortion (45pm) 0.8%**
- **Output (5cms/sec rms) 5.2mV**
- **FREQUENCY RESPONSE**

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**OUTSTANDING - amongst the best**

**VALUE - keenly priced**

**VERDICT**

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**FOR**
- tracks well
- good bass output
- detailed soundstage

**AGAINST**
- treble can get a little edgy at times

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Cables Section

This month Tony Bolton looks at The Chord company cables.

The Chord Company was founded in 1985 by Sally Kennedy to satisfy the demand for high quality interconnect cables for use with Naim equipment. Two years later the first version of the Cobra interconnect was introduced, followed a few years after that by the original version of the Chameleon. The new versions of both these cables, alongside the new Crimson model are under review here.

As is my usual practice, I gave each cable 48 hours running in on a Blue Horizon Proburn cable burn in accelerator, before settling down to do some listening with the leads connecting the Leema Acoustics Antilla 25 Eco CD player to the matching Tucana II amplifier. I listened to each of the cables for a few hours before doing the comparative listening using the aria ‘Celeste Aida’, from Verdi’s opera of the same name, as sung by Placido Domingo (‘Domingo Favourites’, Deutsche Grammophon 445 525-2) and the track ‘Ja Vidi’ by Christophe Goze from the album ‘Chill Arabia III’ (Bal De Lune records. LUNECD19). This being a fusion of Middle Eastern and contemporary Western beats and sounds.

INTERCONNECT CABLES
CHORD CRIMSON VEE 3

The new Crimson cable has taken the place of the Chrysalis as the starting point in the Chord range. It uses two sets of multi-stranded oxygen free copper conductors, arranged in a twisted pair configuration and covered with a dual layer shield. The ABS plug casing is new and covers gold plated contacts inside the RCA phono plug.

SOUND QUALITY

Staring with the Domingo piece, I was immediately struck by the impressive level of bass output for a cable at this price point. Although not hugely deep, it gave an impression of weight and solidity that surprised me. Domingo’s voice was quite well handled although there was a tendency to a slightly nasal quality to his voice.

Changing to ‘Ja Vidi’ I found that the opening drum beats were well described and the beat had a fair amount of get up and go to it. Mid range sounds had a strong presence although the tambourine had a slightly splashy quality to it.

CONCLUSION

Bearing in mind that this cable will be partnered with budget electronics, the tonal balance should add a bit of zest to the sound while retaining a good overall balance. It could be a little forward for some systems though.
INTERCONNECT CABLES
THE CHORD COBRA VEE 3

This new incarnation of the tried and trusted Cobra interconnect is made with twin silver-plated oxygen free copper conductors, insulated with FEP and covered with what is described as a high density, high frequency shield. The VEE 3 RCA plug is silver plated and connected to the lead with silver solder.

**SOUND QUALITY**
This time Domingo’s voice had somewhat greater body and depth to it. The trumpets were better controlled and smoother sounding, while the violins seemed to reach higher than they managed on the Crimson, but sounded more controlled and realistic.

The tambourine sounds on ‘Ja Vidi’ certainly sounded more inviting through this cable, losing the slight splashy effect and gaining a more three dimensional shape. The bass was noticeably deeper and I felt as though I could see the bottom of the note more clearly. The mid-range had a better sense of integration into the music and the whole sound felt better balanced.

**CONCLUSION**
I have a 20 year old pair of Cobra interconnects and comparing these to the new model, I could hear the family resemblance, but the performance of the new model is streets ahead in every aspect. This lead is well enough mannered that it could be used in a far more expensive system without disgracing itself.

INTERCONNECT CABLES
CHORD CHAMELEON VEE 3

This is another long-standing design that has had an effective make-over. The insides consist of three sets of silver-plated conductors, covered with a 93% braid and a cotton fibre wrap to suppress mechanical noise. The RCA plugs are silver plated with an ABS outer shell.

**SOUND QUALITY**
For the first time I found that I was being made aware of the background sounds and echoes in the studio. Each of the performers seemed to have gained some space around them and it made for a very inviting listen. The texture of all of the sounds was filled out and better described, with the attack of the trumpets having particular impact, although it was very well controlled.

The sway of the rhythms in ‘Ja Vidi’ seemed to be more obvious with this cable and the soundstage seemed to be occupied by sounds that had matured and put on a little weight. The bass seemed to go very deep and be quite substantial, whilst retaining a good level of agility.

**CONCLUSION**
This is a cable that, despite the fairly moderate price, offers performance that is significantly above that expected at this price point. It is well mannered, smooth and detailed. It may be too revealing for budget electronics though.
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Nait and Fast

Martin Pipe enthuses about the Naim Nait, a 'supermini' of the amplifier world.

In 1983, when CD was a New Thing, most of the affordable (i.e. sub-£300) integrateds were button-festooned boxes sourced from the Far East. Into this pool was thrust the modestly-specced NAIT (from Naim InTegrated), which took a completely-radical approach.

Borrowing from the minimalist philosophy that had made the Salisbury firm's upgradable pre-power amp combos such a success (especially when partnered with a certain Scottish turntable), the original NAIT eschewed tone controls, filters, comprehensive switching facilities and highly-specced power outputs. £250 bought you a whopping three inputs (one of which fed a decent phono stage), volume/balance controls, decent-quality internal components including a generous power supply based around a toroidal transformer and a mere 13 watts per channel output (into an 8 Ohm load).

All of this came in a half-size enclosure described by many as a 'shoe-box'. Modest it may have been, but the NAIT trounced much of the competition in musical terms – notably in terms of timing and clarity.

It wasn't uncommon to find the baby Naim in a 'budget' audiophile system bookended by Linn products – a modestly-kitted LP12 performing source duties, and Kans as speakers.

Sure, the same outlay would buy you a well-specified and impressively-illuminated rack system from a Japanese manufacturer. But this 'plain Jane' alternative would have delivered the musical goods; to this day, some believe the original NAIT to be the best-sounding.

NAIT Mark One enjoyed a five-year run, but in 1988 was replaced by the NAIT 2. This had the same cabinet form factor, but was better-built and arguably more attractive to look at – whether you chose the chrome-trimmed black one, or the 'Nairn Olive' variant. You also got a more ergonomic control panel layout, and a fourth 'auxiliary' input (did anyone say 'CD'?).

In most other respects, though, differences between the two variants were minimal. The power output was still 13 Watts into eight ohms, or just under 20 Watts into four. In theory at least, the low power output restricted the choice of speakers that you could drive from the amplifier.
and/or the size of listening room in which it was installed. With relatively-efficient speakers of commensurate standard, carefully-chosen sources and a small-ish room, results could however be outstanding.

Which brings us to the real subject of this piece – the third-generation NAIT 3, which replaced the 2 in 1993. Of a more conventional form factor (i.e. shape) than its two predecessors, its internal design was radically different. A row of soft-touch buttons on the ‘Naim Olive’ front panel engaged a tape-monitor facility, muted the output and switched between inputs – the number of which had been expanded to five. These buttons form part of a simple logic circuit that switches encapsulated relays to perform the source switching - an elegant and reliable solution.

The NAIT 3’s reliance on electronic rather than mechanical input-selection lent it to remote-control operation. And indeed such a version (the 3r) was also available.

Upgrading the 3 to 3r was possible, but doing so was rather expensive as amongst other things the entire preamp board needed to be replaced with one that had the all-important motorised volume and balance controls. The former, incidentally, is a substantial ALPS component; no cost-cutting here!

By 1993, CD had become the primary source of new music. As a result, the NAIT 3 didn’t as standard – unlike the two earlier incarnations – cater for vinyl. High-quality MM and MC stages built from discrete components were available, and your choice plugged onto the preamp board; a dealer retrofit was straightforward. If one isn’t installed, the relevant input (the only phono-socketed one) will accept a line-level source.

Another significant change relative to its predecessors was a redesigned power amplifier stage. Each quasi-complementary channel of the NAIT 3 is capable of delivering 30 watts into an 8 Ohm load (45W into four ohms). What a shame that Naim didn’t take the radical decision to fit a headphone socket – or move entirely from DIN socketry to phonos.

Then there’s the upgradeability. It is possible to convert the NAIT 3 into a preamp for use with external power amps like Naim’s own NAP 90; indeed, the NAIT 3’s internal preamp was based very much on the NAC 92. Behind a couple of rear-panel blanking plugs lurk spaces for the necessary DIN connectors. These need to be soldered onto the power amp/power supply circuit board. Interestingly, I have seen some production units with these sockets already fitted. If the original NAIT 3’s internal power amps are no longer required, they could be electrically-isolated. Doing so, however, would involve modifications (like PCB track-cutting) unlikely to be sanctioned by Naim.

My particular NAIT 3 came in good condition, complete with phono stage, from a friend over a decade ago. It had stopped functioning properly, and as someone working in the (then!) highly-paid telecoms industry he decided to buy a new NAIT 5 (complete with remote-control option) rather than get the old one repaired. I was able to get it for a very good price (£100, if I recall). The repair was simple – a few dry joints on the input-select logic chips.

How this came to be is probably because the amp was left on even when not in use. As the NAIT 3 manual itself says, “a better and more consistent performance is achieved when hi-fi equipment is switched on for long periods”. Only too familiar with the spiralling cost of energy and the fact that certain types of component (notably electrolytic

The NAIT 1 and 2 both had integrated preamps for MM cartridges. Owners of the NAIT 3 could, however, opt for an excellent internally-fitting phono stage. Versions that catered for MM (as seen here) and MC carts were available.

Although the other inputs used Naim’s favourite locking-DIN connectors, the first input took the form of standard gold-plated phono sockets feeding a phono stage – note the ground post. It accepted line-level signals if the phono stage wasn’t fitted.
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They're not chips! Earlier versions of the NAIT used push-buttons or a rotary knob to directly-select analogue sources. The NAIT 3 changed all this for a far more reliable system in which the signals were switched via the encapsulated relays shown here.

Capacitors have a finite life, I only switch on my NAIT 3 when it's needed — although I give it an hour to 'settle' before listening. With such treatment, it has performed impeccably since the repair.

This particular NAIT 3 spends most of its time in a smallish (12' x 10') listening room, which is separate to the one I use for home cinema. It's connected to a pair of Acoustic Energy AE109s and a variety of sources — notably a Helios X5000; and a Valhalla-era Linn LP12/Basic Plus/Ortofon 540 MkII on a Russ Andrews Torlyte platform. The former was one of the first network/disc/USB multimedia players with audiophile pretensions. It supports 24/96, and is able to handle the FLAC and AAC codecs. Between them, these two sources can cover most of my music collection.

The NAIT 3 is famous for its speed — a property that certainly appealed to the aforementioned friend, a true dance-music fanatic. And with percussively-driven material (Kraftwerk, for example), there's plenty of rhythmic snap and drive that makes for an exciting experience. It also works with rather more mainstream fare, such as the Will Lex/Briget Spears 'Scream and Shout' of recent times. This superb pop/dance track possesses immediacy and a highly-enjoyable bass line, which the system did justice to.

In fact, the bass performance of this amp is — certainly in conjunction with the AE109s — remarkably good. It belies the modest power output of the specification. Switch, for example, to a CD of John Martyn's timeless Solid Air. The acoustic bass of the title track is beautifully-rendered with little colouration to speak of. Don't Want To Know, from the same album, demonstrates an ability to convey a high level of musical detail — and reveals that there are no serious faults on the imaging front, which past critics have reckoned to be a NAIT shortcoming. May their ideas have been prejudiced by the knowledge that a single mains toroid powers the whole thing?

One of my favourite 'atmospheric' tracks is Dire Straits' Private Investigations from Love Over Gold, heard here with the LP12. The NAIT 3 envelopes you within this world — compellingly so. Another vinyl favourite is Fleetwood Mac's 'The Chain', from a 1977 pressing of 'Rumours' — no sound staging problems here, either. The dobro that famously opens this song can in fact be heard throughout the first half, even as the track builds up. With lesser mass-market systems, it's lost — as are other subtleties that are here individually identifiable within the mix. And when the song's bass-driven second-half kicks off, the NAIT 3's rhythmic nature is there to do it justice.

The NAIT 3 was once described in these very pages as 'a taste of high-end audio'. It's difficult to argue with that statement, given that what we have here is a character that's agile and precise but above all musical. Naturally, its better suited to modestly-sized listening environments — but with this in mind I've heard amplification that is far more expensive yet nowhere near as involving. Today, you can expect to pay £300 or so for a used NAIT 3 (less without the phono stage). You would be hard-pressed to find a new solid-state amp anywhere near as good for that sort of money.
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<td>BOX ROKSAN TMS 3 with ARTEMIZ 2 arm</td>
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<td>DECCA DECOLO RADIOGRAMS</td>
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Philips Fidelio X1s remind me of furry carpet slippers. They are for home listening, ideally in a comfy armchair, and they have a nice snug feel about them. I think it is the velour covered ear pads that triggered my carpet slipper analogy though.

These 'phones are aimed at the upper end of the market; they are super accurate, luxury 'phones that sell primarily upon sound quality. Fitted with an open back to lessen reflections and colouration, they leak sound and would annoy others on public transport, and they may even annoy others listening to TV at home.

A weight of 430gms isn’t light so you won’t be wearing them to the gym either. All of which is to say that the X1s are not designed to fight it out with Dr Dre’s finest (which isn’t so fine, but that’s for another review).

We’re told the X1s use double layered aluminium shells, in which 50mm lightweight diaphragms are driven by powerful neodymium drivers. The detachable signal cable is made from Oxygen Free Copper and terminated with a monster ¼in jack, with an adaptor for a 3.5mm jack (supplied). The headphone end uses a 3.5mm jack so fitting another cable is simple.

The ear pads use memory foam, for a good seal to maintain bass power. But memory foam in a plastic sheath is sweaty, hence the use of washable velour. I found them comfortable, but they do get warm; grip is firm but not strong.

**SOUND QUALITY**

Unlike so many other headphones the X1s are truly accurate. They have strong bass but it is not over emphasised, as it is with Dr Dre’s ‘Beats’, nor is it light like lightweight travelling phones, such as my Jays V-Jays. Philips say it is fast and clean and Philips are right: it was great to hear Joe Walsh singing ‘Last Good Time in Town’ backed by a solid and powerful drum kit that had a hard thud to it. Guitar licks — likely from Walsh — were clean and sparkingly clear. Supporting harmonies from the Eagles were spread across a wide sound stage and fine percussive details were sweetly clear.

The X1s have glorious treble that comes across as totally natural and smooth, similar to that from electro-statics. With Marta Gomez singing Lucia (24/96) the slick smoothness of high resolution digital came across beautifully; no coarseness or jitter here. Percussive blocks stabbed out at left and accordion glided through the piece, sounding full bodied, close and real. Even the sense of space being picked up by Marta’s mic was discernible.

The Minnesota orchestra playing Korsakov’s ‘Dance of the Tumblers’ (24/96) sounded expansively powerful, kettle drums thundered and strings were delicate but finely detailed. Orchestral crescendos came across with a fine sense of power, horns blaring out loudly.

For the most part I used the Fidelio X1s on an Astell&Kern AK120 digital audio player and had enough volume. The X1s are insensitive though and don’t play super loud from weaker portables.

**CONCLUSION**

The Fidelio X1s offer superb quality, shaming most loudspeakers — including the best. They’re that good. Their ear pads get warm and are a little over-cosseting perhaps. Otherwise, the X1s are lovely ‘phones, in a league above most others. Hear them before anything else.

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DECEMBER - 7TH OCTOBER
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You know, there are many classic LPs out there but there are far fewer classic 'albums'. Let me explain, this Dylan album has just been reissued by US-based Mobile Fidelity (www.mofi.com). They have also released a batch of other albums, at the same time. One of them, Stevie Wonder's 'Fullfilliness First Finale', is a brilliant piece of work and would receive full marks from any self-respecting, retrospective review. But it is a collection of 'songs'. It doesn't really hang together as a single document.

I'm not trying to promote concept albums here but I am pushing the ideal of the album that has emerged from a single mood, a single train of thought or a single inspiration. For Bob Dylan, 'Blood On the Tracks' was created after his divorce from his wife, Sara and, as such, is often seen as the greatest break-up album of all time, integrating feelings of resentment, mourning, remorse and a search for peace. As such, it did something that just about no Dylan album had done up until that point, it helped to reveal the man to his listener.

For the fan, the content of the album made a refreshing change from the allegory and mystery that formed the majority of Dylan's lyrics up to that point. Not that it pleases Dylan much. "A lot of people tell me they enjoy that album. It's hard for me to relate to that. I mean, it, you know, people enjoying that type of pain, you know?"

In many respects, because the album had been created from a passion, an inner drive, a reaction against the hurt, that is why 'Blood On the Tracks' still sounds as fresh today as it did when it was first released.

If you take time to consider your typical 'Ooo Baby' song from the sixties, seventies and eighties, it will tend to reflect fashion and culture of the age and run the danger of sounding stale soon after because of it. 'Blood...', however, will never fall out of fashion because it echoes something that is in all of us or something of the potential within us, at any rate. Something human.

"A lot of my songs don't work,' admitted Dylan, talking in the seventies. "I wrote a lot of them just by gut because my gut told me to write them and they usually don't work so good as the years go on. A lot of them do work. With those, there's some truth about every one of them. And I don't think I'd be singing if I weren't writing, you know. I would have no reason or purpose to be out there singing."

The album itself turns its eyes towards the past, in terms of style as it lowers the decibel rate, producing a low-key acoustic approach. Some observers took this delivery as a form of nostalgia for those early sixties times but this album represents more than that. When Dylan took that path, he drew upon his own inherent strengths as an artist, largely because the style is so familiar.

Dylan presents an intimate record and, at times, moving work and one that, as he himself recently confirmed during an interview in Germany, will not and cannot be replicated. "I never listen to my old stuff. I don't want to be reminded of my self or be an influence on my self. I want to go on, always go on..."

This edition, issued by Mobile Fidelity, has been pressed on 180gm vinyl and is contained within a thick, gatefold, sleeve and Mo-Fi's own anti-static, non-scratch inner sleeve (which you can buy as a pack of twenty-five for around £15 or fifty for around £26 from a range of online retailers).

The album has been produced from the original master tapes and pressed at RTI. Mo-Fi says that this is the, "...first-ever proper analogue reissue," of the title. Listening tests proved a delight, with the issue offering a true 3D soundstage and welcome clarity.

If I was going to be glib, I would offer this album as a nicely packaged suite of rent emotions, wrapped up and tied with a ribbon for your delection but that would be to negate what Dylan has done here. In fact, he has created an artistic space and then poured the intensity of an emotional event into it. As such, 'Blood On the Tracks' offers a unique window into Dylan, the man.
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2-way system: 1.25" Diamond DMD dome tweeter, 7" midrange
Sensitivity: 87 dB @ 1 watt / 1m
Nominal impedance: 8 ohms
Frequency response (3 dB) : 41 Hz - 40 kHz
Power handling: 100 watts
Crossover frequencies: 2.3 kHz
Weight: 15.5 kgs/34.2 lbs. per piece
Dimensions (w x d x h): 26 cm x 37 cm x 43.5 cm;

Behind the scenes
Dr. Joseph D'Appolito a world renowned authority in audio and acoustics designs the crossover and performs prototype testing/final fine tuning for USHER Audio. Consulting to a couple of famous audio companies, Joe always finds the tremendous value USHER Audio products represent a delightful surprise in today's high end audio world.

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World Radio History
The living heart of your sound system.

When Herman van de Dungen founded PrimaLuna, his mission was to create affordable valve amplifiers and CD players that not only harnessed the sheer, sensual musicality of valve technology, but also defied the issues of reliability that sometimes accompany it.

PrimaLuna's Prologue and Dialogue ranges continue to expand, featuring ground-breaking advances such as the unique Adaptive AutoBias™ circuit that allows easy switching between valve types and the jitter-reducing SuperTubeClock™, exclusively incorporated into PrimaLuna's CD players. These innovations help create a benchmark-setting suite of products that builds on the marque's past triumphs, combining excellent sonic definition with a beautifully balanced tonality.

Aesthetically stunning to look at, with a hand-polished black or silver faceplate, PrimaLuna consistently fulfils Herman's original promise of creating the best you can get for the least you can pay.