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APRIL 2013

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7 PAGES OF LETTERS - THE BEST WINS A PAIR OF KEF Q100 LOUDSPEAKERS! (UK ONLY)



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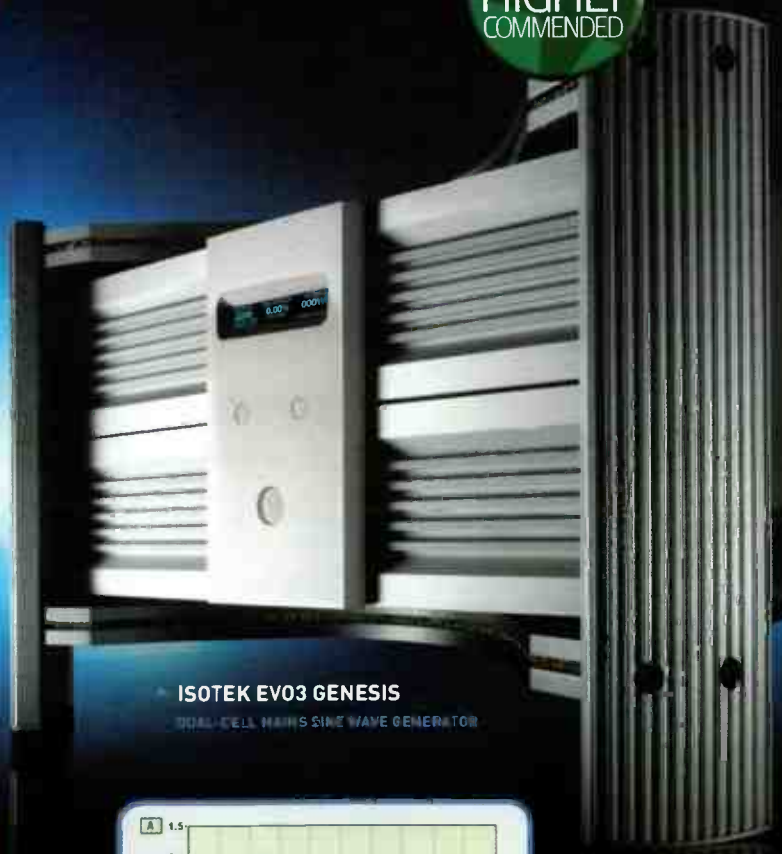
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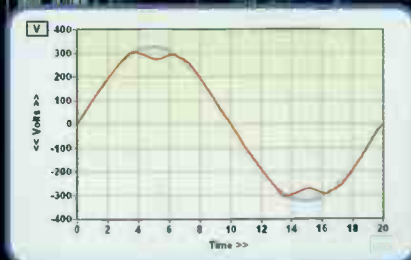
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ISOTEK EV03 GENESIS

DUAL-CELL MAINS SINE WAVE GENERATOR



HI-FI NEWS MAGAZINE OFFICIAL LAB REPORT.

ABOVE: Mains voltage waveform, from wall socket (red) versus IsoTek EV03 Genesis (blue)



ABOVE: Distorted mains (changing) current waveform (red) versus significantly more linear waveform delivered by the IsoTek EV03 Genesis (blue)



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welcome

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verdicts

●●●●●	OUTSTANDING
●●●●	EXCELLENT
●●●	GOOD
●●	MEDIOCRE
●	POOR
£	VALUE



Violinist Rafael Todes is a difficult man to please. Playing in the Allegri String Quartet and, in the past, the London Symphony Orchestra, he knows the sound of music first hand, un-amplified – and loud! Most loudspeakers fall seriously short of being able to reproduce this reality, he assures us. So when Rafael got excited about Cabasse Pacific 3 SA (semi active) loudspeakers we took notice. You can read what Rafael says about them on p12 of this issue. Because Rafael has yet to

turn his great skills to electric guitar, I cover the Rock music side of things, for (as we both agree) Rock imposes different demands upon equipment and is met by a different set of expectations from listeners. I hope you find this review as fascinating as I did.

The subject of loudspeakers brings me to a quality standard that haunts the market – the electrostatic. I've lived with and modified many in my time and love them, whilst acknowledging that they aren't for everyone. Even Rafael is in two minds about a pair of One Thing Audio Quad ESL-57s he bought the other day. What you can always say about an electrostatic is they amaze, and Martin Logan's Electromotion ESLs offer affordable amazement. Since reviewing them in our October 2011 issue we have received a steady stream of queries about them. Consequently, we revisited the Electromotion ESLs and you can read our update on them on p70.

Class D 'digital' amplifiers have great potential, but still they languish on the sidelines. Reliability and sound quality haven't matched market standards, but there are many different iterations of this technology and Pioneer use one of them, B&O Icepower, within their affordable SC-2022 AV receiver. It wasn't the slickest receiver we have used, but Martin Pipe said it sounds good all the same, especially for £600. You can read his review on p16.

Sony's latest Xperia S tablet we asked for review some time ago, hoping Sony's great expertise in audio would bless its transistors. Read more on p32 and an interview with Eric Kingdon of Sony on p36.

This issue is another packed with unusual and exciting new audio products, large and small, affordable and expensive. I hope you enjoy it!

Noel Keywood, editor.

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

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

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

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

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



ELECTRONIC MAGAZINE

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Distributed by Seymour Distribution Ltd 86 Newman Street London, W1T 3EX Tel: +44 (0) 20 7396 8000 Printed by Polestar Group Tel: +44 (0) 1869 363 333
Our Agents in Malaysia Millennium Hi-Fi & AV Simon Chang Showroom & office, 500-1-3 First Floor Wisma Indah (Shen Court), Jalan Tun Razak 50400 Kuala Lumpur, Malaysia
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Q SERIES

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'...in many respects it is exceptional at the price in terms of the power and physicality it offers.'

Q700 - Hi-Fi Choice Magazine - March 2012



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SANSUI – IN TUNE

Sansui is launching a stand-alone DAB/FM tuner. The £225 black or silver DR-201V has the ability to receive DAB, DAB+ and FM signals. Using the supplied remote control to find a station is aided by the large two-line dot matrix VFD display. Stereo RCA sockets provide the analogue outputs and the tuner may also be connected digitally, via optical or coaxial digital outputs. For custom installation situations, the DR-201V is also equipped with a RS232 connection for use with a system wide control solution. For more information click on www.sansui.co.uk



PMC SE

PMC is introducing the SE range of loudspeakers. Featuring the large three-way models, the IB2, MB2 and BB5, the cabinets have been redesigned with additional bracing to generate a lower cabinet resonance for further reduced noise, plus a profiled dispersion flange, created from a solid aluminium billet, for the PMC 75 midrange driver. Custom designed stands are finished in a matching veneer and fitted with large spun precision spikes. Prices IB2SE £13,475.00, MB2SE £16,100.00, MB2 XBDSE (Twin cabinet) £29,499.00, BB5SE £24,999.00

Call 0870 4441044 or click on www.pmc-speakers.com for more information.

GO EXPLORING

Meridian has announced the Explorer, a pocket-sized USB DAC offering fully asynchronous playback via a 6-layer PC board with 24bit/192kHz native conversion capability.

Other features include separate low-jitter crystal oscillators for 44.1kHz and 48kHz based sample rates, variable line out with Full Analogue Volume Control for headphones or powered loudspeakers, a headphone amp, fixed line out, optical digital output and lights to indicate the incoming sample rate.

Call 01480 445678 or click on www.meridian-audio.com for more information.



GO HIGH END

High End 2013, the exhibition for high quality consumer electronics, takes place on 9–12 May 2013 at the MOC Munich, Illienthalallee, 40 80939 Munich-Freimann in Germany. Costing €12 for a day ticket from Friday to Sunday, 10am till 6pm, the High End Society has negotiated special conditions and agreements with several hotels covering a range of accommodation categories. You can book a four-star hotel room at a price of €82, including breakfast. There is also a free hotel shuttle service. Shuttle buses travel to all partner hotels several times in the morning and evening.

Apart from the wealth of technology on offer, there is live music plus the promise of gastronomic delights! Click on www.HighEndSociety.de, [facebook.com/HighEndSociety](https://www.facebook.com/HighEndSociety) or twitter.com/HighEndSociety for more information





KUDOS CARDEA SUPER 20

Kudos has released the Cardea. 2-way, floor-standing Super 20, combining the Kudos Crescendo K2 tweeter from Kudos' flagship Titan T88 loudspeaker together with a newly developed main driver that features a hand-treated paper cone, 26mm diameter voice coil, aluminium phase plug and a copper shorting ring.

Mundorf inductors and resistors are used as well as Mundorf Supreme gold, silver and oil capacitors. The Super 20 cabinet is manufactured from 18mm high density MDF chosen for its acoustic properties and finished with either real wood veneers or a satin white paint. The reflex port is situated on the bottom of the cabinet to enable more flexibility in placement within the listening room; this incorporates the damped flexi-port design from the Kudos Titan T88. The plinth provides a fixed boundary gap for the port to work optimally as well as providing additional stability. Stainless steel spikes are also included.

Call 0845 458 6698 or click on www.kudosaudio.com for more information.

CRYSTAL ACOUSTICS PHONE HOME

Crystal Acoustics has launched the i-40 in-ear headphones, the first release from the company's new headphone range. Priced at £29, the i-40 design features an aluminum construction, hands-free microphone and triple-button remote (to accept or reject calls and control the pause, play, forward and rewind functions, when listening to music.). Arriving with a tangle-free cable, the package comes with three soft, silicon ear tip sizes and a durable carrying case for safe storage.

Meanwhile, the CS-HP500 street-style headphones feature a twist and fold mechanism for convenient portability. Large 38mm drivers are fitted behind ear pads fitted to provide noise isolation, while padding on the headband boosts comfort levels.

The Cresyn CS-HP500 is available in three colour options: white, black and black with a central red accent at the back of each earpiece. Price is £30.

Call 020 8133 7066 or click on www.crystallaudiovideo.com for more information.



SONY HOME CINEMA SOUND

Sony has released a new home cinema system plus Sound Bar accessory. The N-Series Home Cinema System includes slim speaker units featuring Sony's Magnetic Fluid Speaker technology. Using a ferrofluid material developed by NASA for the space programme, the newly designed rear surround speakers cut cable clutter while receiving audio wirelessly from the main system.

The system encourages you to touch your Near Field Communication (NFC)- and Bluetooth-enabled Android smartphone or tablet briefly against the Home Cinema System or Sound Bar. A Bluetooth connection is made instantly to enable wireless streaming from your mobile device. Bluetooth is enhanced by Sony's Digital Music Enhancer that 'restores' high frequencies lost in heavily compressed music files.

You can stream 'HD' music from a networked PC and control your Home Cinema System from your Xperia Tablet, Xperia smartphone, iPhone or iPad with TV SideView. This free app (Android or iOS) allows you to browse programme listings, explore online services and discover more content about the Blu-ray Disc or TV show you're watching.

The new N-Series Home Cinema System is available in the UK from May for £700. The HT-CT660 Surround Sound Bar is available from June 2013, priced at £350. www.sony-europe.com for more information.



AUDIO PRO ALLROOM AIR ONE

Swedish-based Audio Pro has announced its wireless multi-room audio range: Allroom Air One, a single stereo speaker with wireless audio technology (Apple Airplay and DNLA compatibility). Either used as a stand-alone speaker or as part of an Audio Pro multi-room audio system, additional sources can be connected via USB, analogue 3.5mm and optical digital TOSLINK inputs. Remote control over volume/track/play/pause is supplied. Access to functionality and setup is available through the Audio Pro iOS App, available through the App Store.

Using two 25mm soft dome tweeters and two 114mm bass units driven by a 100W amplifier (four 25W Class D amplifiers) under the command of DSP (Digital Signal Processing), the Air One can attach a subwoofer such as the matching Living LVSUB.

The Audio Pro Living Allroom Air One is available now in the UK in red, black or white leather finishes for £500. Click on www.audioprodirect.co.uk for more information.





DAMSON GETS FRUITY

Damson is launching the Pearl, a Bluetooth wireless speaker. Like its Damson predecessors, the Cisor and the Twist, the Pearl uses resonating 'Incisor Diffusion Technology' that turns the surface it is sitting on into a de facto

speaker. Additionally, for the Pearl, Damson has added an extra, conventional speaker driver. Measuring 52 x 66mm, the

Pearl is compact and features a hybrid aluminium and rugged rubberised finish, a 3.5mm audio input for wired connection and a 3.5mm output allowing two or more to be daisy chained with a wireless range of around ten metres. Price is £100.

Also look out for another wireless speaker, the Oyster, featuring two 2in, front-facing 10W midrange drivers, two side-firing 1.5in tweeters and a rear passive radiator subwoofer. The Oyster uses the Apt-x codec for A2DP Bluetooth streaming. Providing top-mounted controls and 'pair and play' operation, the Oyster offers compact, measurements of 230 x 100 x 116mm. Price is £180.

Click on www.damsonaudio.com for more information.



TEAC 501

TEAC has announced the Reference 501 series, a separates-based mini component hi-fi system. Available to purchase on a 'pick and mix' basis, the Reference 501 system comprises four key components: AI-501DA (90W per channel, Class-D, Integrated Amplifier with DAC); UD-501 (Dual Mono DSD-compatible Digital-to-Analogue Converter); PD-501HR (DSD-compatible CD Player) and HA-501 (Dual Mono, Class-A Headphone Amplifier). All are priced at £699 each.

For more information click on www.teac-audio.eu/en

YOU CAD!

British-based Computer Audio Design (CAD), has announced the CAD 1543 DAC, based around a dedicated, non-magnetic acrylic chassis. The DAC has a

single high-quality USB input plus one set of RCA outputs. This configuration enables the signal to pass through the DAC without encountering the effects of unnecessary switching. It also allows a short signal path (of just 1cm) from the USB board to the DAC.

The CAD 1543 DAC boasts power supplies which have their own mains conditioning, a captive mains lead that eschews a mains power switch in keeping with the company's fewer-components-means-better-sound philosophy. Further features include: extensive internal isolation; no active devices in the output and visco-elastic polymer feet, which offer damping and absorption properties. Price is £6,900.

Ring 0203 397 0334 or click on www.computeraudiodesign.com for more information.

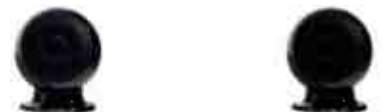


WIRELESS CABASSE

Cabasse, the French loudspeaker manufacturer, has announced the Stream 3 - a wireless 2.1 system. The two satellite speakers, with magnetic swivel bases for ease of positioning, feature Cabasse's point source SCS technology, developed for the flagship La Sphère system.

Push button WPS security provides instant connection to the wireless DLNA network. The Stream 3 may also be connected to a wired LAN and to multiple Apple or Android smartphone or tablet devices via Bluetooth for streaming of locally stored content. Analogue RCA inputs are also provided and a digital optical input enables the Stream 3 to be connected to a TV. The system includes a remote but an App is available too.

The Stream 3 supports PCM, FLAC, WAV, WMA, AIFF, AAC and MP3 up to 24bit/96kHz. Price is £849. Click on www.cabasse.com/en for more information.



CJ's NEW AMP

Conrad-Johnson has announced two new valve amps: the LPI25sa and LPI25sa+.

Presented within a single stereo chassis and pumping out 125W per channel, both amps feature high quality components although the LPI25sa+ incorporates CJD Teflon capacitors and metal foil resistors in strategic applications in the circuit. Built-in LED bias indicators allow the user to make this adjustment using the supplied

screwdriver. Prices are £7,995 for the LPI25sa and £9,995 for the LPI25sa+. Call 020 8948 4153 or click on www.audiofreaks.co.uk for more information

CORRECTIONS

Astell&Kern point out the AK100 player we reviewed in the March 2013 issue also plays MP3 and Ogg Vorbis files, and claim longer battery life than we measured. Read more about this in Letters 'Astell&Kern AK100'.

The Micromega MyDac costs £259, as stated in review Summary, March 2013 issue, not £300 as stated in the body text.



icon Audio

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Hi Fi World



Designed by David Shaw



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The new MK III version of the Stereo 60 now comes with several improvements in sound and performance, and build quality. This is our biggest integrated amplifier. It is ideal for someone wanting a very dynamic fast sound. It has a big power supply, big output transformers, and uses the excellent new KT120, and comes with many features. The new super strong KT120 has caused a storm in the hi fi world, with 50% more power than the KT88. It enabled us to improve the sonics, power, distortion and reliability. An excellent alternative to a fast modern transistor amplifier, the ST60III m will deliver the finest detail of modern recordings in a more vivid way and present jazz and rock music without harshness or tizz.

Two Amplifiers in One. The importance of Triode The triode sound is preferred by many hi fi fans, although the power is lower in the ST60 is still ample for all but the most demanding levels. Ignored or neglected in the past we gave equal priority to the triode function so the full quality is maintained. With our UL/Triode switch you can change from 80 watts to 40 watts of pure triode sound at the flick of a switch.

New Pure Power Amplifier 60 HIPm made by popular request, a pure power amplifier version of similar looks and identical specification. This matches virtually any high quality valve or transistor pre amplifier. It may even be driven directly from a single source already having variable output.

Now with "Easy Bias" Meter We think of our amplifiers as musical instruments. Like a piano needs occasional tuning, big amplifiers need the bias checking. This way you can be sure of 100% performance all of the time. Simple with our "easy bias" meter. If the pointer is in the "black" it's correct! Also useful to check if your valves are worn or faulty. Long term performance is important to us and this useful aid will take the guesswork out of maintaining your amplifier.

Attractive Valve cover Most valve amplifier covers look as though they were done as a cost saving after thought, and don't exactly enhance the look of the amplifier. They are rarely seen in advertisements. We think that something you will use every day should look attractive. That's why we use 18 pieces of laser cut Perspex assembled with a further 20 precision components. See picture on our website.

Our new series of "Low Distortion Tertiary" output transformers are the best we have ever made, enabling us to reduce global feedback by about 40%. All our amplifiers are designed and finished in Leicester. Warranty and service is done by the engineers that designed them so you can be sure of long term performance. We incorporate a "standby" switch in order to protect those precious cathodes from damage until they have warmed up. All of our amplifiers are hand made using "point to point" soldering without using printed circuit boards. We are convinced this sounds better. It allows for very easy servicing, upgrades and modifications. Remote controlled volume included for fine tuning your listening. High quality components are used throughout including an "ALPS" volume control, silver plated PTFE audio cable SCR capacitors audiophile resistors. Loudspeakers of nominal impedance between 3 ohms and 12 ohms may be used with virtually no reduction in power or quality. A choke regulated power supply adds a richness to the sound quality that silicon devices alone are unable to do. Recording and playback are catered for by the "Tape Monitor". Also useful for Home Cinema applications. In short we have created an amplifier of excellent flexibility and quality which retains the qualities traditional of traditional design and performance. Bespoke upgrades available including silver/copper capacitors, valves and design.

From £2,199 (inc UK VAT) Integrated. Power Amplifier only from £1,999. Upgradeable See also our and other award winning amplifiers on our website



MARANTZ PRE & POWER

Marantz has released the new AV8801 (£2,500) 11.2-channel pre-amplifier featuring a large toroidal power supply, HDAM (Hyper Dynamic Amplifier Module – which has been in use and in development since 1992) and High Current Feedback technology and a copper-plated chassis. It comes with full 4k video capability, 3D pass-through, three HDMI outputs plus Apple AirPlay. Spotify is also supported along with network attached storage devices (NAS) and Internet Radio. The unit can be controlled via a software App.

The MM8077 (£1,700) 7-channel power amplifier acts as a partner, incorporating high current toroidal power transformers to handle power surges and a current feedback discrete power amplifier stage design. Users have the option to choose between both balanced (XLR) and unbalanced (RCA) inputs for each channel. For more information, click www.marantz.eu

CES ROUND-UP

CES was packed with new announcements this year. Here's a quick overview of some of the highlights.

Audio Research is releasing the Reference 10, a two-box preamplifier plus the newly launched Reference DAC Digital Media Bridge – a DAC/preamp/streamer.

Constellation Audio is a new audio electronics brand assembled by two of the founders of Continuum, the luxury turntable outfit. Constellation's Performance Series has been announced comprising the Cygnus digital file player/DAC, Virgo preamplifier and Perseus phono preamplifier plus Centaur stereo and mono power amps.

Crystal Cable has revealed a newly enhanced 'gold-monocrystal' version of the glass-clad Arabesque Glass Master floorstanding speaker. Look out also for the Absolute Dream range of audio cables, the first to feature monocrystal silver at their core plus monocrystal copper, silver and gold in their dual-layered braid.

Dan D'Agostino follows the successful launch of the Momentum Mono and Stereo power amplifiers. The founder of Krell has launched his first preamp under his own name: the Momentum Preamplifier, complete with D'Agostino's signature front-mounted meter.

E.A.T., the manufacturer of turntables, has announced its forthcoming Superlative valve-based phono preamplifier. Also new is the E-Go, a turntable tonearm designed by arm specialist Bob Graham.

Krell has unveiled its first network streaming device, the Krell Connect. Meanwhile, home cinema buffs are served by the new Foundation Surround Processor.

Magico has a new speaker on the way. The S1 is a compact floorstander. It uses a monocoque, 305mm diameter extruded aluminium loudspeaker enclosure and automotive-style paint finishes.

Martin Logan has unveiled its first on-ear headphones, the leather-clad Mikros 90. A slew of subwoofers is also set for launch, including the Dynamo 1500X, complete with PKB room correction capability and the top-end Balanced Force 210 and 212.

Micromega, the French audio outfit, has expanded the My range of compact audio essentials with the MyZig headphone amplifier and MyGroov phono amplifier. An integrated amp, a wireless streamer and a CD transport are among further My components expected later in the year.

Sonus Faber has announced the Venere. There are two standmount models, the Venere 1.5 and 2.0, together with two floorstanders, the 2.5 and 3.0, all available in lacquered black, lacquered white or walnut wood finish options. An in-wall model and home cinema centre speaker complete the range.

Finally, Transparent, the US-based Premium and Reference ranges,

cable specialist, has introducing new digital cables to its Performance, encompassing USB, optical and coaxial varieties.



French strings

Cabasse make string instruments Rafael Todes tells us. They also make the Pacific 3 SA loudspeaker that he plays here.

The Cabasse family descends from a French violin maker by the name of Prospère Cabasse, born in Mirecourt toward the end of the 18th century who achieved recognition for his work. While his instruments are not considered big-league, they are documented and recognised. The Cabasse descendants founded the loudspeaker company in the 1950s, and are one of the foremost manufacturers of speakers in France today. The company was taken over by the Japanese giant Canon seven years ago, and they have kept an arms-length relationship with Cabasse, allowing them to innovate independently.

The SA in the model number refers to 'Semi-Active', as the speaker has two woofers driven by an on-board 450W digital amplifier, which makes the efficiency of the speaker high enough to partner with a huge range of amplification. (There is a cheaper model, the Pacific 3, which doesn't have this feature, but costs £2800 less.) For this review I used a Renaissance 300B pure Class A Valve amplifier, a highly refined and subtle amplifier, normally run with horns and other high-efficiency speakers. The tweeter and

midrange comes in the form of a dual-concentric driver the BC17, Spatially Coherent Sound, as it's known, which deals with the frequency range 175Hz-20kHz. In the centre of the unit, is the horn-loaded tweeter, and this is surrounded by a 2.5cm ring of hard white foam. The midrange emerges from a small gap between the foam and the outer chassis. The same coaxial driver finds itself in the Riga speaker.

The units are elegantly finished in a piano black gloss, and each speaker weighs 42kg. They arrived by lorry on a palette, and in true Gallic style, the lorry driver informed me that it was not his responsibility to move them inside. With difficulty, I wrestled them single-handedly into my house. This is not however a problem a potential purchaser would have as dealers tend to be more helpful!

The speakers are not perfectly oblong, but have a curved line of relief on the sides. Spikes are included in the box.

LISTENING

The speakers were new out of the box, and in my experience, speakers can take up to six months to sound their best. I ran them in for a week before the serious listening began.

First up was a CD I have



owned since 1986, Mozart Piano concerto no 23 in A, K488, Alfred Brendel and Neville Marriner collaborating on the Philips label. This proved to be a shock to me.

I haven't heard before, and which is involving. Like the BBC, as according to its mission statement, it informs, educates, and entertains!

Listening to a new recording of

"It is almost like a magical illusion the way the music floats around them"

When you have lived with a CD for more than quarter of a century, you may think you know how it should sound. Well that all changed!

The speakers have two outstanding characteristics. They are capable of extracting an astonishing amount of detail from a recording. I can hear the soloist moving about on his piano stool, and I can hear woodwind pairings in Mozart's score of which I was completely hitherto unaware. Not only do the speakers shine a bright light on details in the score, but they also throw out a massive and incredibly-chiselled soundstage, whilst disappearing. It is almost like a magical illusion the way the music floats around them, emanating from the points on the stage, and not the speaker drive units like conventional speakers.

I am more aware of the hiss from this ADD recording than with my reference B&W802Ds, perhaps they are spot-lighting certain frequencies in a way that I'm not accustomed to. On several recordings, this present one included, I'm acutely aware of the principal flautist's breathing, almost as if the microphones are actually in the flute itself. There is no question that the speakers are resolving more detail than I'm used to, sometimes when the level of resolution rises, the artificiality of spot-miking is more apparent. The piano has a good tone, I can hear the start of each note, the transients are fast, without being brittle. I wouldn't say the sound is uncoloured, because there are some tonal quirks. There are areas of the midrange that are being spot-lit, not unattractively so, but nevertheless the speakers don't sound ruler-flat in response.

On the back panel, it is possible to boost or cut the bass units by $\pm 6\text{dB}$, I found that around zero worked well. Bass was accurate and timed well, but was not what I would call 'seismic'. All in all, it made this CD come to life in a way

Britten's Saint Nicolas, conducted by Stephen Layton on Hyperion, and in particular 'The Birth of Nicolas' – I was fortunate to have been present at the recording session where my son was singing in the choir – I notice a slight boxiness in the boy treble's voice, which comes across as a slight lack of purity that I don't remember at the session, or indeed coming across on my reference B&W802Ds. By and large, the choir is very well reproduced, with plenty of detail and weight, without screaming. There is a real sense of the ambience of the church, and the speakers are capturing the energy and passion that was present at the recording itself.

Changing to Vinyl, with Thelonius Monk's 'Monk's Music' on Riverside, recorded in 1957, has the hallmark Cabasse soundstage.

Rear inputs are mono-wire only. A control can lift or lower gain of the on-board bass amplifiers.





Back to the future

Martin Pipe finds that the SC-2022 AV receiver from Pioneer combines cutting-edge Class D amplifier technology with a pleasing sound quality.

Pioneer was selling quadraphonic audio to consumers forty years or so ago. Although this 1970s vision of recorded music's future eventually died out, multi-channel home audio was revived to recreate the cinematic experience at home.

Pioneer was again a key player; no aspiring early-1990s home-cinema was complete without one of the laserdisc players that the company did so hard to promote. Laserdisc gave the best picture and sound quality of any home video format.

until the arrival of DVD. Naturally, Pioneer backed up this LP-sized silver disc with a range of Dolby-equipped surround-sound receivers; it was, after all, still a hi-fi company at heart.

Chances are that the owner of one of these 'old-time' receivers would be rather intimidated by Pioneer's latest receiver. The elegant SC-2022's speaker terminals (only more of 'em here!), FM/AM tuner, analogue/digital-audio input terminals (five of the first, and four of the second, if you're wondering), front-panel fluorescent display and of course Dolby's name would still be

familiar.

But the Ethernet port on a piece of AV gear and two component video inputs would make less sense, even if the yellow composite-video port would be recognisable. But six inputs and one output marked 'HDMI'? Why would you want two subwoofers? And an iPad input?

The SC-2022 lies at the bottom rung of its four top AV receiver. It handles high resolution digital audio and in addition processes Dolby Digital, DTS sound track coding schemes and it provides support for Dolby Pro-Logic IIz and DSD

decoding.

It also forms the basis of some other advanced technotricker. Take for example Pioneer's latest 'full auto' incarnation of MCACC - multichannel acoustic calibration. This clever system uses a microphone to analyse a series of test tones sent to each speaker. In doing so, it 'sounds out' the room's acoustics and applies the necessary correction. It reckoned that my left front channel speaker was wired out of phase but this was

of them have multiple functions, and so you must remember to select the correct mode (thankfully, there are funky Android/iOS 'apps' available). In addition, there's no means of going through long lists of Internet radio stations, networked folders, etc., one page at a time. As a result, navigating such lists can be frustrating! In other respects, the user interface is pleasant, with a decent menu system.

Connectivity is also on the whole well-considered. Component and

'zones' (one of which can be amplified) are also available for multi-room audio.

On the downside there's only one HDMI output, and the only dedicated analogue audio input is for a CD player - no phono stage or multichannel here. There's only one 'tape loop', intended for a video recorder, although a cassette or Minidisc deck could be substituted.

Also interesting is the on-board amplification, which feeds a decent-quality set of binding-post speaker terminals. There are a total of seven 170-watt amps (this is a '7.2' receiver; thanks to its provision for two subwoofers) which would normally be deployed in the 'classic' 5.1 configuration. The two extra amps can be assigned to speakers fed by the front height channels (for Pro-Logic IIz mode) or surround Back channels. They could also drive speakers from an independently-selected source in 'Zone 2', or bi-amp the front channel loudspeakers if they have separable bass and treble sections.

Unusually, the

"the HDMI 1.4a ports support the 'return channel', so you can hear TV audio through your speakers, and are 3D ready"

incorrect. It was successful after re-running the test sequence.

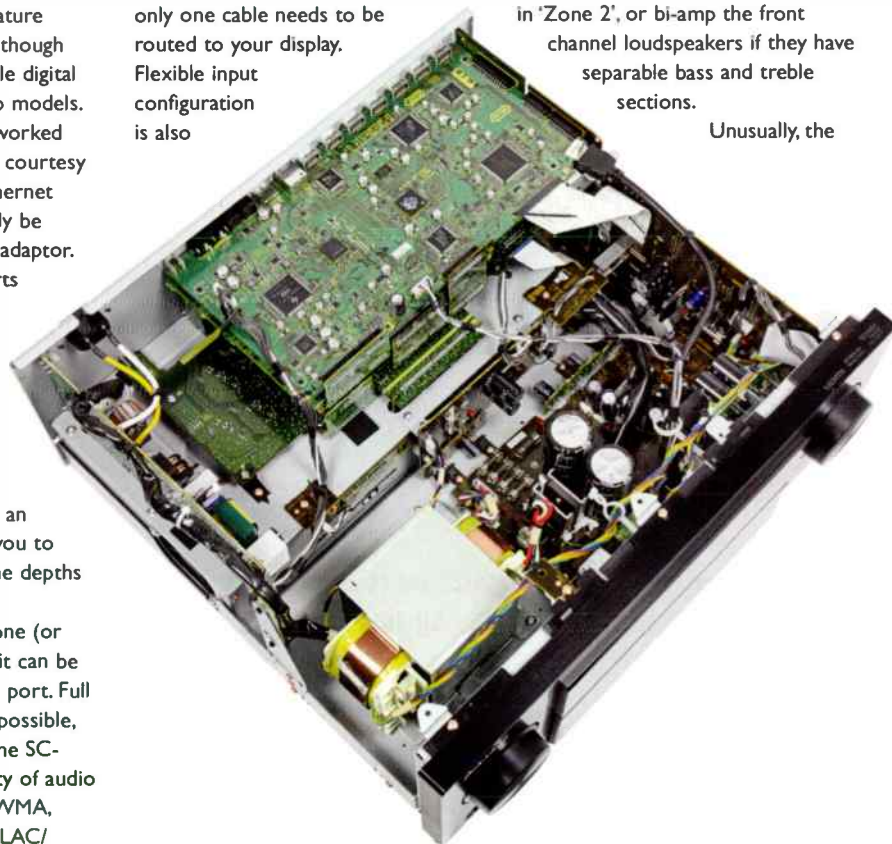
The jitter-reduction feature shouldn't be overlooked, although this AVR lacks the adjustable digital filter of Pioneer's three top models. Then there's all of the networked functionality, brought to us courtesy of that aforementioned Ethernet jack - the SC-2022 can only be 'Wi-Fied' with an optional adaptor. Ironically enough, it supports Apple's Airplay standard. But it will also deal with music stored on DLNA servers (or, for that matter, USB devices connected to the front panel). This unit is also Bluetooth-ready (with an optional dongle), enabling you to play any music lurking in the depths of your mobile.

If said phone is an iPhone (or you have an iPod or iPad), it can be plugged into the front USB port. Full control over the device is possible, and audio is streamed to the SC-2022 digitally. A wide variety of audio codecs are catered for - WMA, AAC and MP3, as well as FLAC/ALAC and uncompressed PCM files in 16-bit and 24-bit resolution.

An impressive variety of Internet radio stations are also covered, courtesy of a 'vTuner' feature. Ones you listen to - and the sound quality of some can be very impressive - can be stored as favourites.

And this is perhaps just as well, because in some respects the user interface leaves much to be desired. The remote, with its multitude of tiny rectangular buttons, is awful. Some

composite video are converted to HDMI, thereby ensuring that only one cable needs to be routed to your display. Flexible input configuration is also



Towards the front is a conventional linear power supply based around a hefty mains transformer, rather than a switched-mode type. At the rear is the digital-processing board, beneath which resides the Class-D amplifiers.

allowed, so a specific input can combine different video and audio sources.

The HDMI 1.4a ports support the 'return channel', so you can hear TV audio through your speakers, and are 3D ready. Two independent

amps operate in Class D (PWM). Its key advantage is much greater efficiency, relative to the Class AB designs traditionally used in home cinema gear - Pioneer reckons on a 44% efficiency improvement. That means smaller power supplies (at

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Enhanced Dual Concentric™ drive unit with additional magnet providing improved sensitivity, crisper response, wider dynamic range and even faster transient attack than the standard DC6T. Now that really is special!

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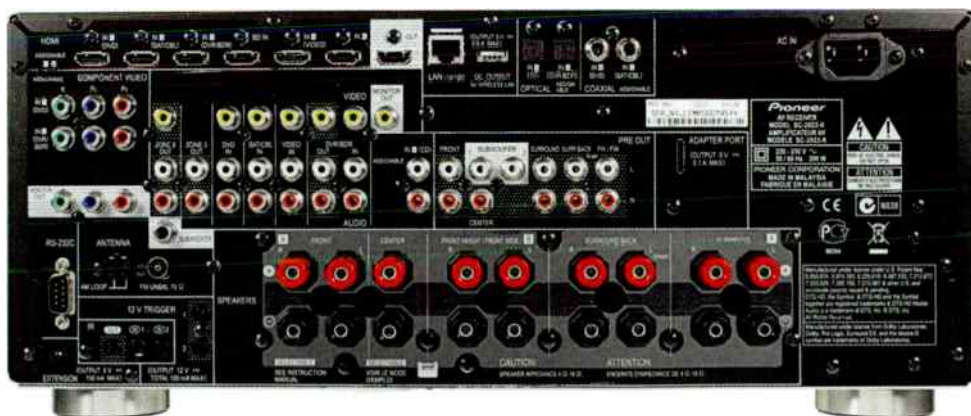
Tannoy logo, indicating built by Tannoy and incorporating 85 years of loudspeaker engineering expertise. So clearly very special indeed.

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The SC-2022's six HDMI 1.4a ports support DSD streams from SACD-compatible universal disc players, such as those from Cambridge Audio. There's no analogue multichannel input, although a 9.2 output is available for external amplification. Analogue audio connectivity is rather limited.

just under 15kg, the SC-2022 isn't unduly heavy) and less wasted heat to dissipate.

An advantage claimed by Pioneer has – as far as I can see – a practical sting in its tail. The semiconductor elements of the power field-effect transistors do not, as is traditional, take the form of separately-packaged devices with terminals that are connected to the rest of the amplifier circuitry either directly or via wires. Instead, they make direct contact with the conductive pads on the circuit board.

Good, as Pioneer says, for shortening signal paths. But should one fail, I can imagine that the service technician would have to replace the entire power-amp circuit board that could make repair expensive, perhaps uneconomic.

PERFORMANCE

During listening tests the SC-2022 proved to be a very competent performer. A Blu-ray of dark thriller *The Girl With The Dragon Tattoo*, played on a Cambridge Azur 751 BD player, through a Rogers GS6/GS5/

"instruments retained their full-bodied character, and a true sense of the space they were being played in was conveyed"

C33/ASB60 speaker system, yielded a DTS-HD Master Audio-derived soundscape that perfectly-complemented the onscreen visuals. The subtleties – the cold Swedish wind

gusting around the fictional island of Hedestad – were delivered with due finesse and dialogue that was always intelligible. Action sequences, such as Lisbeth Salander's motorbike pursuit of Martin Vanger, which culminates in an explosion – also hold their own, with well-steered use of the various channels and tremendous reserve of power.

Of all the receivers I've tested recently the SC-2022 has come out best in the low-frequency department. It's articulate, but never overblown; a vindication of Pioneer's MCACC technology, maybe? This was amply-demonstrated when we consider Trent Reznor's pumping industrial-techno soundtrack

– which seems an odd choice when accompanying mid-1960s flashbacks, yet it somehow works. Treble has an incisive character that's even more prominent after switching the



machine to its 'Pure Direct' mode.

Turning to music, this time from Norway, a rare Blu-ray audio disc of Trondheim Solistene's *Divertimenti* was analytically yet involingly reproduced.

Of particular note was the *Molto Adagio* from Bartok's *Divertimento* for Strings. Said instruments retained their full-bodied character, and a true sense of the space they were being played in was conveyed. A minor criticism is a slightly-forward treble,

Small buttons, similarly sized, and two RECEIVER functions make the remote control difficult to read, understand and use.

but even so what we have here is a surprisingly-vivid picture considering that the SC2022 makes no 'true' hi-fi pretensions. Yet in terms of rhythmic timing and precision, this receiver is no slouch – as revealed by a spin of Kraftwerk's *Man-Machine*. *Spacelab*, driven by insistent electronic percussion, was given the urgency due.

Lossily-compressed music – I tried a 128kbps AAC copy of Sweden, from *The Divine Comedy's Fin de Siecle* album, gave me an opportunity to assess Pioneer's compressed-music enhancer. It crisped the top-end while firming up basslines. 'Auto Sound Retriever', as it's called, isn't available in the 'DSP-bypassing direct' audio modes. Switching between 'stereo' with ASR engaged and whatever settings are applied to

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NOEL SAYS -

Class D amplifiers are not "digital", but use a technique called Pulse Width Modulation that uses pulses rather than an analogue signal. The pulses don't represent digital information, which is why Class D appears to be digital – but it isn't!

The benefit of Class D is efficiency. It uses less current than conventional amps, so runs cool. That means smaller heatsinks are needed, and a smaller power supply, saving a lot of cost. Lower weight also reduces shipping costs.

The drawback has traditionally been sharp sounding treble, due to distortion. Reliability has been an issue too, one manufacturer withdrawing their Class D receivers due to cost of recalls.

The SC-2022 uses B&O's Icepower and this technology appears to overcome such limitations. However, an output network still alters tonal balance according to load; bright with 8 Ohm loudspeakers but warm with 4 Ohm loudspeakers. So quite what you hear in terms of tonal balance is loudspeaker dependent. **NK**

Pure Direct, interestingly, revealed a similarly-acute treble character. ASR certainly benefits Internet radio listening.

On the subject of FM radio, the SC-2022's 'make-weight module' tuner makes for listening that's pleasant enough, especially given the limitations of today's broadcasts. The rather more challenging Radio 3 comes across well, although it lacks the sheer detail that a dedicated standalone tuner of complementary quality can manage.

CONCLUSION

Congratulations to Pioneer, who have managed to produce a tech-heavy AVR that also manages to acquit itself well sonically. From music and movies alike, I could achieve high sound levels without any tendency to struggle; maybe there's something in this Class D malarkey after all.

It's a pity that the user interface, especially the awful remote control, lets the side down. I'm also disappointed to find only one HDMI output port – bad news if you have both projector and flat-panel TV – although the seventh front-panel input is undoubtedly useful.

It's a shame that dedicated audio connectivity is so scarce; an optical or coaxial output for digital recorders would have been appreciated. That said, there's nothing to stop you from using the analogue-audio portions of the AV inputs – your phono stage could be plugged into one of these.

So the SC-2022 offers good results from its Class D amplifiers, running cool yet sounding firm and powerful, even at high volumes. It has a wide range of facilities, but isn't quite the easiest receiver to understand or use.

MEASURED PERFORMANCE

Power output measured 150 Watts into 8 Ohms, rising to 250 Watts into 4 Ohms, one channel driven, so the SC-2022 is not short of power as there are seven channels. Pioneer quote power into 6 Ohms as 170 Watts, a figure our sample easily met. The amplifiers are Class D and ran cool. As Class D goes they are well developed, high frequency distortion measuring a low 0.02% our analysis shows, and this was achieved at all levels, so treble will lack the "breaking glass" quality once common to Class D.

Although damping factor was high at 42, an output network still exerted influence; frequency response differed into 8 Ohm and 4 Ohm loads. With the former treble output rose above 10kHz, reaching +3dB at 40kHz our analysis shows. With the latter it fell to -3dB at 30kHz, our analysis showing -1dB at 20kHz (white trace). So the perceived tonal balance of this receiver will depend upon the loudspeakers used, unlike conventional (Class AB) amps.

The optical digital input worked to 192kHz sample rate and with this gave a frequency response flat to 50kHz, above which output fell away smoothly, when measured via the pre-amp output. The loudspeaker output obviously imposes its own load-related bandwidth limitations. Linearity was a trifle below par, 16bit producing 0.28% distortion at -60dB and 24bit 0.12%. As a result the EIAJ Dynamic Range values were also lacklustre at 101dB with 16bit and 104dB with 24bit. Hi-Bit did not alter 24bit distortion figures and degraded 16bit to 0.5% distortion.

The VHF tuner was fairly quiet when

given enough signal, hiss measuring a low -69dB. Frequency response was absolutely flat to 14kHz, above which a 19kHz pilot tone filter rolled off output. So in use VHF/FM will sound tonally natural and hiss free. The tuner needed 0.85mV from the aerial for best results, a common value, or 75µV for hissy stereo (IHF Stereo sensitivity value).

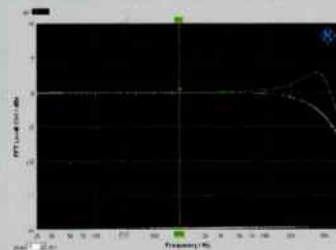
The Pioneer SC-2022 measured well in all areas, with no major weaknesses. It does not set standards, but offers much at the price. Perceived tonal balance will depend upon the loudspeaker load though. **NK**

Power	150watts
Frequency response	6Hz-19kHz
Separation	88dB
Noise (ADC/PureDirect)	-78/86dB
Distortion	0.02%
Sensitivity	250mV
Damping factor	42

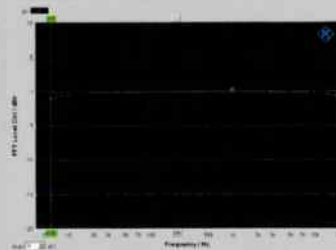
DIGITAL	
Frequency response (-1dB)	6Hz-48kHz
192k sample rate	6Hz-48kHz
Distortion (16/24bit)	0dB
0dB	0.002
-60dB	0.5/0.12
Separation (1kHz)	88dB
Noise (IEC A)	-103dB
Dynamic range (16/24bit)	101/104dB

VHF TUNER	
Frequency response	20Hz-14kHz
Stereo separation	42dB
Distortion (50% mod.)	0.18%
Hiss (CCIR)	-69dB
Signal for minimum hiss	0.85mV
Sensitivity (stereo, -50dB)	75µV

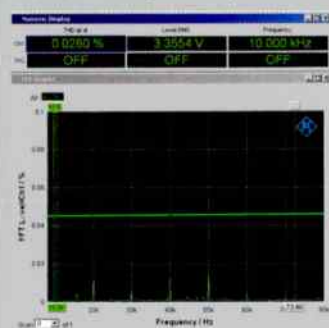
FREQUENCY RESPONSE
8 Ohms-green; 4 Ohms-white



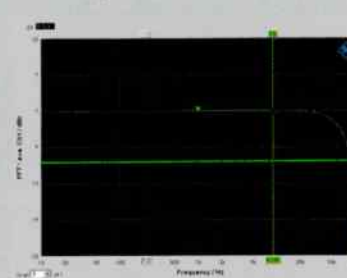
FREQUENCY RESPONSE,
4Hz-20kHz



DISTORTION, 10kHz, 1W



FREQUENCY RESPONSE
DIGITAL, 192kHz s/rate.



PIONEER SC-2022
£600



VERDICT

It may be difficult to use – at least until you get familiar with it – but the SC-2022 will reward you with one of the most articulate and refined performances you'll find at its price-point.

FOR

- crisp, incisive treble and deep, well-controlled bass
- numerous innovative features
- support for all key audio codecs, including DSD.

AGAINST

- poor remote control
- no inbuilt wi-fi
- little provision for audio-only sources

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LETTER OF THE MONTH PRIZE



KEF Q100 LOUDSPEAKERS

Answers by: **NK** - Noel Keywood; **PR** - Paul Rigby; **TB** - Tony Bolton; **MP** - Martin Pipe; **HB** - Haden Boardman; **RT** - Rafael Todes; **RA** - Rod Alexander; **JM** - Jon Myles.

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

A pair of KEF Q100 loudspeakers are on their way to **DAVE MAYER**, Letter of the Month winner in our March 2013 issue.

Letter of the Month

ALL THAT JAZZ

In the review of the Lux L-505U (October 2012 issue), Tony Bolton claims that Chris Barber started the British trad jazz revival in 1948. This is incorrect. George Webb formed his band playing classic/traditional jazz in 1942/43 and recorded as early as December 1943. There were similar bands playing in Liverpool, Manchester, Sheffield and Birmingham at about the same time. Ken Colyer began his band career in 1948 with the Crane River Jazz Band and he did not join Chris Barber until he returned from New Orleans in 1953. He left the band after a difference of opinion on the style that should be played in 1954.

In the review of the Da Vinci cartridge, Tony Bolton claims that his RCA Victor LP of Fats Waller was taken from 78 transcriptions. This is incorrect as the album was derived from conventional Victor and Bluebird 78 rpm commercial records. At the time of those Waller recordings, transcriptions were 16-inch diameter and played at 33 and 1/3 rpm.

Mr Bolton gives the impression that he is content with his worn and damaged Fats Waller LP. Should he wish to obtain a copy in near mint condition he should be aware that there is a thriving market in second hand jazz records with its own magazine (VJM - Vintage Jazz Music) and there are two major record fairs each year at the Fairfield Halls in Croydon and two

more at the National Motorcycle Museum in Birmingham as well as others in various venues. There are also a small number of specialist record dealers who cover jazz as well as other musical forms. The prices, unlike those for pop music, tend to be very reasonable.

Mr Melvyn Dover, whose letter gives very useful advice about cleaning records and their covers suggests the use of "sticky" tape for repairing the covers. I would suggest that ordinary adhesive tape (Scotch, Sellotape) is best avoided as the adhesive soon dries out, leaving an unsightly brown stain and the tape itself peels off. If adhesive tape is used, it should be of the archive quality such as Scotch "Magic" tape or its equivalent from other suppliers as the adhesive on that type of tape is stable.

Finally, I am surprised that none of your contributors mentions the fact that



If you play 78rpm records (shellacs) then you need a 78rpm cartridge. "I bought the Ortofon 2M 78 cartridge and find it to be excellent" says George Hulme.

mono microgroove records, both 45 rpm and 33 & 1/3 rpm, use a larger radius groove than that on stereo records. If a mono record is played with a stereo cartridge, the stylus sits well down in the groove and the sound is degraded as a result. Proper size styli are available from specialist suppliers and make a much improved reproduction of



The new Ortofon 2M 78 cartridge. No need for a wind up gramophone any more!

mono records.

Finally, as a result of an article in the December issue, I bought the Ortofon 2M 78 cartridge and find it to be excellent. It tracks well at the recommended 1.8 g on conventional 78s and acetates while reducing the surface noise which I think shows that the stylus profile is accurate. I bought it partly because I use the Ortofon 2M Blue cartridge for stereo LPs. I noted that Ortofon also list a 2M mono cartridge for mono vinyl. However, although the cartridge body appears to be the same as that for the 2M 78 unit (at £80), the cost of the mono version is £230 with a replacement stylus price of £175. That seems to be unreasonable in comparison.

I am sure that all original mono LPs and 45s need the larger stylus. What the more recent audiophile mono LPs need could be anything.

George Hulme
Old Basing
Hampshire

Thank you George for filling in gaps in my knowledge of the history of jazz. I based my comments on reading various books on jazz over the years, most of which date the start of the British Trad Jazz movement as 1948. You have the distinct advantage of being out and about in the London jazz scene at the time, I learn from our correspondence. For those of us too young to have experienced this, you recommend a book called "History of Jazz in Britain 1919 - 1950" by Jim Goldbolt. Jim was a British jazz writer and historian (and also the agent and manager of sixties group "The Swinging Blue Jeans"). A revised edition of this book was published by Northway Publications of London in 2005. (ISBN-10: 0955788811). My copy is currently on order at

Amazon.

Regarding the Fats Waller LP. I do actually have a better condition copy of this record. However, the copy that I used in the review has been played by me on just about every turntable, arm and cartridge combination that I have had in the last 35 years, so I know exactly how good, or bad, it can sound depending upon the choice of equipment being used.

I am sure that I am not alone in having less-than-perfect copies of a record and I feel that it is a valid test of any arm, cartridge, turntable or phono stage to see how well they deal with extraneous noises from wear or damage. Some are considerably more forgiving than others, and their behaviour in these conditions may well be a deciding factor in a potential purchaser's choice of equipment.

I discussed the pricing of the 2M 78 and 2M Mono cartridges with distributor Henley Designs who

advised me that the difference in price is due to the greater cost of the more sophisticated stylus profile used on the 2M Mono, compared to the spherical design used on the 2M 78. I agree with you on the excellent performance of the 2M 78 cartridge as you can see in my review of it in HI-FI World, April 2013. **TB**

Hi George. Thanks for the corrections and your detailed knowledge of jazz and where to buy it. I am in discussion with Ortofon and Abbey Road about the forthcoming Beatles Mono LPs, that I believe do not need a larger diameter mono stylus. Such styli were for old mono records. So there is a qualification to be made here I believe. The experts will in due course let us know about all this and we will publish the information. **NK**

BEATLES VINYL

Like many others, I was originally very excited by the release of the new Beatles box set by EMI. However, I to have those nagging reservations about the digital process that has been used to create these albums. In addition, the marketing literature explains that various methods have been employed to iron out what are considered to be certain undesirable sonics from the original recordings.

Although I have not yet heard these new albums, I have little doubt that in the main, this iconic music has attained an extra warmth, body and a smoother top end. The question is: what price one sets on authenticity?

Interestingly, I have yet to read any comparative comments made with the



The Beatles Stereo box set, shown here, was released 2012. Due 2013 is the Mono box set, possessing all the definitive early mono mixes.



MC998-DW MONO BLOCK POWER AMPLIFIERS (CLASS A)

Output Power: 35W

Vacuum Tubes: 212 x1 (JJ)ECC83x1 (EH)6H30 x1

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MC300-A INTEGRATED
POWER:8W x 2

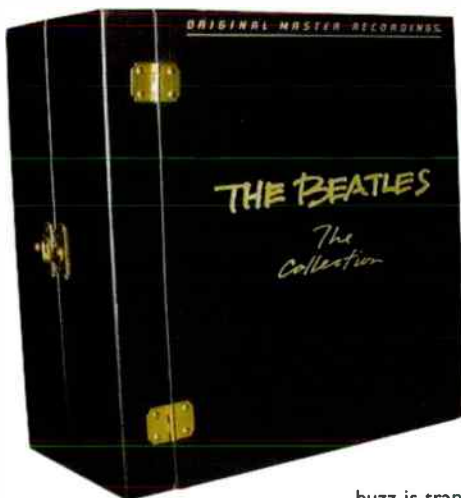


MC845-C MONO BLOCK
POWER:20W



MC300-C MONO BLOCK
POWER:25W

More information, please visit its website.
<http://www.mei-xing.com>



Mobile Fidelity The Beatles box set. It was half-speed mastered from the original tapes. So did the original tapes leave Abbey Road? Or were they 'transfer masters'?

Mobile Fidelity Beatles box set of the early 1980s. I am fortunate to own a set of this limited edition release. Apart from half speed mastering, these albums were produced – in typical Mobile Fidelity tradition – from the original first generation tapes. They even show a photograph of each one on every album protective sleeve to prove it!

To be fair, some of the Beatles earlier albums do sound a little thin with, at times, a rather 'hot' top end. Having said this, there is a tremendous vitality and presence to the sound that I doubt can be beaten. I often think when listening to them that this is almost certainly the best and most authentic way to hear the Beatles, not withstanding turning up at Abbey Road studios and asking to hear the original tapes.

I believe it is your intention to review the new box set in your next edition. I for one would be fascinated if you were able to put your hands on a Mobile Fidelity box set for comparison and comment accordingly. In any event, I will not be parting with my set any time soon.

Clive Kerr

Hopefully you have now read our full and in-depth review of The Beatles Stereo vinyl box set, in the February 2013 issue, which should have clarified matters for you on many of the points you have raised.

I was unable to source a Mobile Fidelity set for the review. Such sets are very rare, I'm afraid; you are very lucky to own a copy. I have heard

a set and, if memory serves me correctly, the Mobile Fidelity set is good but the new box set is better.

The Mobile Fidelity box is not perfect. Reportedly, there is a nagging fault within, namely a 120Hz saw tooth (almost B flat) buzz that intrudes on certain sides to a greater or lesser degree. The discs are half-speed mastered so the 60Hz (U.S.) mains

buzz is transformed into a 120Hz buzz on playback. This fault was rigorously poo-h-pooed by Mobile Fidelity until they finally admitted to hearing it themselves, blaming a possible ground or lighting fault. That said, some ears hear it more than others and there is word that not all pressings feature it. **PR**

ISOBARIK

I require advice / recommendations for a new front end to use with my ancient Linn Isobarik DMS loudspeakers. I was using – wait for it! – a NAD 3240 receiver as a pre amp and a NAD 2100 power amp, both of which have finally bitten the dust, and a Denon 1520 CD player. "What?", I hear the purists scream. It's a mismatch for such speakers I know.

I am considering using a NAD M3 Master Series integrated amplifier with a NAD M5 CD player. Budget is hopefully £5,000 but could be increased substantially if it would produce worthwhile improvements. I loathe the idea of changing the speakers because they still produce a wonderful, albeit coloured sound, but the bass weight is awesome. I listen to mainly rock / heavy metal music, and also any sound with a wide dynamic range particularly live recordings (try Genesis Live – the longs – old medley). I also play it loud – very loud!

My other problem is that I want to home-audition the new front-end prior to purchase (back problems

mean I cannot move the Isobariks!) Do you know any dealer/s who carry out such a service. Please advise.

Best Regards,
Chris O'Callaghan

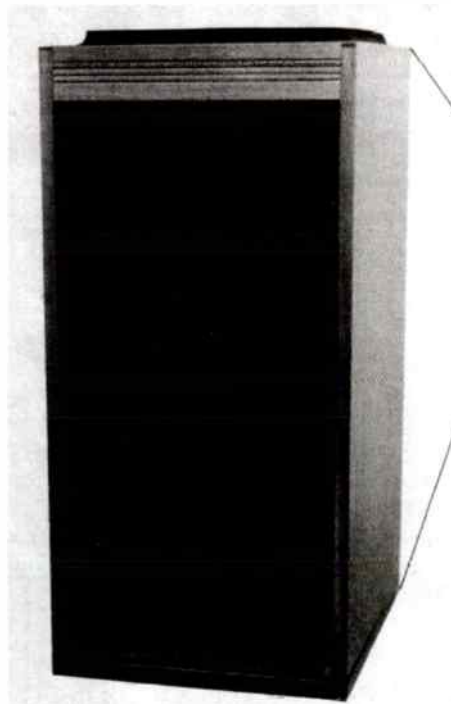
You need good, clean power and plenty of bass grip for the Isobariks. Sonically, a Roksan K2 stereo power amplifier (£650) suits, as does an Electrocompaniet Nemo but at much higher price. Musical Fidelity also specialise in high power amplifiers that sonically suit Isobariks and an M6PRX may be what you are looking for price wise.

You don't tell us where you live, which makes recommending a dealer difficult. However, an IP address look-up of your e-mail header suggests Wolverhampton, in which case Moorgate Acoustics offer home demo of the items you are interested in. I think you have Midland Hi-Fi Studio and Sevenoaks Sound and Vision close by too, and they may well offer a similar service. I suggest you phone these dealers. **NK**

DVD AUDIO

In your reply to Paul Marfleet (Dec 2012 issue) you stated "...as far as I am aware, you cannot now either create or play DVD Audio discs, except..."

As far as playback is concerned you are partly right in naming Cambridge and Oppo. What is now a poorly kept secret is that the innards of the



The Linn Isobarik delivered mighty bass – and was mighty heavy too. Chris O'Callaghan needs to home-demo suitable amplifiers.

Oppo has found its way in quite a few Universal players (Marantz McIntosh, Denon & Ayre amongst others) at something of a premium.

On to the creating piece. Yes you can!!! A company called Cirlinca (www.cirlinca.com) offers two programmes (HD-Audio Solo Ultra \$68.98 US and DVD-Audio Solo \$44.95 US) that allows you to roll you own.

HD-Audio allows you to burn DVD-A disc as well as – get this – Blu-Ray discs. Yes, you are reading this correctly. Even more astounding the Blu-Ray discs will hold 60+ 24/192 tracks.

The DVD-Audio version of the programme allows you to burn DVD-Audio discs.

Both programmes will rip your current CDs and upsample up to 24/192, so one could rip and burn in one fell swoop. However, I find that ripping with dBpoweramp is quicker. Both dBpoweramp and the Cirlinca programmes allow you to save your 24/192 files in both WAV and FLAC format on your hard drive etc

I sent a quick query to the guys at Cirlinca asking if there was any move to 32/384 capability and they replied no. Guess I'll just have to keep rolling my own at 24/192.

Cheers,

Roger Crossman

Fascinating stuff Roger – thanks for the update. I see free trials are available and prices range from \$44.95 for DVD Audio Solo Standard, to \$68.95 for HD-Audio Solo Ultra. The software is for PCs, not Macs; VMware emulator or Windows running in Bootcamp are solutions to this limitation. Vista 32bit and Windows 7 64bit are compatible apparently, but Vista can cause problems (read Support). Cirlinca are based in San Francisco and are DSD aware.

The other software for this purpose that I've used in the past, but overlooked, is DiscWelder, from Minnetonka software, near to Minneapolis, USA (near the Great Lakes). DiscWelder Bronze works on Mac (Intel) as well as PC and costs \$99. I see they also have Bronze 1000m (\$199) that provides DSD-to-PCM conversion before burning to disc.

DVD-Audio is a 'rare' format now, recognised by few players. DVD video players mostly reject DVD Audio discs, saying they are 'unreadable'. We've consistently mentioned Oppo and Cambridge Audio Blu-ray players that play DVD-

You can burn DVD-Audio discs with Cirlinca, Roger Crossman tells us. And it will burn Blu-ray audio discs too.

Audio as well as SACD, CD and Blu-ray; they are unusual in being able to play all silver discs. That's because they use a Mediatek platform solution, and it's likely the other players you mention also use it.

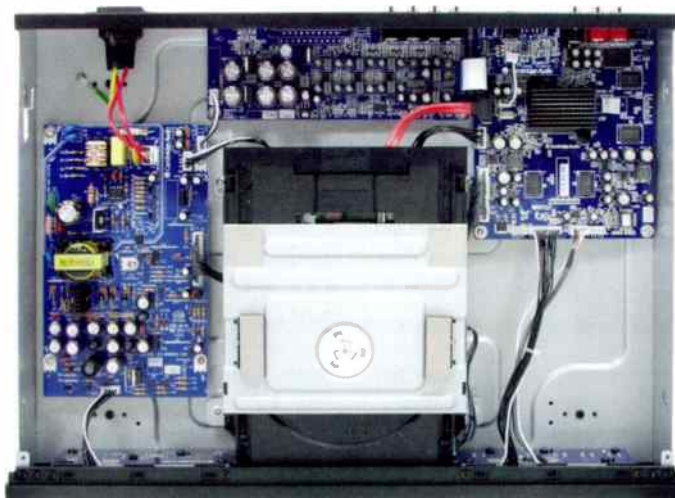
Internet reviewers and forums often talk about "company XX copying company YY", but in truth none of these companies have the ability to develop the necessarily complex chip sets required by Blu-ray and no one copies anyone in the way forums speculate. They buy in a solution, package it and market it; that's the reason they look the same. Go to www.mediatek.com and their MT8555 Single chip Blu-ray player to read more; only Mediatek do this I believe. Just don't ask about minimum order quantity, with a price of £60-

£100 per chip.

You may be interested to know that Mediatek are now offering a complete Smartphone package, explaining the sudden appearance of \$100 Smartphones at this year's CES in Las Vegas. I think I am right in saying the Huawei Ascend D2 uses this turnkey platform. Mediatek (Taiwan) are big, very big and this is where DVD-Audio players currently come from. Otherwise, it is a dead format, unsupported by the CE industry at large. **NK**

ORGAN FAILURE

Thanks for a great read and for printing my letter a while back. You gave me the courage to wield a soldering iron and convert my old JVC JAS11 to power amp duties. Didn't get the Creek passive pre



Blu-ray players are hugely complex and based on solutions from the big chip manufacturers. Cambridge Audio and Oppo both use Mediatek technology, as do most other manufacturers, but Cambridge (shown here) put their name on everything!

though – made my own using bits from Maplin, an Alps blue pot and an old freeview box enclosure. The improvement over the original input loom is pretty impressive, apart from a slight lightening of tone. Lots of scope to upgrade wires etc when the mood takes me.

The only affordable phono stage available off-the-shelf in Bristol was a NAD PP2. Initially I was quite pleased, but lately LP has been sounding a bit dire, with everything at the back of the mix sounding coarse and distorted. Lead vocals and instruments remain clear and smooth, but have retreated to behind the speakers and the illusion of a real performance has been lost.

Swapping in a more expensive (Ixos) interconnect helped a bit, but didn't solve it. Changing inputs on the preamp made no difference and AV, CD and MiniDisc remain unaffected, so it's deck, cartridge or phono stage.

I get the impression you don't rate the NAD box – is this why? Can it be that they only sound good when new? Or could the effect described be due to the 1042's stylus suffering damage – there have been no drunken incidents (that I remember!).

Advice needed, never had a sudden drop in performance like it. If I had £1k for an Ortofon 2M Black and a new phono stage, which would you recommend? Is my Akito a good match for the Ortofon?

Now a bit of a moan about a curious, but grievous error in Paul Rigby's usually excellent prose – and a serious audiophile point. The reason many of us spend more than we should on kit is so that we can tell the difference between, say a violin and viola playing in the same register, no? The same applies to rock instruments, unless processed beyond recognition. Early sixties music typically relied on the basic tonal signatures of specific instruments to make a band's 'sound'. If you don't know or care which were used, an MP3 player is all you need. There were four main types of electronic organ used in the sixties – Farfisa, Hammond, Werlitzer and Vox, each of which has a quite characteristic sound. The two that are least similar are the Hammond and the Vox. Paul, do you think the Doors used a Hammond, or the Beatles, Monkees, etc, etc? Booker T played a Vox, not a fat-assed Hammond, because he was cool and still does as far as I know, God bless him.

Regards,
Mark White

The NAD PP2 is not especially distinguished as phono stages go but

it does the job, sounding a bit dark and lacking transparency. However, its performance should not deteriorate in the way you describe. This is more likely due to the cartridge, as they do slowly lose lustre, but this is a long process. The simplest way to find out is to buy a new stylus assembly for the 1042 and see if that revives the sound of LP.

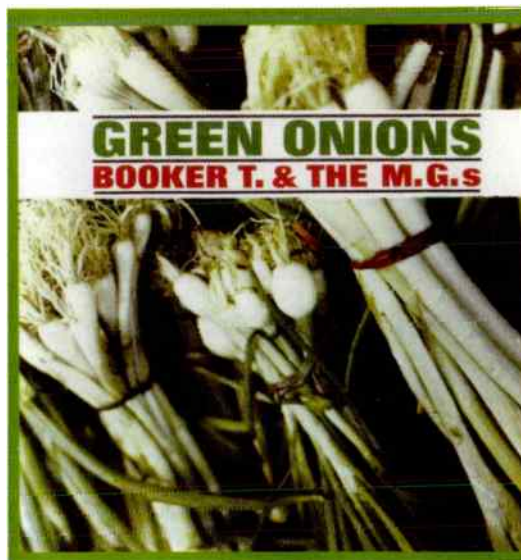
Otherwise, a Cambridge Audio will give a brighter sound or you could move up to the Icon Audio PS2.

As a final thought, I hope you have inspected the stylus to ensure it is clean, and checked the arm settings such as tracking force. A 1042 needs 1.7gms I recall from my days using one. I also recall its body did slowly descend over time and the sound become a bit dynamically flat. At this point I moved on to pastures new. An Ortofon 2M Black cartridge plus Icon Audio PS2 valve phono stage would be an ideal upgrade and give you amazing quality. **NK**

According to an array of sources I have to hand, Booker T. played a Hammond B3 on Green Onions. May I suggest that the tonal difference you detect is caused by Booker T. not utilising a Leslie cabinet with the Hammond? Further proof, if proof be needed, is a 2011 Internet video of Booker T. and his famous Hammond, playing 'Green Onions' 'live' where you can hear that recognisable sound for yourself (www.npr.org/event/music/135840639/booker-t-jones-tiny-desk-concert). **PR**

COST RATIOS

I have been discussing the cost ratios of hi-fi gear on a turntable based forum, garnering opinion as to how money



"Booker T played a Vox" on Green Onions, "not a fat assed Hammond", says Mark White.

would be split to purchase a new vinyl system. Generally, the opinion was 50% on the turntable/arm/cartridge, 25% amplifier/s and 25% 'speakers. However, none of the contributors who listed their systems with prices paid (or estimated) seemed to be any where near that, including myself.

I thought I would try a pseudo-scientific approach and use data from your magazine, as I have always agreed with your findings, and recommendations. I added up all the quoted prices in each category, and arrived at the following. Turntable 26%, arm 14%, cartridge 6%, amplifier 25% and 'speakers 30%, so not a million miles away from the forum's thoughts.

If one wanted just a CD source, the figures turned out to be CD 30%, amplifier 30%, 'speakers 40%. Of course, this neglects the other things like cables, stands, racks, etc., but it might give a clue as to how a person new to hi-fi might spread their cash for a new



The Hammond B3 organ, popular in the 1960s with artists like Stevie Winwood. Beside it is a Leslie speaker cabinet.

system.

Lastly, it might be of interest to know that most people on the forum bought mostly second hand items, but that doesn't really help the first time buyer.

Kindest regards,

Bryan Wallwork, aka Cat's squirrel.

Those figures seem sensible to me. The only item that seems to suffer is the cartridge, at just 6% of the cost. If it is a £120 Goldring (say) then the system costs £2000 and the 'speakers £666. That is fairly balanced and quite typical, but a budget Rega RB301 arm will do justice to an Ortofon 2M Black (MM) costing £400 or a Benz Micro Ace (MC) costing £600 and this would be a justifiable re-balance I feel, at least for those that want the very best from vinyl.

Although manufacturers commonly dislike the idea of people buying second hand, it does in practice keep values up. When a

not sure what the spaces represent on the tracking dial and on the anti skate as they're both different after 1.5. The cartridge instructions say 1.75, but it has 1.0 and 1.5. If I knew what they were in between it would be a lot easier.

Lee Dodd

Manchester.

You have to guess where 1.75 is on the scale if the divisions are 0.5g apart (i.e. 1 - 1.5 - 2). It is exactly half way between the 1.5 and 2gm marks on the counterweight. For greater accuracy buy the excellent Pro-Ject Measure IT from Henley Designs, price £80, complete with 5gm calibration weight to ensure accuracy. If this seems a bit hi-tech and expensive, the simple mechanical Shure SFG-2 at £38.52 is an old favourite that works well enough and will get you to where you want to go.

NK

MEDITERRANEAN ISSUE

The February 2013 issue of Hi-Fi

— sorry, loudspeaker. I didn't actually disagree (readers can see the review online under Reviews > Loudspeakers) but just mentioned that some things are so good that maybe we should rearrange part of our life around them. Their bass is usually criticised, and I just put the idea that if our reference is a box speaker, then you will not be hearing that boxiness, but don't mistake that for lack of bass. I look forward to the next issue where you report on the latest ESLs. I accept that one man's 5 Globes is another man's wife's veto. "Best" is absolutely relative and system/environment/taste/spouse dependent

My system is a Rock III/Excalibur/Ortofon MC15 S2, an EAR 834P mm/mc/vol, a Quad 405-2, which probably has to be changed for tubes, and ESL 57s, for which I recently had new treble panels and used-but-checked bass (okay, upper-bass) panels from Quad, Germany.

I have also acquired recently a Musical Fidelity 3A-X preamp for occasional CD/Quad FM3/iPhone listening. The passive output seems smoother, at least in this setup. It has an mm/mc phono stage which I read was considered highly, especially in passive mode, but I have not tested extensively.

The Ortofon MC15 replaced a broken MC25FL that I was very happy with. The MC15 has to go but am not sure to what. I read through all your reviews, World Favourites, technical articles and replies to many, many letters

that related to cartridges but can't say I have a clear idea.

Choose a suitable cartridge for the 834P?

I have used Decca SG, Militek Olympia in the past with good results. From the current options, 2M Black, Rondo Blue, Benz Micro Ace SL?

I note you do not recommend the 834P anymore. Just use the Musical Fidelity preamp with a 2M Blue/Goldring 1042? Replace the 834P, MF and 405 with currently recommended valve phono, pre, power? Cartridge then? Another route?

Music taste is from Cat Stevens to Black Sabbath. And Dido, Adele, JJ Cale and anything with Ian Paice and Jon Lord (RIP). Your suggestions would be much appreciated.

Regards,

**Manolis Koussaniotakis
Cyprus**

Hi Manolis. I used your views to illustrate the point I was making



Spend 50% on the turntable/arm/cartridge, 25% on the amplifier and 25% on the 'speakers. Is this right? Bryan Wallwork provides an interesting analysis.

product becomes worthless after use, as computers do for example, it affects perceptions of value. Most proper hi-fi (as opposed to cheap budget audio) is well made, durable and good value second-hand. **NK**

FORCE COURSE

I'm a bit stuck trying to balance the arm on a Technics SL-220 turntable. I can do it to a certain extent, but I am

World was a great read as always (in Cyprus I usually get the online version) and I was really nodding away to your article about what constitutes "the best loudspeaker" (Quad ESL 57, you were arguing, which I have, thanks to you), but best does not mean for everyone and so on.

Imagine my surprise when I see you mentioning me as disagreeing with your review of the said radiator



Easy to use, high resolution and accurate due to its calibration weight, the Pro-Ject Measure IT tracking force gauge will solve Lee Dodd's problems.

about the difficulty over reaching absolute conclusions about products, to fit in with a rigid rating scheme. What readers think and say valuably illustrates diversity of outlook and our need to cater for it, something a simple rating system does not do, giving an often unfair (as the manufacturer sees it) or misleading (to a reader/buyer) view. As I said, it isn't an issue of disagreement, so much as differing tastes and requirements, so I am always grateful for your views – and those of all readers of course.

Your LP front end is getting a bit long in the tooth. The EAR 834P goes back a long way and much has changed since its introduction. It had very strong bass, and a big warm sound. Also, the Ortofon MC15 and 25 measured very well but had a peculiarly lifeless sound, lacking verve. I was always a little bit perplexed by them.

But that was long ago now. As LP sales grow and people return to the format, the budget moving coil cartridge sector is seeing a lot of activity and the Benz Micro Ace is one of our favourites of the new MCs. Get the L Low output version as this gives the best sound, it just needs a quiet phono stage which the 834P is, due to the use of input transformers.

If you want to spend less then look at the popular Audio Technica AT-OC9 MLIII that is great for the Rock you quote, or a softer Denon

DL304. Avoid the budget MCs though because you'll end up with the same slightly lifeless sound you have from the MC15.

If you drop down to Moving Magnet cartridges then the Ortofon 2M Black is our favourite. However, just bear in mind that MMs generate significant hiss (thermal noise) internally and lack the dynamic range of MCs as a result. This almost certainly accounts for the subtle perceived improvement an MC displays. **NK**

ASTELL&KERN AK100

Thank you for such a comprehensive review of the AK100 'personal player'. Your impressions and thoughts about its use in a home hi-fi set-up are exactly mine, and I'm pleased it performed so well in your opinion – and with good technical results to back them up as well.

I have however spotted an error in the text and the battery life issue is of some concern that needs looking into.

Codecs on the player: you say that the AK100 is only offered with WAV and FLAC, but the AK100 has always been capable of accepting WAV, FLAC, WMA, Ogg and MP3 music files now, and all future AK100s will also be loaded with Apple AAC, ALAC and AIFF files, these being downloadable from the iRiver web site for older AK100 units.

On battery life you quote 4 hours. This is disturbing! The quoted battery life is 16 hours from full charge when used with the screen off in normal function

mode (screen turns itself off after a minute or so). I have had over 10 hours from full charge personally, with the screen on whilst changing tracks, albums etc (normal function mode). I wonder if the screen function on your AK100 is on at all times?

Both these are stated in the 'negative' list in the summary. I wonder if it would be possible to correct at least the codec's issue in the next magazine. A confirmation that the unit is always set up in English for our market would be useful to mention as well.

Best regards,
Michael Osborne

The original battery test was structured, the player being switched on at 9am after charging overnight on an Apple iPhone charging unit, and set to repeat play, headphones connected (they draw current), screen off; it stopped working at around 1pm. The player was new from Korea and little used.

Repeating this test, after the battery had been cycled by use, the player was started at 8am and stopped working at 4.20pm – 8 hours and 20 minutes. That is a lot better and closer to your figures. Why the discrepancy I do not know. Lithium ion batteries are not the most stable or predictable of devices, as Sony and Boeing well know, and usage may have improved charge retention.

Also, the charging logic is opaque: the player charges when switched on or off it appears, but won't switch off whilst charging and offers different responses to being charged when off or on, so whether charge rate differs I do not know – and this would affect results. As I said in the review, the charging process needs clearer explanation in the handbook, a charger should be provided or recommended, and a battery charge indicator fitted so battery condition can be assessed, as it can on most tablets etc.

I rather overlooked the fact that it plays MP3 and Ogg Vorbis, as you state: my apologies. Ours would not play AIFF, eliminating all Apple generated files so it's good to hear that an upgrade overcomes this limitation, because it is a great player at heart and really shows the way forward. Our sample will be winging its way back to Korea shortly and we look forward to reviewing an updated version soon. **NK**



Astell&Kern AK100 portable plays high resolution audio up to 24/192 through headphones, acts as a CD player, and has Bluetooth.



As budget moving coil cartridges go the Benz Micro Ace is a fine choice. But if you listen to Black Sabbath or Deep Purple like Manolis Kroussaniotakis then perhaps an Audio Technica AT-OC9 MLIII is best.

Box Design

by Pro-Ject



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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.

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WIN AN AVID INGENIUM TURNTABLE WORTH £800 IN THIS MONTH'S GREAT GIVEAWAY!

Here's your chance to win the superb Avid Ingenium turntable we reviewed last month. Read the review excerpt below and answer the questions.

"I wanted to keep to an audiophile product but not compromise on the previous turntables. Hence, we have kept the design philosophy of the more expensive turntables. For example, to feature a sapphire bearing in a turntable priced at under £1,000 is, as far as I'm aware, unique. We've managed to keep the prices down because we have

the engineering expertise in-house and we buy the raw material in at a good rate because of the volume of work that we are doing with other products", said MD Conrad Mas.

In technical terms, the platter, drive hub and bearing are identical to the more expensive Diva turntable. The sub-chassis offers a substantial casting: a 2.5" thick, solid bar of aluminium which provides a substantial mass and rigidity that almost totals the same weight as the Diva. To provide additional stability Avid has added a rigidly bolted cross-bar from front to back from aluminium. The same Sorbothane compound used within the Diva has

been used to make the isolation feet for the Ingenium and rather than use a separate power supply Avid has used a mains-powered motor but it's the same motor as used in the Diva. Instead of a low voltage, 24V version it's a mains voltage version.

You can fine-tune the speed by pulling and shifting the position of the motor – so it's a good idea to invest in a decent strobe for final checks. Putting tension on the drive belt either increases or decreases speed. This is a basic speed variable method that does the same job as the fancier system seen on the top-of-the-range Acutus but, on that model, you use a system of buttons."

For a chance to win this great prize, just answer the four easy questions at right. Send your entries on a postcard only, by 8th April 2013 to:

**April 2013 Competition,
Hi-Fi World magazine,
Unit G4, Argo House,
Kilburn Park Road,
London NW6 5LF**

QUESTIONS

[1] What is the bearing made of?

- [a] steel
- [b] bronze
- [c] sapphire
- [d] bubble gum

[2] What is the chassis made of?

- [a] bar of aluminium
- [b] bar of soap
- [c] bar of gold
- [d] bar of a pub

[3] The feet are made of?

- [a] plastic
- [b] wood
- [c] Sorbothane
- [d] toes

[4] The motor voltage is?

- [a] 12V
- [b] mains
- [c] 24V
- [d] 2V

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entries will be accepted on a postcard only

**JANUARY 2013 WINNER: MING DA MD7-SE
Mr John Paul Hutchings of London**



Experia-*n*ce

Can Sony's experience make their new Experia S a better sounding tablet?
Noel Keywood investigates.

With Sony's background in music and films we hoped their new Experia S tablet might have a few tricks up its sleeve.

Tablets are a jack-of-all-trades whose abilities with audio are never clearly defined. Would the new Experia Tablet S leverage Sony's historical talents to eclipse the formidable Motorola Xoom 2 Media Edition, or the Samsung Galaxy Note?

I didn't expect it to play SACD, but the Experia Tablet S has a Walkman App on-board, so first signs were good. Walkmans have come in various forms over the years and hit

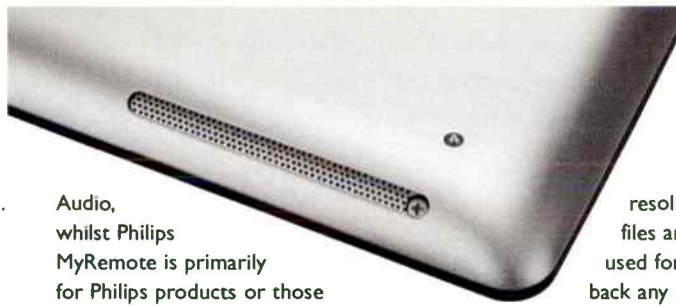
a peak with the quartz-locked Direct Drive WM-D6C that had excellent ferrite heads able to make and play a recording that would shame current digital products. Could the Experia Tablet S would pick up on this and move Walkman history on a bit; after all it has some serious horsepower on board with its Nvidia Tegra 3 processor supported by a lithium ion battery that'll run for 12 hours on one (5hr) charge, Sony say - and ours ran for a day easily. The OS is inevitably Android, in our case 4.0.3, and it interfaces with both Mac and PC without difficulty.

As a tablet - ignoring for a moment its audio abilities - the

Experia is sleek, not heavy at 575 gms and solidly built. The case is 240mm wide, 173mm high and 11mm maximum deep. It has an active screen diagonal we measured as 235mm, larger than an iPad Mini but smaller than a Samsung Galaxy 10.1. That makes it portable but easy enough to read, a convenient size in fact. There are four models, three wi-fi equipped (16G, 32G and 64G) and one with a 3G connection, prices ranging from £329 for the SGPT121GB we reviewed to £449 for the 64GB version. As a 32GB memory card, which it accepts through a side slot, costs no more than £30, adding external memory to the 16GB basic version is most cost effective. Turn on was a slow 40 seconds, but the Xperia has a lot to offer once it winds up, its many talents and details being explained thoroughly in the user manual, available at www.sony.co.uk/support/

Small stereo loudspeakers fire rearward. Between lies a multi-pin connector.





en/product/SGPT121GB_S/manuals. This review concentrates on its talents as an audio player.

CONNECTIVITY

Like its rivals the Xperia Tablet S has a Bluetooth short range wireless link for streaming (aptX compressed) audio to a receiver. It also has an HDMI wired audio/video link, but only through a multi-pin socket via an adaptor that is an extra, more of which later. There's a 3.5mm headphone outlet and a small microphone for speech recording, but the headphone socket lacks an S/PDIF optical digital output. Two small loudspeakers fire out through grills in the lower edge of the tablet, indirectly at a listener.

Although the on-board storage can be loaded via a USB computer link, it is easier to copy music (and video) straight to an SD memory card; it slides into a small, protected slot at left just below the headphone outlet. With up to 32GB available here there's plenty of room for music.

REMOTE CONTROL

Sony's remote control system is relatively well thought through and comprehensive. I got it to control a Samsung TV and Marantz receiver straight away, from the installed code base. However, there was no listing for Cambridge Audio and whilst the list of TV manufacturers was long, it was short for Blu-ray players for example, with Oppo missing as well as Cambridge Audio.

The solution seemed to be a learning function where the remote is pointed at the tablet and the code read from it, but this did not work. I was consistently told to "move the IR transmitter of the remote control closer and try again". However close or far I positioned it, it refused to work.

Dijit and Philips MyRemote Apps were both tried but Dijit is a bit patchy (it does not work with a new Samsung TV so the code base likely needs updating) and lacks Cambridge

Audio, whilst Philips MyRemote is primarily for Philips products or those that use their RC-5 code.

As Sony's own installed list of codes worked well this remote control was easier to use out of the box than the Android Apps that must be installed on Samsung or Motorola tablets, if still not perfect. With enough time and experimentation I suspect most functions on most products can be made to work.

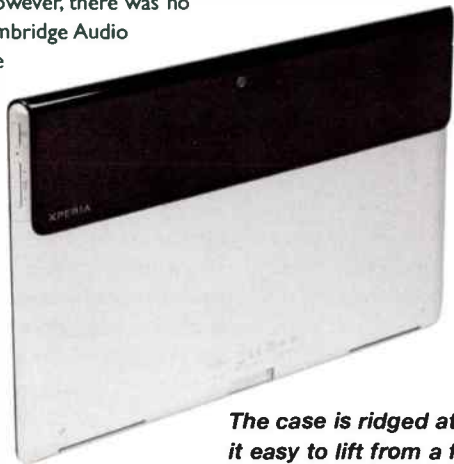
COMPATIBILITY

These days Sony don't restrict their products to their own audio code schemes like Atrac and DSD, so AAC, MP3, MIDI, Ogg Vorbis, WMA and WMA Pro are all handled. Importantly, quality wise, so is uncompressed WAV and losslessly compressed FLAC. The Xperia would not play our 96kHz sample rate test files, which is unsurprising because no tablets currently manage this. Most currently manage 24/48 FLAC at best, often stuttering with WAV; high resolution / data rate files are currently off the menu.

The Tablet S played both 24/48 WAV and FLAC files from a 16GB Kingston memory micro-SD card in an adaptor, and from its own

memory, so it gets this far up the audio quality scale, if no further. But then no rivals better it, ignoring the Astell & Kern AK100 HD portable audio player.

The case is ridged at top, making it easy to lift from a flat surface.



The headphone amplifier wasn't good enough to do justice to high resolution files our measurements showed, its dynamic range was restricted at 91dB, compared to a massive 112dB for the AK100, showing just how much of a gap exists between what is, and what is possible.

Although the Sony's headphone output was nothing special, being as noisy and dynamically restricted as most, HDMI can stream high

resolution audio files and is best used for playing back any 24bit music run on this tablet.

Bluetooth also offers a digital output, if one suffering aptX compression to suppress data rate.

An HDMI adaptor lead is not supplied as standard and although we asked Sony's Press Office to supply one, no such item arrived with our review sample. Where neither Samsung nor their store in Tottenham Court Road, London, could supply an HDMI adaptor lead for a Galaxy Note 10.1, two Sony stores in London had an HDMI



The multi-pin connector carries USB, charging and HDMI via an adaptor.

adaptor lead for the Xperia S: a Tottenham Court Road store wanted £29.99 for one, whilst a Kensington Store wanted £39.99. When I asked the latter why they wanted more than either Sony were charging online (£15) or Tottenham Court Road he said they were a franchise and charged what they wished. If £39.99 sounds exorbitant, as it does to me, I see the Apple store on Regent Street, London, also wants £39 for a Lightning Digital AV adaptor, although I suspect extracting HDMI from Lightning involves signal processing, arguably justifying the cost.

The message is that HDMI adaptor leads are best avoided if possible, making the Motorola Xoom 2 with its inbuilt micro-HDMI socket more attractive than the Sony or



A 3.5mm headphone jack carries analogue audio only; there is no optical digital output. An SD memory card can be loaded too.

Sony & DSD

Hi-resolution playback via DSD-capable DACs is now becoming a realistic proposition for many listeners through internet downloads. And there's a whole lot of tracks out there to be accessed. But, if the format never took off through SACD should we hope for better from DSD downloads? Hi-Fi World caught up Eric Kingdon – Sony's senior manager for product development on video and sound – for an exclusive interview to let us know the company's thoughts.

Eric Kingdon, Sony.

DSD
Direct Stream Digital



Interview

JM: Can you give us a quick background to DSD?

EK: The DSD format proved early on to be used as an archive format for many classic recordings, which basically could not physically stand the test of time. In principle it offers a simple chain to deliver a pure replay of music. It's first recording application was in two channel DSD and during the growth of multi-channel home entertainment systems a lossless version, DST enabled up to 5.1 channels of identical bandwidth.

Theoretically, all you need is a LPF with a DSD stream and you could produce music; the alternative would generate noise. We could discuss at length about the relative merits, but as the feedback from CES showed the proof of the music is in the listening and that to me is what really matters.

JM: What were the reasons it never really took off when first launched?

EK: In terms of the application of DSD to the SA-CD format, there was of course competing technology at the time. I always believed in the potential of the technology and the SA-CD.net website currently lists well over 8000 titles there alone.

JM: How involved nowadays is Sony with DSD products?

EK: Closely and from many different angles, hardware, software, recording and content to name a few. Most of our disc players and systems have SA-CD playback, being compatible with the variant of DSD, namely DST. We continue to research into future applications as consumer demands change and evolve.

JM: Are there any technical difficulties in making a DSD-compatible DAC using the DoP protocol?

EK: To implement processing of the 'DSD over PCM' standard in the play back area means consideration of different options for actual data reception. For example, the switching from either DSD or PCM needs different detection. This can be either the absence or presence of markers, also related to the channel number. So we may need to implement buffering due to any additional delay, or further compensation could be required (maybe + 0.00015s ?). An additional measure to check hardware compatibility would be ideal, via possible driver software etc. which should improve detection rate. This is an addition to the basic design of the converter of which several options are currently available.



SACD is a popular format in Japan. This Japanese disc from Sony Music uses DSD code of SACD as well as a Super Bit Mapped CD layer with claimed 20bit resolution, to give superb sound quality. Go to www.sa-cd.net for SACD disc listings and the FAQ section for explanations of the technology.



Above – Sony BDP-S790 Blu-ray player also plays SACDs. It sends DSD code over an HDMI cable link. An increasing number of receivers can now decode this, giving the smooth sound SACD is known for.

Below - Sony Music headquarters in California.

JM: What advantages does the recording process have over other methods?

EK: Many of the AD converters used in PCM recording for the conventional CD format are 1 bit converters with a high sampling frequency. As a rule, in order to create PCM signals a 64fs 1 bit data pulse stream is created in the Delta Sigma modulator and then passed through the decimation filter, after which the data is converted into multi-bit PCM data through a decrease in the sampling rate.

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AD to DA and the relationship with jitter.

JM: There's an increasing number of DACs now supporting the format via downloads, does that come as a surprise?

EK: Not really, I think once you have experienced the end result, this move is quite logical. In fact Hi-Fi World (which I read every month) covered the reaction and feeling about these developments last issue.

JM: Does Sony itself have any legacy DSD recordings it's looking to release?

EK: Sony has an extensive library of great music covering many genres. It's interesting that you ask about legacy recordings, for various reasons more legacy material is appearing all the time. In Japan, one wonderful application of DSD has been in the form of the SHM-SA-CD disc. A



single layer recording with the use of special polycarbonate and green dye, most are simply stunning. I could discuss at length about some of the marvellous music available via the DSD format.

JM: How would you envisage the DSD market evolving over the next few years?

EK: Certainly there is much talk of high resolution music downloads and I know that DSD can deliver a great experience via this application. In fact in some markets it's already beginning; if you have the chance to listen to some of the files I have heard you will be convinced.

JM: What are the current licensing fees involved in the use of DSD?

EK: We are happy to discuss licensing etc. directly with any interested party and can provide contact details for this.

WORLD STANDARDS

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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.

ROKSAN RADIUS 5.2 2011 £1,450

Although getting expensive, the latest Radius is a highly grown up package with a flowing yet engaging nature; a fine package.



AVID DIVA II SP 2010 £2,000

New twin belt drive and power supply make this a more commanding performer, although there's a substantial price hike. Speed, dynamics and detail are hard to beat anywhere near the price.

INSPIRE ECLIPSE SEv2 12

2010 £2,349

Finely engineered, smooth and detailed sounding deck offering valuable twelve inch tonearm compatibility.

NOTTINGHAM ANALOGUE

HYPERSPACE 2010 £2,390

Deliciously spacious, lyrical and beguiling sounding turntable, but lacks ultimate grip.

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

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.

AVID VOLVERE

SEQUEL 2007 £4,600

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.



MCINTOSH MT10 2008 £8,995

Big, expensive, controversially styled and glows more than some might consider necessary, but an astonishingly good performer.

EAT FORTE 2009 £12,500

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

TO NEARMS

REGA RB251 2009 £136

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

MICHELL

TECNOARM A 2003 £442

The late John Michell's clever reworking of the Rega theme, using blasting, drilling and rewiring! Surely the best overall performer under £500.

ORIGIN LIVE

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

**HADCOCK GH-242**

EXPORT 2010 £770
Consummately musical, lyrical sounding tonearm, but needs the right turntable. Excellent value.

SME 309

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

FUNK FIRM FXR II

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

**AUDIO ORIGAMI PU7**

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

NAIM ARO

1987 £1,425
Charismatic 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 V's magic at just over half price. Exquisitely built and finished, and a design classic. Faces stiff competition these days, but lovely nevertheless.

SME 312S

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

**GRAHAM PHANTOM**

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

TRI-PLANAR

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

SME SERIES V

1987 £2,389
Vice-like bass with incredible weight, ultra clear midband and treble astound, 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. Superglue 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/£120
Modern, high resolution budget moving magnets that are always an engaging listen.

**GOLDRING G1042**

1994 £239
One of the best MMs going, with sweet and extended treble and punchy, muscular bass.

ORTOFON VIVO BLUE2011

£275
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 DV20X-H2003

£395
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 £399
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 finesse.

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 GLIDER L2**

2008 £650
Crisp, clean and detailed MC; particularly impressive at both ends of the frequency spectrum

ZYX R-100H

2005 £799
Exceptionally tight sounding and detailed cartridge with the musical skills to match, this is up with the best at the price, with a presentation all of its own.

TRANSFIGURATION**AXIA**

2007 £890
Musically adept and highly resolute cartridge with impressive tracking abilities. Top end lift means careful matching required, however..

BENZ MICRO WOOD SL

2010 £945
Highly finessed Swiss moving coil that plays music with riflebolt 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

Clear, concise, low distortion sound belies giveaway price. Supelative value for money.

CAMBRIDGE AUDIO DACMAGIC 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.

MUSICAL FIDELITY MI DAC 2010 £400

Surprisingly sophisticated upsampling DAC with oodles of detail and air, but bass isn't quite as powerful as it could be.

STELLO DA100 SIGNATURE £750

Superbly finessed sounding DAC at the price, with strong driving bass and plenty of air and space.



CAMBRIDGE AZUR 840C 2006 £800

Well built CD player with a silky, yet detailed sound and a whole host of useful facilities. Excellent value for money.

NAIM CD5i 2008 £895

Naim's new italic 'i' 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-1S 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 PD-1 2011 £1,250

Quirky but highly capable digital convertor 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 CD8 SE 2008 £1,350

Bespoke Servo Evolution mech makes this the most musically engaging machine at the price, with super smooth tonality to boot. Optional PSX-R adds bass and dimensionality.

DENON DCD2010AE 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 convertor with a probing, punchy and forensically detailed sound.

MERIDIAN GO8.2 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 £3,000 CD player field.

CHORD QBD64 2008 £3,000

Bespoke architecture gives a uniquely musical sound that's beguiling yet proffers dizzying incision and grip.

ELECTROCOMPANIE 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 CDP1MK2 2007 £3,985

Styling not to everyone's taste but build quality is impeccable and the performance is stunningly musical.

ESOTERIC X-05 2010 £4,495

Superlative '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.

ELECTROCOMPANIE EMP-1/S 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 CDX2-XPS2 2003 £4,950

A fine high end machine, but add an XPS2 and it becomes one of the most characteristically engaging 16bit machines we've ever heard. Plays music with such passion!

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 DEBUSSY 2011 £7,500

Compact, stylish DAC bringing the gloriously smooth, svelte, spacious sound of dCS to a wider audience.

ACCUSTIC ARTS DRIVE I MK2/TUBE DAC 2 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 glistening harmonics. Only curious styling and clunky build detract from its brilliance!

dCS PAGANINI DAC £9,599

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 CD555/555PS 2006 £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 KLIMAX 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 £99

Excellent entry level design that raises the bar for budget phono stages. Crisp, smooth yet brightly lit sound on both MM and MC that's a vast improvement on most budget inboard designs.

GRAHAM SLEE ERA GOLD V 2004 £370

Warm, open and musical nature makes this a great budget phono stage.

ASTIN TREW AT8000 2010 £880

Expansive, detailed, powerful sound makes this a leading sub-£1,000 contender.

CHORD CHORDETTE DUAL 2010 £799

Well presented mid price designed with detailed sound and USB input for archiving.



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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

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 SMEV tonearm combo that's an extremely accomplished performer with classical music.

AVID VOLVERE SEQUEL 2007 £4,600

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.



MCINTOSH MT10 2008 £8,995

Big, expensive, controversially styled and glows more than some might consider necessary, but an astonishingly good performer.

EAT FORTE 2009 £12,500

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

ONEARMS REGA RB251 2009 £136

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

MICHELL TECNOARM A 2003 £442

The late John Michell's clever reworking of the Rega theme, using blasting, drilling and rewiring! Surely the best overall performer under £500.

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



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

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

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



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

NAIM ARO 1987 £1,425
Charismatic 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 V's magic at just over half price. Exquisitely built and finished, and a design classic. Faces stiff competition these days, but lovely nevertheless.

SME 312S 2010 £1,750
Twelve inch magnesium alloy armtube plus SME V bearings makes an impressive transcription tool with an insightful yet composed sound. Superlative build completes the package.



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

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

SME SERIES V 1987 £2,389
Vice-like bass with incredible weight, ultra clear midband and treble astound, 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.

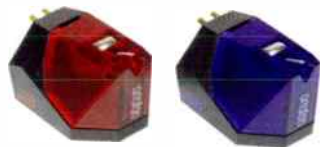
OL ENTERPRISE 3C 2010 £4,500
Few if any pivoted arms come close to this arm's combination of liquid musicality and forensic grip.

CARTRIDGES

AUDIO TECHNICA AT-95E 1984 £25
Great starter cartridge that's detailed and musical beyond its price. Superglue 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/£120
Modern, high resolution budget moving magnets that are always an engaging listen.



GOLDRING G1042 1994 £239
One of the best MMs going, with sweet and extended treble and punchy, muscular bass.

ORTOFON VIVO BLUE2011 £275
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 similarly 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 DV20X-H2003 £395
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 £399
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 finesse.

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 GLIDER L2 2008 £650
Crisp, clean and detailed MC; particularly impressive at both ends of the frequency spectrum

ZYX R-100H 2005 £799
Exceptionally tight sounding and detailed cartridge with the musical skills to match, this is up with the best at the price, with a presentation all of its own.

TRANSFIGURATION AXIA 2007 £890
Musically adept and highly resolute cartridge with impressive tracking abilities. Top end lift means careful matching required, however..

BENZ MICRO WOOD SL 2010 £945
Highly finessed Swiss moving coil that plays music with riflebolt 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** 2010 £170

Clear, concise, low distortion sound belies giveaway price. Supelative value for money.

CAMBRIDGE AUDIO DACMAGIC 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.

MUSICAL FIDELITY MI DAC 2010 £400

Surprisingly sophisticated upsampling DAC with oodles of detail and air, but bass isn't quite as powerful as it could be.

STELLO DAI100 SIGNATURE 2010 £750

Superbly finessed sounding DAC at the price, with strong driving bass and plenty of air and space.

**CAMBRIDGE AZUR 840C** 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 'i' 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-1S 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.

ELECTROCOMPANIET PD-1 2011 £1,250

Quirky but highly capable digital convertor 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 CD8 SE** 2008 £1,350

Bespoke Servo Evolution mech makes this the most musically engaging machine at the price, with super smooth tonality to boot. Optional PSX-R adds bass and dimensionality.

DENON DCD2010AE 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 convertor 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 £3,000 CD player field.

CHORD QBD64 2008 £3,000

Bespoke architecture gives a uniquely musical sound that's beguiling yet proffers dizzying incision and grip.

ELECTROCOMPANIET EMC-IUP 2009 £3,450

Quirky yet extremely capable high end upsampling CD spinner, with a musical fluency that beguiles more than it impresses.

**ACCUSTIC ARTS CDPIMK2** 2007 £3,985

Styling not to everyone's taste but build quality is impeccable and the performance is stunningly musical.

ESOTERIC X-05 2010 £4,495

Superlative '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.

ELECTROCOMPANIET EMP-1/S 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 CDX2-XPS2 2003 £4,950

A fine high end machine, but add an XPS2 and it becomes one of the most characteristically engaging 16bit machines we've ever heard. Plays music with such passion!

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 DEBUSSY 2011 £7,500

Compact, stylish DAC bringing the gloriously smooth, svelte, spacious sound of dCS to a wider audience.

ACCUSTIC ARTS DRIVE I MK2/TUBE DAC 2 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 glistening harmonics. Only curious styling and clunky build detract from its brilliance!

dCS PAGANINI DAC £9,599

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 CD555/555PS** 2006 £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 KLIMAX 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 £99

Excellent entry level design that raises the bar for budget phono stages. Crisp, smooth yet brightly lit sound on both MM and MC that's a vast improvement on most budget inboard designs.

GRAHAM SLEE ERA GOLD V 2004 £370

Warm, open and musical nature makes this a great budget phono stage.

ASTIN TREW AT8000 2010 £880

Expansive, detailed, powerful sound makes this a leading sub-£1,000 contender.

CHORD CHORDETTE DUAL 2010 £799

Well presented mid price designed with detailed sound and USB input for archiving.

ICON AUDIO PS1.2 2007 £599
Excellent valve phono stage with good range of facilities and fine imaging abilities.



A.N.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.

WHEST PS.30 RDT SE2011 £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 italic 'i' version remains one of the most musically competent and dynamically engaging integrations at the price.

AUDIOLAB 8000S 2006 £400
In another life, this sold for three times the price, making it a stand-out bargain now. Very clean, powerful and tidy sound 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 MYSTRO 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 £1,469
Crystalline clarity, dizzying speed and forensic detailing makes this seminal design the most musical at the price, but power limited so needs sensitive speakers.



CYRUS 8XPD 2010 £1,500
A quality integrated that suits all genres of music providing insight and clarity in a compact but flexible package.

ANATEK A50R 2007 £1,600
Simple integrated amplifier with super bass grip and effortless dynamics.

VINCENT SA-236MK 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 super sound.

AUDIO RESEARCH VS160 2009 £3,298
Load of tube power allied to a strong bass and smooth open midband makes this a grin-inducing listen.

LEEMA TUCANA II 2010 £3,495
Polished high end integrated amp that combines power, detail and genuine musicality with a good range of facilities.



SUGDEN IA4 2007 £3,650
Goodly amount of Class A power, icy clarity and a breathtakingly fast, musical sound make this one of the very best super-integrations.

QUAD II CLASSIC 2010 £4,500
Beautiful retro styled integrated amplifier with a subtle, supple sound - although needs matching to speakers that are easy loads.

QUAD II CLASSIC INTEGRATED 2010 £4,500
Thoroughly modern music maker with classic style and great pedigree, this amp sings with gentle music but is no headbanger!

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

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

DARTZEEL 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 source and drive any power amp. A tuneful beauty.



CREEK OBH-22 2008 £350
Brilliant value budget passive, with remote control, mute and input switching, plus an easy, a neutral sound.

ICON AUDIO LA-4 2011 £800
Uses early 6SN7 triodes for liquid sound, has plenty of gain and remote control.

DPA CA-1 2010 £2,650
Excellent solid-state preamp with a meticulously detailed and propulsive sound, but a deep velvety tonality.

MELODY PURE BLACK 101D 2007 £3,295
The clarity and openness of valves plus firm grip and fine detail make this a preamplifier masterclass.

MUSICAL FIDELITY PRIMO 2009 £7,900
Seriously expensive, but one listen explains why. Wonderfully exuberant sound that can only come from a top quality tube design.

MF AUDIO CLASSIC CII SILVER

2010 £4,500

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 expansive 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 9SE V2 **2006 £1,750**

Brilliant value for money monoblocks with massive power and super-clean, three dimensional sound.



DPA SA-1 **2010 £2,850**

Pacey, engaging and rhythmic almost to a fault, this solid-state power amplifier 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 mid-band and spacious, airy treble. Explicit, engaging sound, but not as euphonic as some.

ELECTROCOMPANET 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 integrated 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 gait. Excellent value starter speakers.

ACOUSTIC ENERGY NEO I

2007 £199

Tidy and well balanced standmounters with pleasing clarity and detail.

MISSION MX2 **2011 £200**

Sophisticated sound alloyed with real musical insight makes these small standmounters super value for money.

ACOUSTIC ENERGY NEO I v2

2010 £225

Civilised sounding speaker with fast and tuneful bass.

B&W 686 **2007 £279**

B&W's new baby standmounters offer a sophisticated and mature performance that belies both their dimensions and price tag.

WHARFEDALE DIAMOND 10.3

2010 £290

Great small standmounters for audiophiles on a budget; dry punchy sound with impressive soundstaging at the price.

MORDAUNT SHORT

AVIANO 2 **2010 £300**

Classy sounding standmounter at a still affordable price.

KEF IQ30 **2009 £330**

Beautifully built, classily styled standmounters with exceptional image projection and a very clean, detailed sound.



USHER S-520 **2006 £350**

Astonishingly capable budget standmounters that offer detail and dynamics well beyond their price and dimensions.

MARTIN LOGAN SOURCE

2008 £1,600

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

XTZ 99.25 **2010 £640**

Disarmingly open and refined at the price, these standmounters bring unexpected civility, refinement and insight to the price point. Exceptional value for money.



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.

SPENDOR S3/5E **2004 £950**

A natural successor to the BBC LS3/5a, whose impressive neutrality, imaging and evenhandedness makes this a superior, if less charismatic, loudspeaker.

MY AUDIO DESIGN MY1920 **2011 £1350**

Exceptionally smooth, spacious and refined mini monitors that beguile and excite in equal measure.



ELAC BS243 **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 ESL57

2007 £1,450

One Thing Audio's modifications keep the good old ESL57 at the very top of the game.

GURU QM-10P **2007 £1,595**

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 £2,100**

Big standmounters that really grip the music and offer quite startling dynamics and grip.

MY AUDIO DESIGN MYCLAPTON SE **2010 £3,299**

Powerful, dynamic, musical yet refined, this unconventional point-source design yields dramatic sonic benefits.

SPENDOR S8E 2008 £1,895

Generously large, silky smooth delivery, this dynamic sounding floorstander is an excellent all rounder.

**MONITOR AUDIO PL100 2008 £2,300**

The flagship 'Platinum' series standmounter has a lovely warm and delicate sound with superlative 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.

MAD MY CLAPTON GRAND MM**2010 £3,599**

Distinctive coaxial standmounters with wonderful soundstaging, bright lucid midband and true musical insight.

YAMAHA SOAVO 1.1 2009 £3,000

Musical, transparent large floorstanders with impressive dynamics and cohesion. Excellent build and finish.

**MOWGAN AUDIO MABON****2007 £3,995**

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

B&O BEOLAB 9 2007 £5,000

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

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 so many others.

ECLIPSE**TD712z/2 2011 2011 £5,100**

Flawed genius, and wilfully so. These loudspeakers don't do everything well, but what they can do is profound and enthralling; rhythms, dynamics and soundstaging.

ARS AURES MI 2006 £5,995

Sublime build and finish allied to an insightful, assured and even-handed musical performance makes these an essential high end audition.

**QUAD ESL-2905 2006 £5,995**

The old 989 with all the bugs taken out, this gives a brilliantly neutral and open sound like only a top electrostatic can; still not a natural rock loudspeaker, though.

SPENDOR ST 2010 £5,995

This classy sounding, superbly presented big floorstander will appeal to those seeking high end sonics with subtle looks.

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.

VIVID V1.5 2010 £6,000

Breathtaking transparency, superlative coherence and dizzying speed make these one of the best standmounters ever made - providing you like their 'studio sound'.

**GERMAN PHYSIKS LIMITED II****2011 £7,800**

Don't be fooled by the austere looks; this is a superbly enjoyable omnidirectional speaker with a wonderfully fast, expansive sound.

USHER BE-10 2009 £10,500

Clever high end moving coil design with immense speed and dizzying clarity allied to epic punch. Needs the best ancillaries to fly, though...

REVOLVER CYGNIS GOLD**2010 £15,000**

Vast in scale with effortless dynamics and an easy, barrel chested bass, these big bangers are great for lowish power tube amps. Large room needed!

MARTIN LOGAN CLX LINEAR**2010 £15,990**

Meticulously crafted electrostatic that's free from traditional limitations, this is one of the very best loudspeakers money can buy.

B&W 801D 2006 £10,500

In many respects, the ultimate studio monitor; 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.

ACCESSORIES**WADIA 1701 2010 £349**

The first iPod dock to extract the music digitally, letting you hook your little Apple direct to a DAC for superior sound.

TOWNSHEND MAXIMUM**2003 £800**

Classy ribbon supertweeter with flexible level settings and cool styling - you'll be amazed at the difference it makes, especially with Quad electrostatics.

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 MX-550 2005 £19**

Our unqualified recommendation for those seeking a serious sounding pair of in-ear phones. Smooth, detailed and musical.

SENNHEISER PX-100 2002 £29

Cracking pair of lightweight open back cans ideal for personals, but good enough for real hi-fi use. Superb build allied to a smooth and engaging performance make them the spiritual successor to the HD400s.

GOLDRING DR150 2006 £70

Excellent build and fine sound makes these budget cans 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.

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 Staxos.



STAX SR-007T OMEGA II/SRM-007T 2006 £2,890
Simply the best headphones we've ever heard at any price, these sweetly translucent electrostatic ear-speakers are like no other headphone, or loudspeaker for that matter...

INTERCONNECTS

TELLURIUM Q BLACK 2010 £276/3m
A deep, dark, velvety performer that's nevertheless highly musical, it represents excellent value as mid-price cables go.



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.



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

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

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, inasuch 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.

MYRYAD MXT-2000 2005 £800
Sumptuous sound and excellent build is all 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.



SYSTEMS YAMAHA CRX-M170 2007 £200
One heck of a lot of quality performance on DAB, CD and FM for £200! Optional matching £120 NX-E300 loudspeakers aren't too shabby either.

TEAC DR-H300DAB 2008 £329
Nicely built and styled mini with fine performance on all sources that even plays DVDs!



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 away 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
Neat update of the original and best one-box stereo system; superbly musical sound beats equivalently priced separates.

NAIM UNITIQUITE 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...



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

NAIM UNITI 2009 £1,995
Uniquely versatile one box music system with excellent ergonomics and sonics to match. A landmark product for Naim.

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, colourful touchscreen, plus excellent search facilities this is one hard disk music system with a difference. Best partnered to Meridian active loudspeakers.

MARANTZ 'LEGEND' 2007 £22,000
The combination of SA-751 disc player, SC-752 preamp and MA-952 monoblocks delivers jaw-dropping performance.

Dynamic Destruction

Martin Pipe discusses the 'loudness war'

Although CDs have a dynamic range of 96dB music on it nearly always falls far short of this figure. Classical music, which tends to occupy a naturally wide dynamic range, makes the most of digital recording's dynamic range. A well-mastered rock CD may have a dynamic range of 15dB though, while some others might only give you 8dB.

If you don't believe me and have access to a PC, download the free Foobar2000 music player (http://download.cnet.com/Foobar2000/3000-2139_4-10235595.html) and dynamic range meter plugin (<http://www.jokhan.demon.nl/DynamicRange/>). Load your favourite tracks into the software (WAV CD rips - I use the free Exact Audio Copy, from www.exactaudiocopy.de/) and prepare yourself for a shock!

The reason is the so-called 'loudness war', which encourages recording engineers to make their 'product' sound acceptable to the 'lowest common denominator' – bland radio networks, car audio systems, personal digital music players, smartphones and cheap stereo gear (including 'docking stations'). Few 'mainstream' CDs are played on decent-quality hi-fi, and so high dynamic range is not a priority; leave that to the niche 'audiophile' labels, they argue!

In 2008 the ravages of the loudness war claimed a high-profile victim – Metallica's then eagerly-anticipated 'Death Magnetic' album, which sounds truly horrendous thanks to heavy compression and 'limiting'. Its dynamic range measures a measly 3dB. So much for the benefits of 'digital'.

Some Metallica fans subsequently

'rebuilt' the album from less-compressed tracks that were made available for the Guitar Hero III videogame, and in doing so got a more acceptable sound. 'Remastered' versions of this album, usually shorter, were available on many file-sharing sites.

When one Swedish reviewer mentioned (<http://www.sydsvenskan.se/kultur-nojen/musik/skivrecensioner/metallica/>) an unauthorised version of Death Magnetic, the record company wasn't happy. Indeed, the writer's scheduled interview with band members was reputedly cancelled in a fit of pique.

Older readers might remember the DBX 'componder' system. This was originally intended to compress the dynamic range of an incoming audio source so that it fell within the capabilities of analogue tape recording. On playback, the dynamic range was expanded by a corresponding amount so that the source's original dynamics were restored.

Earlier DBX compander units had a control that enabled you to vary the degree of expansion or compression. Some users discovered that they could make compressed FM radio and compilation LPs more listenable with these units.

Technology moves on, and modifying dynamic range is now something you can do with computer audio editing packages like Audacity. One of the plugins available for this software, 'SE4', is a dynamic range expander in keeping with that 1970s-vintage DBX unit, only you're given more control over the various parameters.

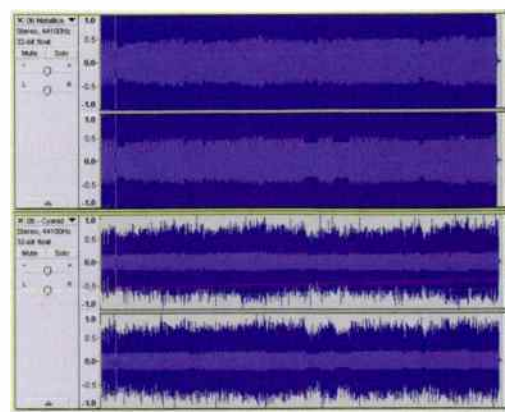
There's little you can do with your Death Magnetic CD, though,



since the recording as released contains few dynamics to expand. Other recordings are more suitable for processing.

One of the advantages of modifying the dynamic range of your music collection in this way is that your music collection will sound more 'even'. In other words, there will be fewer sudden 'jumps' in volume and dynamics when listening to playlists – or, for that matter, making compilation CDs. These days it is easy to re-engineer an album and it can improve a bad original.

The Dynamic Range plugin for the Foobar2000 player showed that the Death Magnetic track 'Cyanide' has a dynamic range of around 3dB!



Audacity music editing software shows the difference in dynamic range between 'Cyanide' from CD (above) and from Guitar Hero software (below) where it is less compressed and of better quality.

Play it All...

The Sansui WLD-201 has been crowned 'Best Network Player' in the annual Hi-Fi World Awards for offering *"great value with oodles of ability at a great price..."*



Sansui WLD-201

- Access over 15,000 Internet Radio Stations, including 'Listen Again' content
- FM & DAB+ Tuner functionality built-in for all your radio needs
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Stunning Hi-Fi from £199

In December 1944, Mr Khosaku Kikuchi opened the original Sansui Electrical Plant. By 1965 the company were famed as one of the finest Hi-Fi companies worldwide, thanks in part to their phenomenal AU-111 valve-based integrated amplifier.

Now, in 2012, Sansui are back in the UK with a range of Hi-Fi separates that stay true to Mr Kikuchi's original principles of strength, simplicity, quality and affordability. The SAP-201V Integrated Amplifier, WLD-201 Network Audio Player and CDD-201V CD Player are available through a network of selected retailers across the UK. To find your local dealer, visit www.henleydesigns.co.uk.

Sansui is distributed in the UK by Henley Designs Ltd.

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ISOTEK EVO3 PREMIER MAINS CABLE £79.95

Last November, Hampshire based mains specialists, IsoTek, introduced a new affordable mains cable called the EVO3 (Evolution 3) Premier that costs £79.95. The core of the cable are three 2sq mm conductors made from 99.9999% OFC which

are silver coated. This is covered in an extruded Teflon dielectric and given a rotational twist to aid EMI and RFI rejection. A cotton filler reduces microphony and adds internal strength. Between this and the flexible, heat resistant PVC outer sheath is a paper wrap.

The moulded IEC and three pin mains plugs were specially designed and manufactured by IsoTek, and boast solid copper conductors coated in 24ct gold.

Using the cable to power a Leema Acoustics Agena phonostage, replacing a first generation IsoTek cable, the effect was transformative. The older cable had a raw honesty in its presentation. This one had at least the same honesty behind it, but was more sophisticated. I found that there were improvements from tonal colour to its substantiveness. It felt weightier yet more agile, and more fluid and detailed.

Changing over to using it to power the Leema Antilla CD player, I again found an improvement. This

time the EVO3 Premier replaced a Merlin Cables lead. In this case the sound had more open and obvious detailing. The Merlin had a smoothness that was very pleasant, but with the Premier I could pinpoint the start and finish of a sound with greater accuracy.

I also tried it on the Leema Tucana II amplifier (150W). It did a reasonable job but the sound felt as though there was a little bit of restraint in it. Used on the less demanding Rotel RA-04 amplifier (40W) I found it benefitted the sound.

This lead seems to offer a level of performance that can compete effectively with considerably more expensive cables. It works very well with low current equipment, and with low powered budget amplifiers. I think it is so effective and such good value for money that I now have three. **TB**

IsoTek
www.isoteksystems.com

SOUNDBITES



TORLYTE PLATFORM £184

Torlyte is a material that has been used by Russ Andrews to make equipment racks and supports for many years. It consists of a series of compartments, rather like a honeycomb, which are sandwiched between two layers of veneered wood. The construction is very light, but reassuringly solid.

This example is a platform that can be placed underneath source components such as turntables and CD players. Underneath it are attached three of Russ Andrews' Oak Cone Feet. The lightweight construction belies its strength, and it was perfectly capable of taking the 25kg mass of my Clearaudio Master

Solution turntable.

I normally use a VooDoo Airtek support underneath this record player, which I like for the spaciousness that it gives to the sound. The Torlyte unit surprised me with a considerably more substantial bass sound than I expected from a platform that, according to my kitchen scales, weighs in at a mere 750g. This speaks volumes for its rigidity, and the effectiveness of the internal construction in isolating the deck from its surroundings.

Since there is no suspension in this unit, it is not an answer to footfall problems from a suspended floor, but placed on a wall shelf, it had a very beneficial effect upon the

sound. I found that I had a greater awareness of details in the mid and higher bandwidths, almost as though a little sparkle had been added to the proceedings.

I then tried it in my equipment rack underneath a Leema Acoustics Antilla II S Eco CD player and found the sound seemed to be a little smoother, and more comprehensive in its presentation.

As long as you are not trying cure 'bounce' related problems, particularly with turntables, then this is a very effective way of isolating your equipment from its surroundings and wringing more detail and shape from the sound. The only drawback that I can see is the availability of only one finish.

Apart from this aesthetic consideration, I can thoroughly recommend this very effective product. **TB**

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SERIES V-12 MAGNESIUM TONE-ARM

Based on the multi-award winning Series V pick-up arm, the Series V-12 incorporates the same design and engineering that have made SME a byword for excellence. Coherent musical control is held over the entire frequency range in terms of tonal quality, stability and stereo imaging. Startling dynamic range, neutrality, structurally inert, the Series V-12 embodies every worthwhile feature in a pick-up arm. The 12 inch tone-arm is pressure die-cast in magnesium complete with an integrated headshell to eliminate tone-arm resonances in the audio spectrum and offers a 27% reduction in maximum angular error distortion over 9 inch models. Listening, the benefits of minimal tracking error and harmonic distortion are clearly revealed.



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The secret to make your cartridge perform at the same level as one costing between 3 to 70 times as much



2012 Tonearm of the Year award - The Absolute Sound Magazine



2012 Tonearm of the Year award

Vinyl enthusiasts would find themselves in an unexpected journey when they try an Origin Live arm.

The results obtained by using one of these arms, are indeed extraordinary and open eyes to new possibilities. In fact, users find that their cartridge starts performing at the same level as one costing anywhere between 3 and 70 times the price.

Such claims seem wild, but the strange thing is that owners of Origin Live arms, are so impressed by the improvements over established references, that they go on later to upgrade to arms higher in the range and are just as delighted.

To find out why these claims are not so wild, please read www.tonearm.co.uk

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

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Chord sequence

Chord's SPM 1200 power amplifier has been updated to MkII status in the model sequence. Jon Myles enjoys its new powers.

Chord seem to be on a bit of a roll at the moment. Its statement Red Reference MkIII CD player was recently voted a Hi-Fi World 'Product Of The Year' and its sub-£1,000 QuteHD

DAC has brought its bespoke Pulse Array technology into the sights of a much wider range of buyers – as well as adding the benefits of DSD playback.

Now rolling out from its Kent manufacturing base is the new

SPM 1200 stereo power amplifier in a revised Mark II form – with improvements to the already well-regarded original model.

There's no doubt transistor-based power amplifiers seem to fall into two distinct categories. There's

the utilitarian black box look of the likes of Naim – and then there are those that aim to make a visual as well as a sonic statement. The Chord definitely conforms to the latter way of doing things.

Housed in the company's trademark aerospace-grade aluminium casing, the amplifier sits on four circular, damped pillars with heatsinking situated at the back. On the top are four meshed windows that give a glimpse of the innards. When switched out of standby mode these are illuminated by soft blue LEDs similar to those used in Chord's range of stand-alone DACs.

To say it is a serious design statement is doing the unit a disservice. Even those who know nothing about hi-fi would be left in no doubt that this is one serious piece of equipment.

Which it is – claiming 350 Watts into 8 Ohms that rises to 750 Watts for 2 Ohms provided by 16 MOSFET devices.

Despite all this the SPM 1200 is surprisingly light (for its size) – weighing in at 18kg, helped by the use of a high-frequency switch mode power supply.

Input connections consist of two XLR balanced inputs (designer John Franks prefers balanced) and two RCA single-ended. The back panel is completed by eight gold-plated WBT speaker posts.

Chord claims the SPM 1200

Underneath the black cover are the Chord's 16 MOSFET devices – giving 350 Watts into 8 Ohms.



Inside the Chord - a bespoke SMPS power supply.

operates in what's called a sliding bias Class A/B mode. All drive circuitry operates in Class A and at usual listening levels most of the music stay within Class A.

SOUND QUALITY

Power, of course, does not guarantee quality. But good design allied to meticulous attention to detail and careful voicing certainly goes a long

and dark which is truly beguiling.

Transpose these abilities of the SPM 1200 to the end of a good pair of floorstanders and its attributes move into even better focus.

There's enough headroom to cope with anything you can put its way – but there's also a deftness of touch to its overall tonal quality. It has the ability to reveal just what individual loudspeakers are capable

"there's enough headroom to cope with anything you can put its way"

way towards it.

The Chord brought out all the benefits in a pair of Atohm GTIs (reviewed this issue) without exposing too many of the drawbacks of smaller speakers. We also used it with Martin Logan Electromotion ESL hybrid electrostatic loudspeakers.

The Chord took a grip on the drive units in both loudspeakers in a way only a well-specified amplifier can. But – and here's the important thing – it did not sound mechanical or forced. This wasn't just the power for the sake of it. Instead there's an element of subtlety, shade and light

of but does not impose too much of its own character on the music. Instead you can mix and match source components and loudspeakers around it to take the best advantage of the Chord's resolving powers.

To put it in context, I hooked up the SPM 1200 to a Music First passive pre-amplifier. Together the Chord and Music First revealed all the attributes of everything in the chain – in a way I've rarely heard before.

What I found is a clarity of sound that is what we listen to music for. Playing Tom Waits 'Swordfishbonestro



The back panel has two XLR balanced inputs, two RCA single-ended and eight gold-plated WBT speaker posts.

mbones' and I was pinned back in my seat by the experience. Clean, clear, rather special.

Switching to Arvo Part everything snapped into focus. Move on to The Clash, Big Star, Nigel Kennedy and the effect is the same I found. And then I started moving through my collection, to have an idea of just what the Chord can bring to the party.

Perhaps, yes, at first it can sound a little dry. But very soon I realised that is merely an absence of strain from the amplifier. The proof of that comes from the fact that it is so easy to push the volume control ever

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

So if you have your source and loudspeakers sorted then the SPM 1200 MkII will be an absolute

delight. It does what all good power amplifiers should do – providing power without imposing too much of itself on the sound. It is ruthlessly analytical, yet not sharp or hard.

In fact, it was doing it so well I spent a blissful few hours listening to Mali's Salif Keita, then a collection of mid-80s pop and, finally, a long-forgotten CD of chamber music.

That gives an indication of how good this Chord is. In an ideal world, I'd recommend buying the Chord and building the rest of the system around it. Unfortunately, we don't live in an ideal world.

But if you have speakers you are happy with, a good pre-amp (and the Music First lives superbly with the Chord) then even at £8,200 you are looking at something special.

CONCLUSION

It might not be cheap – but Chord's SPM 1200 MkII does not disappoint. If you are looking for a power amplifier which combines grunt with beguiling tonality then the Chord has it in spades. Worthy of an audition for anyone. Add in the superb design and this amplifier really is something special.

MEASURED PERFORMANCE

The SPM 1200 MkII power amplifier produced a massive 350 Watts into 8 Ohms and 576 Watts into 4 Ohms, massive outputs. The amplifier ran surprisingly cool during tests, due to its sliding Class A output circuits. To get this power sixteen 150W MOSFETs are used

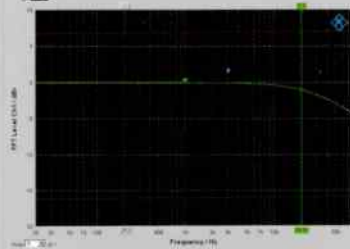
per channel, running from 90V rails from a switch-mode power supply.

Distortion levels were low even at high frequencies, hovering around 0.05% at 10kHz, a good result.

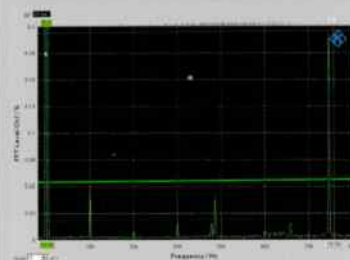
Frequency response was unusual, output rolling off progressively above 10kHz. This resulted in a -1dB upper response limit of 20kHz, unusually low for a solid-state amplifier; only Naims behave similarly. The SPM 1200MkII will likely have a noticeably warm or full or easy sound as a result, because the ear can detect this. Their DAC64 had a similar response and was admired partly for this reason, combined with clean digital. The response did not change with load; this is not a Class D amplifier, and there is no d.c. on the output terminals.

The SPM 1200 MkII measured well in all areas. It is very powerful, runs cool and is fairly light for the power produced. It will have a distinctive balance too, because of its treble roll down. **NK**

FREQUENCY RESPONSE



DISTORTION, 1W, 10kHz



Power	350 Watts
Frequency response	1Hz-20kHz
Separation	96dB
Noise	-97dB
Distortion	0.06%
Sensitivity	1.75V



higher – and what goes first is your speakers, the room or, perhaps, your neighbours! It took some of the high end sting out of the electrostatic panels too.

CHORD SPM 1200 MKII £8,200



VERDICT

A winning combination of power with precision. Choose your ancillaries well and the Chord SPM 1200 is an absolute delight. Very highly recommended.

FOR

- clarity
- power
- true to source

AGAINST

- very little

Chord Electronics Ltd
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www.chordelectronics.co.uk

Power house

Paul Rigby looks at the Isotek Genesis dual cell mains generator.

DIAGRAM KEY

1. After passing through a sophisticated filter network, mains electricity is converted into DC, which is subsequently delivered to a high-voltage generation engine (300W amplifier). All of the mechanical noise caused by a low-quality mains supply is entirely avoided, as there is no input transformer to vibrate.

2. A high-quality synchronous sine wave generator feeds the generation engine at the same frequency and exact phase as the incoming mains supply. This ensures that no unwanted phase shifts are created between components connected directly to the mains and components connected directly to the Genesis. The phase shift between the mains input and output is zero – it is entirely synchronised with the mains.

3. Current positive feedback in the design allows the Genesis to deliver constant voltage, low distortion and zero phase shift to all connected loads.

4. The output from the generation engine is a pure sine wave with exceptionally low distortion.

5. An extremely high-grade isolation transformer brings the voltage back up to 230V AC.

6. Bright, clear OLED display shows snap-shot measurements for THD, voltage and power consumption. The advantage of this system is to avoid any pollution to output signals via the display circuit through continuous measuring.

7. Sophisticated protection systems include input protection, overvoltage protection and intelligent temperature protection, the latter incorporating a variable-speed, super-quiet fan that only comes into operation if needed.

Isotek treats mains-related problems with a seriousness that has to be seen (and heard) to be believed. New to the top of their wide range of mains conditioning products is the extraordinary Genesis power generator that I had for review. This is a statement product that comes at a lofty £12,995, no less!

Isotek's boss, Keith Martin, told me the Genesis is, "...the world's first dual-cell power generation system." So, rather than scrubbing your mains clean, as a power conditioner does, the Genesis creates a new, clean, sine wave, synchronised to the incoming mains. This is then amplified by two 300W amplifiers and stepped up through transformers to a precise 230V output.

For mains power, such a signal is a sort of Holy Grail.

"An industrial electricity generator will give you a THD (Total Harmonic Distortion) of around 2-3% which is not good. To get a THD down to a preferred 0.3%

is very difficult. Others have claimed such figures but we have independent tests that prove it. In fact our THD is always less than 0.2%, in general terms, and in the critical fifth harmonic it's down to 0.06% which is extremely low. Rebuilding the mains is not a new concept, but to do it with a low distortion figure is hard."

Whenever you play music through your hi-fi, your system has to cope with noise in the power line such as: common and differential mode noise, power surges and spikes and asymmetry.

Whatever rubbish you throw at the Genesis, it will take that garbage, turn it into DC and rebuild from new a complete, full 230V sine wave

with incredibly low distortion. As such, your equipment will be working in the most optimal way. It will be receiving the best possible power with 600W headroom; CD players and DACs, for example, only draw between 35W and 50W.

"We didn't want to do what some companies do which is to rebuild half of the main sine wave or create a perfect sine wave template to match to and call the product a 'generator'. We wanted to rebuild a sine wave completely from scratch.

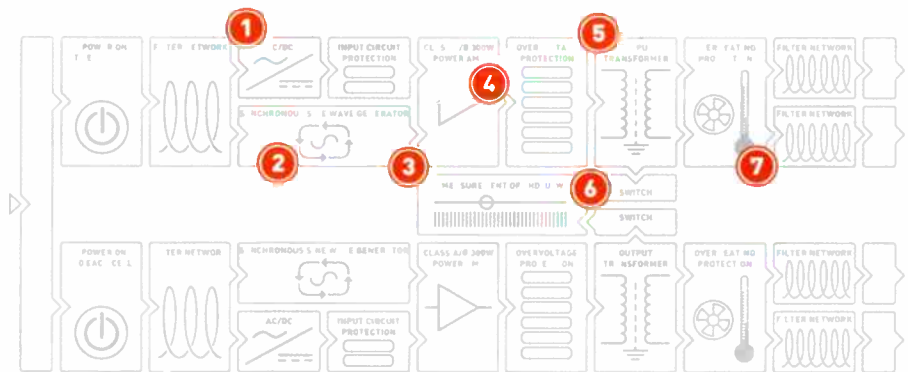
Yes, it costs a lot of money but it is an incredible solution that no-one else has done. Looking at the specs of the competition, no-one is doing it like us or with such low distortion."

Ah, the price. Well, you have

four sockets, intended primarily for front-end source items, although low power amplifiers and electrostatic loudspeakers that consume less than 600 Watts are suitable.

The Genesis is not meant to be used with high-power power amplifiers. That's what the Super Titan is for. Ideally, you sit the Genesis on top of the Super Titan and use both as a complete mains supply for the hi-fi.

On the front of the Genesis sits a bright clear OLED display that shows input/output voltage, input/output THD, power consumption of the connected audio equipment and the power status of the generation engines. It all looks very technical and impressive.



to keep the price of the Genesis in perspective. It's not designed for your iPod, after all. It has been made for high specification equipment and for those people who want the best that can possibly be achieved. It's an aspirational product like a Ferrari or an Aston Martin. That's how you need to look at the Isotek Genesis (and its sister, the £6,000 Super Titan, for that matter). It demonstrates what can be done.

There is a main power switch plus two other power switches to start each half of the Genesis in order to save energy if only half of the Genesis is required. On the rear you have a C20 power socket (to take the high load of 16A) plus

Protection and monitoring circuits are fitted, plus fans that switch in if necessary. There's even an output filter network, Isotek's block diagram shows.

SOUND QUALITY

I initially hooked up my reference system to a basic electrical distribution block of the type you might pick up from a hardware shop for a few pounds. Playing the vinyl version of Frank Zappa's 'Bamboozled By Love', the music sounded a tad disorganised through the block. The upper mids were strident, guitar was piercing while vocals could shriek on crescendos. The sound stage was incohesive and displayed midrange



bloom while the bass and midrange were not clearly delineated.

The Genesis cured these ills. The soundstage filled with space, and both calm and discipline reigned. That didn't mean the music lost fluidity or flair, far from it. Guitars sounded aggressive, but detailed too. A widened dynamic spectrum provided the instrument with more character. Vocals found their place within the mix, stopped blaring and started informing.

I then plugged my Icon power monoblocks and Quad electrostatics in to a Super Titan mains conditioner and connected that to the Genesis. This firmed up bass. The stereo image also became firmer and more clearly centred, while cymbals now displayed lightness and a layered metallic sheen.

I then compared the Genesis with Isotek's last, best front-end solution, their excellent Aquarius. While the sound was very good indeed, a testament to the Aquarius' design, the Aquarius is very much a power conditioner. When compared to the Genesis, the sound was a little flat in the midrange and a touch plump in the upper bass regions.

The Genesis' ability to remove 'distortion' from the playback also meant that the Aquarius wasn't as clean in its sonic representation. Of course, you would expect – nay demand – such results considering the vast difference in price, but it was reassuring to hear the difference, nevertheless.

I have to emphasise the Super Titan's part in the Genesis' success,

however. Using Genesis or Super Titan alone adds greatly to a system's sound quality I have found from my experience with them, but music benefits when both boxes are hooked together.

Playing Yehudi Menuhin's 'Mendelssohn and Bruch Concertos' on vinyl, it was evident just how much silence there was behind the solo violin with the Genesis in place and how much Menuhin was compromised by the noise floor without it; the delicacy and fragility of his violin was more evident.

Compared with the Aquarius, the backing orchestra was truly involved via the Genesis, acting as a partner to Menuhin, not just sonic wallpaper behind him, while the Genesis was revealing of individual instruments within the orchestra, especially during high tempo sequences.

Turning to Horace Silver's 'Cape Verdean Blues', via my B-475 Densen CD, this jazz LP provided far more coherence via the Genesis, when compared to the basic power block, with a dramatic reduction in the noise floor. All of the musicians played at ease it seemed, free from background noise and distortion. Instrumental separation was impressive while individual instruments exhibited character and poise.

Similarly, against the Aquarius, the Genesis showed improved transparency, the edges of each instrument exhibiting better delineation, separating it from the silence surrounding it and from other instruments.

CONCLUSION

The Genesis shows you how important the mains electricity is in determining sound quality. In the hands of the Genesis, the mains electricity becomes a force for good. It provides a vibrant, exciting listen that shines a light on all aspects of a music mix. Here is a statement product that shows what is possible, setting standards in mains synthesis.

"You sit the Genesis on top of the Super Titan" says reviewer Paul Rigby, for the ultimate in mains conditioning and generation. The Super Titan feeds large power amplifiers; the Genesis handles all else.



ISOTEK GENESIS £12,995



VERDICT

The Isotek Genesis enables you to hear – really hear – your hi-fi system, possibly for the very first time.

FOR

- clarity
- low distortion
- detail
- dynamics

AGAINST

- size
- weight

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The Carbon Age



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.



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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
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WORLD CLASSICS

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

We do not sell these products. It is for your information only.

DIGITAL

CAMBRIDGE AUDIO CDI 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 14x4 DAC -super musical



MARANTZ SA-1 2000 £5,000

The greatest argument for SACD. This sublime Ken Ishiwata design is utterly musically convincing with both CD and SACD, beating most audiophile CD spinners hands down.



MERIDIAN 207 1988 £995

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

MERIDIAN MCD 1984 £600

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



MUSICAL FIDELITY

TRIVISTA 2002 £4000

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

NAIM CDS 1990 £ N/A

Classic Philips 16x4 chipset with serious attention to power supplies equals grin-inducing 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-RI/DAS-RI 1987 £3,000

Sony's first two boxer was right first time. Tonally lean, but probably the most detailed and architectural sounding machine of the eighties.



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-PI200 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 1983 £340

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

COMPACT DISC TRANSPORTS

TEAC VRDS-T1 1994 £600

Warm and expansive sound made this a mid price hit. Well built, with a slick mech.



ESOTERIC P0 1997 £8,000

The best CD drive bar none; TEAC's Tokyo boys pushed the boat out in style. Brilliantly incisive, ridiculously over engineered.

KENWOOD 9010 1986 £600

The first discrete Jap transport was beautifully done and responds well to re-clocking even today.

DACS

CAMBRIDGE AUDIO

DACMAGIC 1995 £99

Good value upgrade for budget CD players with extensive facilities and detailed sonics.



DCS ELGAR 1997 £8500

Extremely open and natural performer, albeit extremely pricey - superb.



DPA LITTLE BIT 3 1996 £299

Rich, clean, rhythmic and punchy sound transforms budget CD players.



PINK TRIANGLE DACAPO 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. Positron PSU upgrade makes it smooth, but now past it.

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

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

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



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

LINN SONDEK LPI2 1973 £86
For many, the Brit superdeck; constant mods meant that early ones sound warmer and more lyrical than modern versions. Recent 'SE' mods have brought it into the 21st century, albeit at a price..



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

GOLDRING LENCO 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 301/TD124 rivals.

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

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



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

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.

GARRARD 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 XERXES 1984 £550
Supposedly the first to 'better' the LPI2. 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 TD124 1959 £ N/A
The template for virtually every 1970s 'super-deck', 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.

TRIO 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 startling results. Clean, powerful and three-dimensional sound, ultimately limited by the tonearm.

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

AUDIO TECHNICA AT 1120 1978 £75
Fine finish can't compensate for this ultra low mass arm's limited sonics - a good starter arm if you've only got a few quid to spend.
ALPHASON HR100S 1981 £150
First class arm, practically up to present-day standards. Buy carefully, though, as there is no service available now. Totally under priced when new, exceptional.



SME 3009 1959 £18
Once state of the art, but long since bettered. Musical enough, but weak at frequency extremes and veiled in the midband. Legendary serviceability and stunning build has made it a cult, used prices unjustifiably high.

GRACE G707 1974 £58
This early Japanese example of the tonearm art has a smooth, lyrical sound. Imported by Linn, fitted to early LPI2s. Sonically way off the pace now, though.

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.



SME SERIES III 1979 £113
Clever variable mass design complete with Titanium Nitride tube tried to be all things to all men, and failed. Charming nonetheless, with a warm and inoffensive sound.

LINN ITTOK LVII 1978 £253
Arguably the first 'superarm'; Japanese design to Linn specs made for a muscular, rhythmic sound with real dynamics. Now off the pace, but the final LVIII version worth seeking out.

HADCOCK GH228 1976 £46
Evergreen unipivot 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 middling 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 80VW 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-eighties 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!



SUGDEN C51/P51 1976 £130
Soft sounding early Sugden combo with a plethora of facilities and filters, complete with seventies-tastic DIN socketry. A sweet and endearing performer as you'd expect, but lacking in power and poor load driving ability, so partner carefully.

VTL MINIMAL/50W MONOBLOCK 1985 £1,300
Vacuum Tube Logic was one of the Europe's biggest tube names in the eighties, and it shows. Rugged, professional build and finish allied to a lively and punchy sound (albeit with limited power) make them an excellent used buy.

A&R A60 1977 £115
Sweet and musical feature-packed integrated; the Audiolab 8000A used its blueprint to great effect.



CREEK CAS4040 1983 £150
More musical than any budget amp before it; CAS4140 loses tone controls, gains grip.

AUDIOLAB 8000A 1985 £495
Smooth integrated with clean MM/MC phono stage and huge feature count. Extremely reliable, too. Post '93 versions a top used buy.



MCINTOSH MA6800 1995 £3735
Effortlessly sweet, strong and powerful with seminal styling to match.

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

MISSION CYRUS 2 1984 £299
Classic eighties minimalism combines arresting styling with clean, open, lively sound. Further upgradeable with PSX power supply.



MUSICAL FIDELITY A1 1985 £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 phono stage, very low power.

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

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



MYST TMA3 1983 £300
Madcap eighties minimalism, but a strong and tight performer all the same.

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



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

PREAMPLIFIERS

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

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

AUDIO RESEARCH SP-8 1982 £1,400
Beautifully designed and built high end tube preamplifier with deliciously sweet and smooth sound. Not the last word in incision or grip, but that didn't matter to those who aspired to it.

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

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

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

QUAD 22 1958 £25
The partner to the much vaunted Quad II monoblocks - cloudy and vague sound means it's for anacrophiles only.

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

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



NAIM NAC32.5 1978 £ N/A
The Salisbury company came of age with this, their classic high end pre. Brilliantly fast and incisive sound that's a joy with vinyl but a tad forward for digital.

POWER AMPLIFIERS

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

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



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

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

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 IIs. Deeply impressive when in fine fettle.



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

MICHELL ALECTO 1997 £1989
Crisp, clean and beautifully controlled with gorgeous styling. Partnered with the £1650 Orca this sounds delicious!

MUSICAL FIDELITY XA200 1996 £1000PR
200W of sweet smooth transistor stomp in a grooved tube! Under-rated oddity.



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



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

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

RADFORD STA25 RENAISSANCE 1986 £977

At the time, very possibly the least cool amplifier on the planet – and we're not talking heat dissipation here. This reworking of Radford's original late sixties design was possessed of a wonderfully rich, old school valve sound with enough power (25W) and lots of subtlety.



KRELL KMA100 II 1987 £5,750
Ludicrous monoblock version of the giant KSA-100 is one of the seminal eighties transistor power amplifiers. Massive wallop allied to a very clean and open Class A sound makes this one of the best amplifiers of its type, ever.

PIONEER M-73 1988 £1,200
Monster stomp from this seminal Japanese power amplifier, complete with switchable Class A and Class B operation. Clean, open and assured sounding, albeit a tad behind the pace on high speed dance music. Rosewood side cheeks and black brushed aluminium completes the eighties-tastic experience.



PHONO STAGES

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



LINN LINNK 1984 £149
Naim-designed MC phono stage built to partner the original Naim NAIT - yes, really! Fine sound, although off the pace these days.

MICHELL ISO 1988 £ N/A
This Tom Evans-designed black box started the trend for high performance onboard phono stages. Charismatic, musical and punchy - if lacking in finesse.

TUNERS

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



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

NAD 4040 1979 £79
Tremendously smooth and natural sound allied to low prices and good availability make this budget analogue esoterica. Needs a good antenna to work properly, however.

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

PIONEER TX-9500 1976 £295
Another of the serious classic solid-staters. Boasts the usual high end Jap package of fine sound, brilliant sensitivity and superb build.

YAMAHA CT7000 1977 £444
Reputedly the best of the classic Jap analogues, this combines sleek ergonomics, high sensitivity and an explicit, detailed sound.

NAD 4140 1995 £199
Brilliant affordable digital tuner has a smooth, detailed musical sound plus sensible real-world facilities.

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.



QUAD FM4 1983 £240

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-5950 1977 £222

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

SEQUERRA MODEL I 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.



ANALOGUE RECORDERS

YAMAHA TC-800GL 1977 £179

Early classic with ski-slope styling courtesy of Mario Bellini. Middling sonics by modern standards, but cool nonetheless!



AIWA XD-009 1989 £600

Aiwa's Nak beater didn't, but it wasn't half bad nonetheless. Massive spec even included a 16x4 DAC!

NAKAMICHI CR-7E 1987 £800

The very best sounding Nakamichi ever - but lacks the visual drama of a Dragon.



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/replay head better than most Naks. Result: sublime.



SONY TC-377 1972 £N/A

A competitor to the Akai 4000D open reel machine, the Sony offered better sound quality and is still no slouch by modern standards

DIGITAL RECORDERS

PIONEER PDR-555RW 1999 £480

For a moment, this was the CD recorder to have. Clean and detailed.

SONY MDS-JE555ES 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.



KENWOOD DM-9090 1997 £500

Serious and sophisticated sound thanks to well implemented ATRAC 4.5; surprisingly musical MD recorder.

SONY TCD-8 DATMAN 1996 £599

Super clean sound makes this an amazing portable, but fragile.

LOUDSPEAKERS

ACOUSTIC RESEARCH AR18S 1978 £125

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

BBC LS3/5A 1972 £88

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

LOWTHER PM6A 1957 £18 EACH

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

HH ELECTRONICS TPA-50D AMPLIFIERS 1973 £110

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

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.



TANNOY WESTMINSTER 1985 £4500
 Folded horn monsters which certainly sound good if you have the space. Not the last word in tautness 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-stand mounting, but these prove that the seventies did have some fine designs after all!

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



KEF R105 1977 £785
 Three way Bextrene-based floorstander (complete with castors!) gave a truly wide-band 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 TLS80 1976 £550
 Warm and powerful nineteen seventies behemoth with transmission loading and a mixture of KEF and Celestion drive units. Impressively physical wideband sound but rhythms aren't its forte.

MAGNEPLANAR SMGA 198X £800
 Technological loudspeaker with genuinely musical abilities; fast, smooth, open, dry.

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,

MISSION 752 1995 £495
 Cracking Henry Azima-designed floorstanders combined HDA drive units and metal dome tweeters with surprisingly warm results. Benign load characteristics makes them great for valves.

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.

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

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

QUAD ESL63 1980 £1200
 An update of the ESL57, with stiffer cabinets. Until the 989, the best of the Quad electrostatics.

YAMAHA NS1000 1977 £532
 High tech Beryllium midband and tweeter domes and brutish 12" woofers in massive sealed mirror image cabinets equals stunning transients, speed and wallop 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 unboxed sound nevertheless!

CLASSIC CONTACTS

When a classic goes 'poof' your troubles have just started, but there may be a good ending. Replacing failing parts can improve the sound, so here is a short listing of all these companies who specialise in getting a classic up and running again after its deposited a small ring of soot on your ceiling!

GT AUDIO

(Graham Tricker, Bucks)
 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 458001 | www.quad-hifi.co.uk

Dr MARTIN BASTIN

(Shropshire) Garrard 301/401 restoration, renovation and service. Special plinths; rumble cures, etc.
 Tel: 01584 823446

ARKLESS ELECTRONICS

(Northumberland)
 Specialist in repairs, restoration and modifications to all amplifiers, valve or solid state, ancient and modern.
 Tel.: 01670 530674
 Email: info@arklesselectronics.com
www.arklesselectronics.com

CLASSIQUE SOUNDS

(Paul Greenfield, Leicester)
 ESL-57s restored, rebuilt, fully renovated or improved. Leak, Quad valves amps etc.
 Tel: 0845 123 5137/
 Mob: 0116 2835821
 Email: classique_sounds@yahoo.co.uk
www.flashbacksales.co.uk/classique

WEMBLEY LOUDSPEAKER

(Paul MacCallam, London)
 Comprehensive loudspeaker servicing.
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Ear Feast

Offering an eye-catching yet simple headphone amp, Paul Rigby reviews the Music First Phone Box.

Music First has joined the headphone fray with its nattily monikered, solid state, red coloured Phone Box that spans a compact 50x110x140mm and weighs in at just 250g. Offering a standard pair of phono socket inputs at the rear plus a full-size 1/4in jack headphone socket at the front, the only other socket on offer is the connection to the included, external, 12V DC power supply.

I plugged in a pair of Sennheiser HD800 headphones and started testing with the indie rock outfit, Yo La Tengo's 'Fog Over Frisco', on my Densen B-475 CD player. This track features a fair amount of compression which results in rather bright, twangy rhythm guitars and claustrophobic lead and backing vocals. Plugging in the Phone Box proved that it coped rather well as it immediately expanded the soundstage, providing far more room for the instruments to manoeuvre. This resulted in a delivery that was at ease with the music, reducing the negative effects of the compression. The twangy, lead electric guitar was pulled back into the mix and allowed to move laterally instead of sticking out of the song like a thorn waiting

to prod my ears, giving it a softer but also richer quality. The associated rhythm guitar was also better audible. More than that, however, the lead vocal bathed in a space that added a degree of grandeur to the delivery while his female backing vocalist sounded positively chilled during her renditions.

Adding to the extra detail found in the mids, the bass offered a much more charismatic approach, providing additional information such as the measure of the percussive strike.

Turning to Frank Sinatra's live track, 'I Get A Kick Out Of You' from 'The Main Event' on vinyl via my Avid Acutus the Phone Box took the ensemble out of the closet and provided some helpful extra room and ambience. Sinatra's vocal floated into the darkness while the audience seemed to hang in the air. This album promised a big sound, the Phone Box provided the stage for such promise.

Moving to Yehudi Menuhin's 'Mendelssohn and Bruch Concertos', I realised that owners of Music First's popular Classic Passive Magnetic Pre passive preamp would look at the Phone Box as an immediate companion and a source of in-house synchronicity so I connected the Phone Box to an example. Of course, that meant that my Aesthetic

Calypso's valve warming aura had now been removed. The Phone Box adapted to the shift of direction without any problem, however.

The music now had a more neutral trait with Menuhin's violin sounding very clean but the Phone Box also benefitted from an injection of 'edge' that shone a more direct light on detail, not only illuminating Menuhin's effort and force during his solo but also the magnificent sweep of the support string section of the backing orchestra. The Phone Box preserved its broad soundstage and retained the airy nature of its presentation.

CONCLUSION

The Music First Phone Box is such a simple piece of technology but it provides worthwhile enhancements to sound quality. This is a headphone amplifier that likes to 'put on a show' in true Hollywood style. It provides a big stage, plenty of detail and rich, deep colours to the sonic spectrum.



MUSIC FIRST PHONE BOX £276



VERDICT

Featuring a detailed midrange with a broad, expansive soundstage, the Music First Phone Box takes headphones up a level.

FOR

- soundstage
- rich mids
- clarity

AGAINST

- nothing

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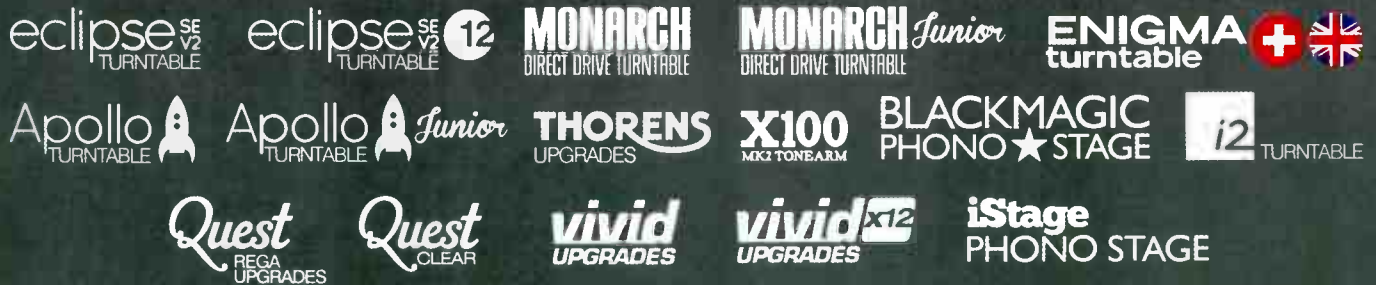


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Commitment anxiety

Rod Alexander enjoys a 'commitment free' valve amplifier

My other half has occasionally accused me of having 'commitment issues'. She's right - but not in the way she thinks. You see, I adore valve amplifiers – the directly-heated triode variety in particular, but valve amplifiers tend to require a degree of 'commitment' that I just can't muster. For starters, with woefully insensitive loudspeakers like mine, monoblocks would be compulsory, then there's the issue of living room real estate to consider, as well as occasional 'burnt fingers' epi-

sodes and the regular chore of bias adjustment as so many valve amps require. It's a 'til death us do part' scenario that scares me...

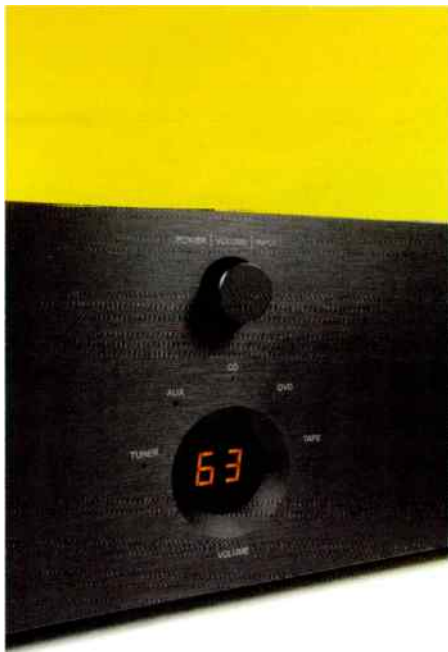
So the opportunity to review Canor's reasonably proportioned, conventionally boxed (if uninspiringly named) TP-134 integrated amplifier, was too good to miss. Could it provide the sonic advantages of valves, with the hassle-free, 'fit and forget' functionality of solid state?

FIRST IMPRESSIONS

As conventional integrations go, this is a large amplifier. Measuring 435 x



EL34 power pentode output valves operate in ultra-linear mode to minimise distortion.



A single push-knob switches inputs and controls volume.

170 x 390mm (W x H x D) and featuring a 10mm thick anodised front panel, it tips the scales at a hernia-inducing 22kg. Construction is firmly in the 'battleship' class.

Finished in black anodised aluminium, rather than the alternative silver finish, the review sample had a certain Darth Vader air. The front panel, featuring just a circular display window, displaying signal attenuation in dB steps and a single encoder knob for controlling switch-on, standby, input selection and attenuation is a model of minimalist chic. It oozes class.

TECHNOLOGY

Using four EL34 output valves, in ultralinear configuration, 35 Watts are on offer – the first 10 in Class A. The output transformers are relatively conventional, multi-section, bifilar wound affairs – with the usual 4 and 8 Ohm taps.

The toroidal mains transformer features an electrostatic screen and a separate winding for the comprehensive control electronics.

Chosen after extensive listening tests, the TP-134 utilises a relay-based attenuator (rather than a traditional potentiometer) providing 1dB attenuation steps and a claimed 0.05dB channel balance. An order of magnitude better than the 2dB or so, typical of standard pots.

So this is no slavish homage to the past, but a very modern implementation of an EL34 based, ultralinear mode configured amplifier.

In fact, the only nod to the past is Canor's use of good old fashioned valve shields for the small signal valves in an attempt to minimise crosstalk, resulting in a claimed 6dB improvement in channel separation.

IN USE

Canor have really committed to the whole user-friendliness agenda. At switch on, the amp runs through a 15 second warm-up routine after which it is ready for use (though as expected, in practice, it took the best part of 30 minutes before it really revealed its true sonic character).

The amp comes complete with a svelte system remote with more than a hint of Bang & Olufsen about it and the 1dB volume steps provide adequate fine control of volume. Given the generally faultless build quality and implementation, I was disappointed by the slightly loose encoder knob on the review sample.

The TP-134 was fundamentally faultless in operation, despite my repeated attempts to get it to protest, playing piano concertos on the remote and deliberately sloppy connection and disconnection efforts, it steadfastly refused to misbehave or protest.

LISTENING

It's confession time. EL34 valves are my guilty pleasure. No, they don't have the coherence, clarity or cachet of exotic (and expensive) power triodes like 300Bs 211s or 845s, but triode

connected, they deliver a wonderful, lush, captivating sound. Inaccurate, yes, but with a well designed example of the breed, listening is so much fun, I just don't care.

So given my bias for EL34s in triode mode, the idea of reviewing an EL34-based amplifier configured in ultralinear mode didn't exactly get my heart fluttering. Worse still, as a user of electrostatic hybrids so inefficient I daren't put their sensitivity figure in print, I had low expectations of this amplifier/speaker pairing. Though several solid state amps of less than 100 Watts have managed to bring my regular loudspeakers to life, the measly 35 Watts on offer here was surely a recipe for disappointment...

In the event, I needn't have worried. My time with the TP-134 proved that as is so often the case, power output figures reveal precious little about valve amplifiers' real-world loudspeaker driving capability.

Inspired by the Darth Vader appearance, there was nothing for it – I kicked things off with the City of Prague Philharmonic's recording of some of the key music from the Star Wars saga. 'The Flag Parade', a stern test of an amplifier's dynamic ability, was thunderous and powerful, with timpani, tuba and string sections all incredibly visceral, yet high frequency percussive instruments – cymbal work and bells, for example, not just clearly discernable, but



The amplifier has an electronic management circuit to control switch-on, biasing and other functions. Remote control is provided.



8 Ohm loudspeaker outputs with 4 Ohm taps are fitted, connection being through gold plated 4mm terminals.

beautifully resolved. 'Yoda's Theme', a real showcase for the Prague Philharmonic's incredible string section, had poise and flow, while retaining real bite – a wonderful result.

'Lazarus Man' from Terry Callier's 'Timepeace' album is an incredibly busy track, with layer upon layer of instrumentation, featuring bass, guitars, drums and additional syncopated percussion. With many amplifiers the instruments seem to be fighting for attention. Here, they were all as large as life, but so easily discernable from each other I couldn't resist constantly turning up the wick, in order to be more and more immersed in the experience.

Soundstaging wasn't of the superficially impressive, 'forward' variety and may take some initial readjustment. Set back toward the plane of the speakers and perfectly proportioned, players and instruments are locked in defined space – no doubt partly due to the exacting care Canor have taken with regard to channel balance and minimising crosstalk.

Nits worth picking? Well, given the transparency on offer, its easy to say that Canor's decision to implement a relay-based volume control solution was a good one – but every silver lining has its cloud and so it was here, with the price to pay being the most incredible 'clackety-clack, clackety-clack' as the attenuator does its thing.

CONCLUSION

With wonderfully transparency, and none of the exaggerated lushness of triode connected EL34 designs, this is an amplifier for lovers of valves, but with a level of robustness, reliability and operational sophistication that puts many solid state power amps to shame. It's hard to imagine a better introduction to valve amplification. The commitment-phobic should take note...

"reliability and operational sophistication that puts many solid state power amps to shame"

THE EL34

EL34 output valves are inexpensive, up to £50 for a matched pair. In this amp they are biased from an automatic bias circuit, so bias does not need adjustment. Expect 2000 hours or so life before replacement is needed. The EL34 is known for a sweet, detailed sound.

MEASURED PERFORMANCE

The TP-134 delivered 36 Watts into 8 Ohms, and the same into 4 Ohms, showing coupling of the 4 Ohm tap to be efficient. These are fairly conservative power figures for EL34 power pentodes; they are not run hard and this extends life. Under-running reduces temperature, electrode deformation and failure.

A key feature of the TP-134 is very low distortion by valve amplifier

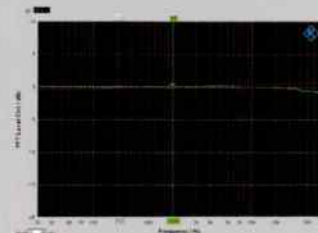
standards, especially at high and low frequencies. Unusually wide bandwidth of 2Hz-74kHz points to high quality output transformers and a fair amount of feedback, although there's only so much that can be applied unless tertiary windings are used to avoid the inevitable phase shifts in a full loop. This helps keep distortion down to around 0.1% at 1 Watt, second and third harmonics rising progressively to around 1.4% at full output, a good result.

Noise was low at -98dB, helped by low-ish overall gain, input sensitivity being low at 380mV. That's fine for silver disc players, but unsuitable for low gain external phono stages.

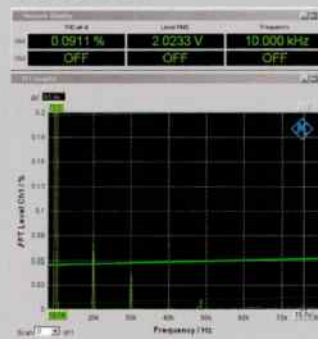
With a modest damping factor of 5 and low bass distortion the TP-134 should have clean and reasonably well controlled bass, although it won't control under-damped loudspeakers.

The TP-134 turns in a good measured performance and will likely sound clean and precise, due to the way its EL34s have been exploited. **NK**

FREQUENCY RESPONSE



DISTORTION



Power	36watts
CD/tuner/aux.	
Frequency response	2Hz-74kHz
Separation	88dB
Noise	-98dB
Distortion	0.1%
Sensitivity	380mV

CANOR TP-134 INTEGRATED AMPLIFIER
£2,495



VERDICT

With great build quality and sonics - and conventional appearance to boot, this is hassle-free, sophisticated valve amplification. A bargain.

FOR

- transparency and resolution
- impressive control circuitry
- build quality

AGAINST

- noisy relay controlled attenuator

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THE FLEETWOODS

Come Softly To Me
Jasmine

A harmony vocal group from the late-fifties and early-sixties, The Fleetwoods had a very smooth sound that did well in the ballad field. The outfit were intriguing because they were part of an industry where white vocal groups were out-maneuvred and out-sung by contemporary black doo-wop outfits. The Fleetwoods carved a successful niche of their own, however. The 1959 debut single 'Come Softly to Me' (included here) was their breakthrough hit, starting a stream of other low-tempo successes until the band split in 1963 – a timely move, considering the British Invasion shake-up of the entire industry soon after. The UK also latched onto the group, The Fleetwoods' debut song entered the UK Top 10.

This twin CD pack offers great value for money as it includes the outfit's first four LPs. 'Mr Blue' arrived in 1959 with 'Gretchen,

Gary And Barbara' appearing the year after. The following year proved a busy one for the trio, however, with two album releases: 'Softly' and, arguably the outfit's best of the bunch, 'Deep In Dreams'.

Look out for other Jasmine releases due this month including 'Raise A Glass To The Sounds Of...' four albums on 2CDs from The Clancy Brothers & Tommy Makem, who were largely responsible for introducing Irish folk music to the USA; 'Two Teenagers' covers the very early days of Paul Simon & Art Garfunkel when they sang under monikers such as Jerry Landis and Artie Carr and sang together as Tom & Jerry; The Champs were an instrumental quintet, whose output fills two CDs including the albums 'Go Champs Go' and 'Everybody's Rockin'" while Bill Black's Combo's 'Smokin' majors on R&B, bluesy rhythms with a shuffle beat. Elvis Presley fans should be interested, Black was part of Elvis' first rockabilly trio.



EDDIE NOACK

Gentleman Prefer Blondes
Bear Family

Five years ago, Bob Dylan commented on Noack, 'Eddie Noack... wanted to be a journalist. But we have enough journalists, but not enough people who could sing and write like Eddie Noack.' A true, died in the wool, straight down the line country singer, Noack sang country like few other people could, he believed in the integrity of the genre and its roots and hated commerciality: he was not about to sell out, as many others had, in his opinion. He had that sort of passion, the same sort of passion evinced by Hank Williams and the same self-destructive tendencies. While his singing touched on the negative: loss and rejection in all its forms while even songs of happiness sounded like they would be short-lived. Suffering from a bi-polar condition that dropped him into pits of depression, Noack slowly drank himself to death (his wife committed suicide, as did his mother: both with the same calibre

of gun, in the same way, in the same room of the same house).

Noack may not have been famous but his songs were, sung by the likes of Johnny Cash, George Jones and Hank Snow. This well mastered deluxe 3CD, 104-song package is accompanied by 73-page biography, contains every 1950s single including alternative takes, from the master tapes where they still exist, twenty-seven demos, false-starts and original session chatter. A testament to a true country singer.

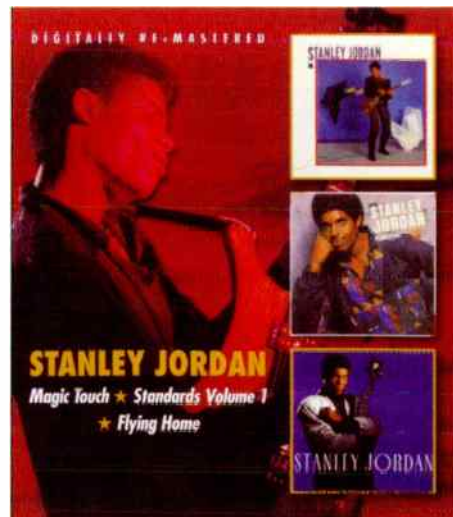
Also look out for other Bear Family releases, this month including Lovey's Original Trinidad String Band whose 'Calypso Dawn: 1912' offers the first recorded examples of calypso; the smooth voice of Bonnie Guitar can be heard on 'Only The Moon Man Knows', featuring rare country-pop recordings from 1951-1957 while Hank Davis' 'One Way Tracks, follows the man's varied rocking and bluesy output over five decades.

Jordan hit the heights during the eighties for his innovative jazz guitar technique which involved tapping the guitar into a harmonic line. The technique was not particularly new. Where Jordan ploughed his own furrow was his ability to play two completely independent rhythms as if it were two guitars at a time. He played guitar like other musicians might play the keyboard. He also had the jazz experience behind him with time spent under both Dizzy Gillespie and Benny Carter.

What strikes notes of frustration into the hearts of Jordan followers is his lack of focus. He often wasted his talent by tackling material deemed as unworthy. It showed in his catalogue and it shows on this release but not overly so. The fly in the ointment is 'Flying Home' which sees Jordan turn to funk and pop, then lessen his talent by prodigious overdubbing and

a melange of digital effects. On the other hand, there are two storming albums still left to choose from here – any one of which would be worth the price of this CD package alone. Jordan's debut, 'Magic Touch' provides often outrageous polyphony over a range of jazz and pop while 'Standards Volume 1' covers a range of similar material but Jordan's delivery is impressive.

Also look out for other new releases: The Hooters', eighties pop-rock outfit's magnificent 'Nervous Night' (1985), full of light-hearted new wave rock plus 'One Way Home' (1987) and 'Zig Zag' (1989); prog outfit, Gentle Giant's superb albums including the self-title debut (1970) and the even better 'Acquiring the Taste' (1971) with top notch song writing and playing; King of country-pop, Glen Campbell's The Glen Campbell Goodtime Album (1970), 'Try A Little Kindness' (1970) and 'The Last Time I Saw Her' (1971).



STANLEY JORDAN

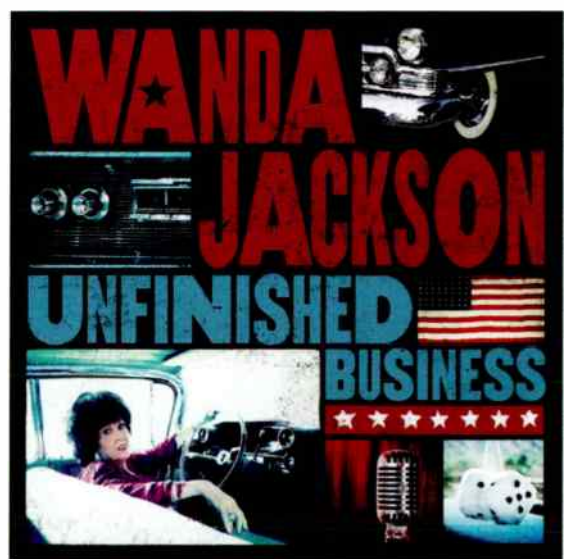
Magic Touch/Standards Volume 1/Flying Home
BGO

Jackson was one of America's first major female country and rockabilly singers, adding a certain style and panache to the genre with her bright stage costumes, adorned with frills and jewelry. Surrounded by music as a child she entered the music business after encouragement from her father who also bought her first guitar. Further support was given, of all people, by Elvis Presley who she met on her first tour. He supported her wish to sing rockabilly. From that moment on, she flip-flopped between the genre and country, having success in the USA and other parts of the world such as Japan and Germany.

This new album emerges from the wreckage of the over-enthusiastic, Jack White-inspired 'The Party Ain't Over'. This effort provides more space for Jackson to perform and project herself while her guitar playing provides enough phrasing to show that Jackson

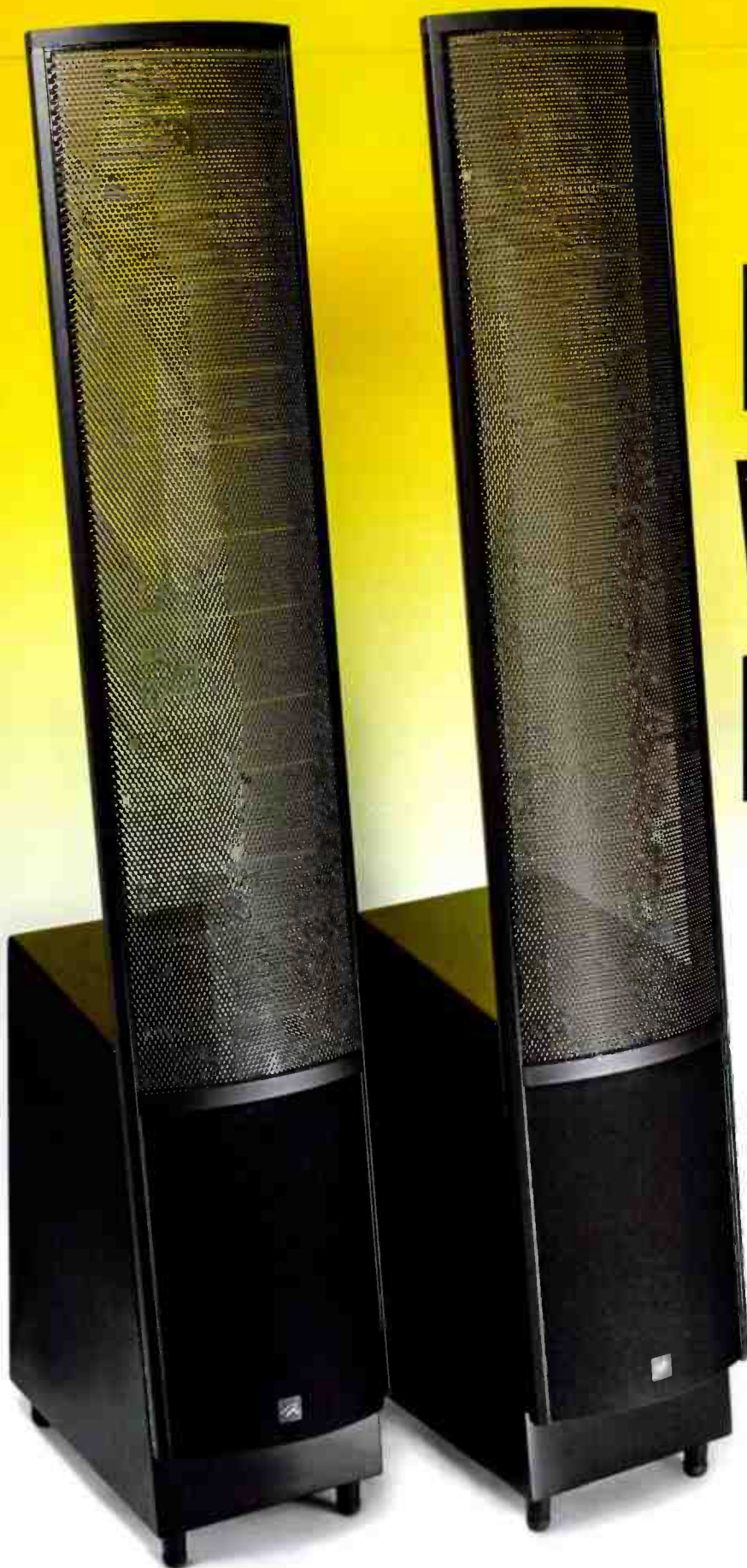
can hack it. Mixing rock'n'roll with old time country, Jackson shows that she has an assertiveness in her delivery that makes her performance both believable and tough. She does this right from the off. 'I'm Tore Down' shows a woman that you really don't want to mess with. Especially when it gets to the surprising cover, Bobby Womack's 'It's all Over Now'. Also, Jackson can 'do the dirge' effectively, 'Am I Even A Memory?' aches with emotion. This is more like it.

Also look out for more Americana, this month such as the third album from the Buffalo Girls 'Won't You Be Cruel To Be Kind' (Get Real), offering a roots-driven, old-country sound; Pearl, TN's 'Leave Me Alone' (Pearl) offering, what they call, "mountain pop music", a downtempo, easy on the ear album and the hot jazz and lamenting gypsy music of Hot Club Of Cowtown's 'Rendezvous In Rhythm' (Gold Strike).



WANDA JACKSON

Unfinished Business
Sugar Hill



Living With Motion

“Will Electromotions suit my system, home, life?” Noel Keywood lives with Martin Logan’s budget electrostatic loudspeakers to find out.

Our review of the Martin Logan Electromotion ESL loudspeaker, October 2011 issue, captured a lot of interest and continues to do so on our website. The chance of paying just £2500 for a hybrid electrostatic appeals to many people. In our review Alvin Gold succinctly captured the basic sound and strengths of the Electromotions, but the queries we receive about them concern matching, into the lounge, to the amplifier and such like. So I’ve been living with a pair to find out how they fare in everyday use.

For ‘everyday use’ I put the Electromotions into a hard working AV system in my lounge, driven by a Marantz SR8002 AV receiver. I wasn’t picky about positioning: they had to fit in, be run from a transistor amplifier and take everything thrown at them, including being used to carry TV and Blu-ray sound. They did also

spend time in a stereo system in another room, driven by my World Audio Design 300B valve amplifier, and they blossomed in this role, but for the most part I treated the Electromotions as everyday working loudspeakers to see what issues arose.

The Electromotions fitted my lounge surprisingly well. Although tall at 1.36m, their width of just 24cms limited visual intrusion and they sat either side of a 5ft wide chimney breast as if designed to be there. They are deep, rear cable protrusion making depth 46cms in all, but as the chimney breast is 37cms deep a lot of this was lost if the speakers were pushed against the wall. This position didn't do much for imaging but it removed the speakers from usable floor space yet retained their basic properties and strengths.

Because the electrostatic panel fires sound backwards as well as forwards, a close rear wall is not ideal but rear curtains or sound absorbing acoustic panels, such as

"the pay back is that when you get it right they are a breathtaking audio experience"

the StudioSpare Grey acoustic panel (£25 each, see www.studio-spares.com) can be used to suppress a lot of reflected sound. I chose a compromise, placing the electrostatic panel forward of the rear wall by 80 cms, well over half a wavelength of their lowest frequency (400Hz/42cms), and used a pair of rear acoustic panels that stand up against the wall.

This put the speakers 5ft apart, either side of a Samsung HD LED TV on the chimney breast. The black see-through metal grilles of the 'speakers' suited the TV's modern minimalism well, better than box loudspeakers; they appeared made for each other.

The Electromotions HD sound fully complemented the TV's clear HD picture I felt; the height of their stereo image even matched the height of the TV, for which 1m high floorstanders are a little low I've found. Being so high, the Electromotions produce a celestial sound stage from which singers sang

down at me – impressive.

We said in the original review the Electromotions have a 'lean' balance. Bass is clean and firm, but unintrusive.

The Electromotion is held above the floor on short feet, not spikes. The bass unit is reflex loaded by a port that fires downward.



This is not a bass heavy loudspeaker, and that's why it could be placed close to a rear wall, without inducing boominess. I feel electrostatics are best driven by a valve amplifier and the Electromotions sounded gorgeous with my WAD 300B, its

because the Electromotions actually over do it a little, because of some slight midrange lift. I heard everything, but there isn't a lot of warmth or body to the sound.

You may not want to hear everything Clarkson says, but the 'speakers' also brought deep analysis to the Dolby stereo sound track, complementing the TV's own bright, sharp rendition of a well produced programme. The BBC are now putting effort into video and audio quality, so although stereo is rare and surround-sound almost mythical, the pictures look good on current HD TVs and the sound track, much of it comprising dubbed-in music, the Electromotions showed to be of very good quality.

This was even more apparent with the sound track behind Professor Brian Cox, also in the southern U.S.A (Wonders of Life, BBC HD). The twanging strings of a guitar jumped at me with a finely honed sense of speed and precision that was attention grabbing.

Centre stage imaging was so good a Centre channel loudspeaker was not necessary, but Martin Logan make the EM-C2 for this purpose. They also make EM-FX2 as matching Surround speakers.

HD TV was made dramatic by the Electromotions. Their sense of lightning speed and razor sharp imaging you won't find elsewhere,

full bass complementing their lean nature, whilst the electrostatic panel revealed how silky and spacious 300B triodes are,

The story was a bit different on the Marantz receiver, which is clean and fast – but solid-state. The sense of air and space a valve amp brings was lost and the panel's strong output right up to 20kHz highlighted the receiver's incisive nature.

All the same, there was extraordinary revelation and hair trigger speed to fine events, made dramatic by stereo imaging few loudspeakers are able to approach. Watching Jeremy Clarkson and his crew drive three super-cars through America's South, little event details in the sound track like a hand drum being struck at far left, jumped out.

On speech intelligibility the Electromotions manage a score of 110%; I could hear absolutely every word and nuance with a sense of dry, forensic clarity. I say "110%"



A pair of spring loaded terminals grip bare wires or, with a push, 4mm banana plugs. Power for the XStat panel plugs into a small socket.



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except from ribbons. But ribbons have a fraction of the working range of this panel, so you miss out on the Electromotion's utterly breathtaking midband clarity.

Because the bass/midrange unit lacks prominence I was rarely aware of its contribution and this suited me. With Fleetwood Mac in 24/96 though bass was firm, fast and very supple. As Martin Logans get more expensive bass increases in prominence and panel dispersion improves too, but I was happy with the Electromotions in these areas. They perfectly matched settee / ear height, but if a moved down or stood up, the sound lost its high treble. The same happened if I walked around, but this doesn't worry me as I am not concentrating on listening when moving around. The more expensive XStat panels have better dispersion I recall, albeit at greater cost.

The Electromotions are sensitive so they don't need the power full-range electrostatic panels demand; around 40 Watts will do fine. As we said in the original review their low impedance of 1 Ohm at 20kHz – a feature of most electrostatics – is only a problem if you play music with a lot of treble really loud. Then, amplifier protection circuits may trip, or worse, depending upon the design of the amplifier. The speakers didn't make the Marantz protection relays even murmur, but then I don't play very loud. Nor do I play compressed MP3s that can also be troublesome because they contain strong treble.

Out of interest, I put 2.2 Ohm resistors in series with each loudspeaker to raise minimum impedance closer to a more common 4 Ohm value but this dulled upper treble strongly (-10dB at 20kHz), as expected because of falling impedance, resulting in a dark and lacklustre sound, even though the speakers still measured flat to 8kHz. Although series resistors also affect electrical damping, bass quality changed little in practice, because acoustic damping is strong.

So there are no quick fixes to low impedance, but it is unlikely to be a problem unless you turn up the wick using a low power transistor amplifier.

Quality wise, these 'speakers demand the best there is from

"little event details in the sound track, like a hand drum being struck at far left, jumped out"

amplifiers and a valve amplifier of good quality suits fine. Older transistor amplifiers – the one you've owned for ten years or bought from eBay – won't suddenly shine. Quite the reverse, their groggy midband and crude treble, ably disguised by a box loudspeaker, will suddenly be revealed. Electrostatics peer right



The front grill hides an 8in doped fibre cone bass unit.

into everything, so as I listened to those HD TV programmes, I was made aware of changing environments the microphones were detecting and could tell, without looking, when Brian Cox walked into a shed that he'd done so from the reverberation. These are horribly insightful loudspeakers, like no other, that don't flatter mediocre transistor amplifiers by pulling their limitations out into the open. The pay back is that when you get it right they are a breathtaking audio experience, like no other. A good modern amplifier costing £1000-£2000 will suit.

It isn't just amplifiers they find wanting. CDs suffered too. Fleetwood Mac's 'Monday Morning' sounded horribly coarse, shaky and dated;

no wonder we all disliked CD; the Electromotions showed me why. Jumping up and putting on Rumours, in 24/96 on DVD-A, had Dreams sounding stable and clear in front of me, the sound stage elevated and images solid, stable and free of ambiguity. The Electromotions made dramatic the difference between early CD and high resolution digital.

Classical music fared no better. Teldec digital recordings made in the 1990s of Wagner shrieked, but switching to a recent 24/192 of Percy Grainger playing Greig's Piano Concerto, from 2L on Norway, again brought in a solid and stable quality, the performance wrought large across the end of my lounge.

With these loudspeakers you hear everything, warts and all, painted up on a big, wide sound stage between the loudspeakers. Their extended treble helps highlight digital nasties, spotlighting old recordings in rude fashion. The absence of crossover between drive units makes for a very even, consistent sound free from phase problems.

Using Electromotion ESLs in my lounge for a few weeks reminded me how dramatic electrostatics can be. I've only owned Quads in the past. For some reason, I have never taken home KingSound or Martin Logan electrostatics, both of which I really like. Now, having found how living-room friendly Martin Logans are, how they make HD TV sound dramatic and how ruthlessly revealing they are, especially to poor digital, I am more than impressed. They may not be perfect – the light tonal balance won't appeal to everyone – but otherwise there's little to argue against here; for £2500 this is an amazing loudspeaker, way ahead of most others at the price. Living with Electromotions is a good thing to do, I'd say!

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HI-FI World, February 2013

"I have a feeling of greater involvement and intimacy"



Tony Bolton

It is one of those strange facts of life that no sooner do you think that you have solved a problem, then another arises to take its place. Over the last few months I have endeavored to get some order into my LPs, with the acquisition of more record shelves and a huge sort through of my records. This level of order and neatness, and a self imposed ban on buying records, lasted for all of two months before I bought a collection of mostly classical records at our local auction for the princely sum of £1.

When I rearranged my records on the new shelves, I tried to build as much slack into the spacing as I could, knowing that I would end up being tempted into buying more records at some point. I just wasn't expecting to get such a large batch in at once.

A few discs, which duplicated recordings that I already have, went straight into the out pile, and I spent quite a lot of the Christmas period playing through the others to see which ones I wanted to keep. In the end I managed to reduce the "to keep" pile to a level that would fit into the gaps left on the shelves, but it also set me thinking about ways of reorganising the room to accommodate future purchases.

My upstairs listening room is about 11 feet long and 8 1/2 feet wide with cupboards built into the left hand recess beside a blocked up fireplace, and shelves full of LPs and 78s in the other alcove. The door is on the right-hand-side of one of the shorter walls, with the window opposite.

Behind the door are shelves fixed to the wall that house more LPs, singles and the hi-fi, which is mounted on Target wall shelves. The right side of the room has a bookcase and the new free-standing

record shelves along it. The Kelly KT3 loudspeakers, on polished granite plinths, stand about three feet in from the window, firing the length of the room.

Seating is provided by a futon, folded up as a sofa, which sits a few feet in front of the record shelves. One unusual feature, which works wonders sonically, are shelves mounted above the picture rail, going all of the way around the room, with books stacked to the ceiling on them. The result is a room that has very little reverb, and that gives a very focussed sound to the system. Imaging is excellent and the bass is fast and clean. The granite plinths stop the floor acting as a sounding board, and go a long way to stopping the bass thrumming through the rest of the house.

I spent a few hours planning the furniture and system layout to create more potential record storage space, but in a way that would also maintain, or improve on the sound that I am used to. Over the years I have tried most orientations of the room, and some years ago settled on the current arrangement as providing a good combination of practicality and sound quality. Since then, some of the furniture has changed, and the recent rewire of the house, with additional power sockets being fitted, has left me with a wider choice of positions where things can be placed and plugged in.

So I set to work rotating the seating, side tables, record boxes and loudspeakers 90 degrees clockwise. I have run the speaker cables across the top of the door frame, supported by cup hooks, then down the frame and along the right side of the room behind the bookcase and new record shelves, without having to get involved in the hard work of emptying and

moving them. The futon is the exact width of the chimney breast that it now sits in front of, so I have been able to get the speakers quite neatly centred in the room, with similarly sized free space to either side of the cabinets. Previously the left one was a lot closer to some furniture, so I had several cushions placed behind it to help prevent a sort of echo chamber effect occurring behind it.

The new layout seems to have no such problems. Although the speakers have only a little space behind them, the record shelves seem to be effective in breaking up any potential booms or echoes, but allow the bass to breathe a bit better. The most noticeable change has been in the presentation of the soundstage.

With my normal set up of Sondek, Luxman E200 phonostage, Njoie Tjoeb 4000 Reference CD player, TAP-X passive pre-amp and two Quad 303 power amps, the previous layout gave me the impression of sitting on a level with the performance, a few rows back in an auditorium. The staging area extended a couple of feet in front of the speakers and quite a long way back, with the sensation that the width reached about a foot either side of the cabinets.

This new layout has resulted in a far wider soundstage, with a lead singer seeming to be standing only a few feet away from me, and a greater sensation of depth and spaciousness when playing orchestral music. So far I have found no sonic drawbacks with this layout, and I have a feeling of greater involvement and intimacy with the performance that I am listening to. I have also managed to create another few feet of space to house more record boxes, so, overall, a satisfactory result all round. ●

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"The closure of HMV sends a cold shiver down my spine"



Noel Keywood

Oh no! They're going to close 'my' HMV in Bayswater, an area of London close to me. I have just seen this small branch on a closure list released by the administrators. For years I've enjoyed popping in and checking out racks of CDs, DVDs and Blu-rays on Saturday and I'm pleased to say I bought plenty there too: CDs and Blu-rays in particular.

But as its product range broadened, my purchases slackened. LPs never appeared in this store, as they did in Oxford Street, and the gadgets and tee-shirts were of no interest to me. High quality audio Blu-rays, another product that would have interested me, didn't appear either. In the end, this store in Whiteleys shopping centre couldn't tempt the pound from my pocket and when I think about it, that's what I wanted it to do: wow me with something I wanted to buy.

Looking for more, I'd jump onto the Bakerloo line at Warwick Avenue and head for Oxford Circus, to the giant Oxford street store, but this was getting ever sadder to visit. A few months back the long racks of CDs that once attracted crowds of browsers formed aisles that stood almost empty; no one was looking anymore. LPs had gone this way and that at the back of the store, latest albums appearing alongside CD at the front in a prime position, but otherwise it was obvious that this store had no understanding of the LP or its customers. I'd occasionally walk out with £80-£200 worth, meaning not many, but it was hard work to spend this money with HMV, where it should have been easy and enjoyable.

In effect the floors were dedicated to low margin tat on CD whilst premium product languished. LP box sets were to be found at the

Trocadero branch near Piccadilly Circus, but having once lived in Soho – for a very short time – I shudder to go near the area. Think prostitutes and pigeons!

CD sales are declining and the medium has had its day, undermining HMV's core business. At a 'Meet the Editors' discussion at the Whittlebury hi-fi show I was intrigued to find that a lot of people there had moved on from CD and were downloading music, increasingly from Spotify it seems, and were buying and playing LP as well. There was little interest or regard for CD. Do I sense a subconscious rejection mechanism at work? Did CD never really satisfy or convince? Are people drifting away for better, I would say more satisfying alternatives, even though CD at its best is usable, even half decent?

Many newspapers recently picked up on the fact that LP sales again increased last year, albeit by a small amount from a small base, but the growth is there and the interest these days comes less from DJs, and more from audiophiles. It seems that "rich audiophiles" are driving prices up past anything the man in the street wishes to afford. We are talking about LPs costing £30, and box sets costing up to £300 here.

Ironically, I well remember as an engineering student that I couldn't really afford 30 bob for a new Beatles LP; in their time LPs were fiercely expensive to the impecunious like me, and they are so again. But I have to admit to buying super pimped-up box sets irrespective of price and they can be extraordinary; their quality is often breathtaking.

It isn't just collection-building audiophiles like me who appreciate the LP though. LP is now being seen by young buyers as an original and authentic music carrier, because so much amazing music has been stored

on it. Slowly, all those music industry people and artists who pooh-pooed audiophiles who clung to their LPs as Luddites are themselves now seeing and declaring LP to be the only authentic delivery medium.

I'm bemused, to say the least. At last – now they get it! Not only does the LP sound wonderful, but you cannot easily divorce a performance from the context in which it was originally enjoyed by the user. The LP was part of the listening experience: it is easy to handle, easy to use and offered a deeply satisfying and emotive experience.

Then there was the cover art, and finally of course the LP library that you stood in front of, searched and could sometimes journey through, in long late-night listening sessions as one performance led to the next. Try that with a cramped, illegible Media Player menu screen with its miserable blurry text, obscure tree-structure lists of scrolling titles. Ugh!

The closure of HMV sends a cold shiver down my spine. I suddenly realise that I've visited record shops all my life and enjoyed it. I can remember moments like hearing Ball & Chain coming from a store on Wardour Street, London, diving inside and buying the album in excitement and anticipation. I did the same upon hearing Renee Fleming at the Whiteley's store, Bayswater, London.

Not being able to have such experiences any more, not having any record store to visit in hope and expectation is a loss I never thought I'd experience. Buying on-line for a few bob less is no substitute for me, even though Amazon's vast stock and low prices are clinchers. Looks like I'll have to brave the prostitutes and pigeons from now on and use the Trocadero HMV instead, whilst it remains open. Oh shame! ●



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Baby driver

French driver manufacturer Atohm has launched its own range of loudspeakers – and they make a rather tempting proposition, says Jon Myles.

Atohm may be a new name to many readers – but the company already has a significant presence in its native France.

Headed by former Triangle Technical Director Thierry Comte, Atohm is one of France's premier suppliers of OEM drive units to other speaker manufacturers. Customers include the likes of Thierry's former employers Triangle as well as Elipson and Waterfall.

Now Atohm is going it alone

with its own series of loudspeakers – of which the GT 1.0 is the smallest of the top-of-the-range models.

At present the company has no UK distributor – but that may alter in the future and if the Atohm GT 1.0s are anything to go by the sooner the better.

Of course, producing a good loudspeaker takes more than simply fitting some decent drive units into a box. But unpacking the little Atohms (which come nicely sheathed in a two-piece cloth bag) immediately

gives the impression that some serious engineering work has gone on here.

The review samples came finished in a fetching rich gloss black and are weighty units for their size. The cabinets are elegantly curved from front to back to reduce internal standing waves and Atohm provides a choice of two baffles – one a full-sized grille covering most of the fascia with an alternative circular option which simply fits over the 153mm mid/woofer.

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Both the bass unit and the 28mm soft-dome tweeter come from Atohm's Absolute series – which is the best the company makes. The latter is housed in a dimpled surround designed to improve off-axis dispersion.

Atohm specifies the response as 45Hz to 30kHz with the crossover between the drivers quoted as being at 2.5kHz. The rear-ported cabinet carries good-quality binding posts situated just below a large rotary knob which allows tweeter level trimming of ± 1 dB for fine-tuning to room acoustics or your personal preference (of which more later).

SOUND QUALITY

Make no mistake, good as the Atohms look their beauty is a lot more than skin-deep. Placed on a pair of sturdy stands and hooked up to a Naim SuperNait they impressed immediately. An 87dB sensitivity means they don't demand massive reserves of power to go loud – which is good as the GT 1.0s' innate smoothness and sense of detail just begs you to turn up the volume.

Small stand-mount speakers have a habit of projecting images well but the GTs seemed to do it better than most. The soundstage is placed just forward of the speaker plane and remarkably expansive. I closed my eyes and believed I was listening to a rather larger pair of transducers.

The quality of the drive units shines through from the outset. It comes in a refined sense of detail and speed which belies the Atohms' size. Bass is strong and firm and mids and highs impeccably clear.

Well-recorded material such as Eleanor McEvoy's 'Yola' play to the these loudspeakers' strengths. There's a natural flow to the music and the feeling you are getting as much from the track as is possible.

Plucked guitar sounds real and those little dynamic contrasts really do come over exceptionally well.

Vocals are particularly well-projected, seeming to float free of the speakers at all times. Elizabeth Fraser's rendition of 'Song To The Siren' from This Mortal Coil's *Dust And Guitars* was enough to send shivers down my spine. So much so it was tempting to push the Atohms just a little too loud where they did display a slight hint of boxiness. But that's only to be expected with a speaker of this size – and, yes, it was way too loud!

Experimenting with the three-

step treble control on the back of the cabinet gave an obvious lift in brightness. It seemed much better left at its lowest setting to avoid a feeling of excessive brightness but much will depend on overall taste and room acoustics.

Away from that, where the Atohms do impress is their ability to unravel complex music. The Bournemouth Symphony Orchestra's rendering of Philip Glass's 'Heroes Symphony' was projected with superb tonality and finesse. It's easy to track individual instruments with no sense that one part of the music is overwhelming another.

Switching to Bruce Springsteen's 'Land Of Hope And Dreams' and the brief, delicately picked banjo at the start of the track becomes a distinctive detail – one that is often glossed over by lesser loudspeakers. It is exactly those sort of details that make music come alive and the Atohms have a knack of revealing them time and again on even the most familiar of recordings.

Bass is also fairly strong for the size. Peter Hook's trademark fretwork on New Order's 'Power, Corruption & Lies' came across in all its thumping glory.

No, you won't get subsonics but what low-level information is there is well-rendered and tuneful avoiding any sense of that dreaded one-tone thump.

Admittedly, play something like the Chemical Brothers' 'Block Rocking Beats' or Keith Jarrett's recently-released and sublime *Hymns/Spheres* outing on a Baroque pipe organ and you won't get the full effect. But the GT 1.0s are not designed for that and Atohm has larger models in its range to cater for bigger rooms.

What they do provide, however, is a range of detail, sophistication and smoothness which shows just how much work has gone into the drivers and cabinet.

CONCLUSION

Atohm has produced a fine-sounding little speaker in the GT 1.0. Delicate detail and tonal colour are all handled superbly – whether it be from rock, jazz, classical or anything else you care to throw at it.

What's more it conveys a soundstage that really does belie its size and consistently surprised me with its dynamics.

As an entry-point to Atohm's GT range it bodes well for the other models. I hope they manage to find wider distribution in the UK market sometime soon, but Atohm will supply direct..



MEASURED PERFORMANCE

The Atohm GT 1.0 has a smooth frequency response, a slight lift around 1.5kHz being just enough to ensure it projects vocals well. Treble rises above 4kHz even with the three-step treble

FREQUENCY RESPONSE

Green - driver output

Red - port output



IMPEDANCE



control turned to minimum, our analysis shows, so the GT 1.0 will sound a little bright. Turning the control to maximum lifted treble strongly, enough to make the GT 1.0 obviously bright. The port peaks at 40Hz and will add lively bass, output measuring +5dB up at 80Hz, a fairly typical value.

A 200mS decay analysis shows the Atohm is relatively uncoloured although there are overhangs at 180Hz and 70Hz and the cabinet is a little 'hot' at these frequencies so some tubbiness or cabinet effect may be apparent.

Sensitivity was high for a small loudspeaker, measuring 87dB so the GT 1.0 will go loud with little power, suiting amplifiers of 40 Watts or more. Impedance measured 6 Ohms overall and the impedance curve hovers around 4 Ohms minimum, aiding sensitivity.

The GT 1.0 is neatly engineered, with no weaknesses. It will have a bright balance, likely energetic bass but no subsonics. **NK**

ATOHM GT 1.0 LOUDSPEAKER 2,500 [EUROS]



VERDICT

An impressive debut from this French manufacturer. The GT 1.0 is a well-built loudspeaker which sounds exceptionally smooth and detailed.

FOR

- large sound for its size
- impressive build quality

AGAINST

- no subsonic bass
- lack of a UK distributor
- strong treble

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Signed, sealed and delivered

Tony Bolton gets in a spin with the new entry level turntable from Acoustic Signature.

Acoustic Signature have been making turntables for 15 years in their factory in Eislingen, to the East of Stuttgart in Southern Germany. The UK range, distributed by Air Audio, consists of six decks, starting with this model, the Ecco, priced at £1000 without an arm. The top of the range is the £18,000 Ascona.

This entry level deck is quite substantial, with a 50mm thick MDF plinth that is finished in matt black spray paint (a piano gloss version is also available for £400 more). The front is gently curved and chamfered across the top edge, which results in a pleasingly understated look to the turntable. On top of the plinth sits a solid machined aluminium platter that is 24mm thick and weighs 4.3 kg.

The underside of this is coated with a resonance reducing material which seemed quite effective when I gave it a sharp rap with my knuckles. Instead of the usual ringing from a metal platter there was just a dull thunk.

This platter contains the hardened and polished steel shaft of the bearing assembly. It rests in a housing that uses sintered bronze inserts which are claimed to be self-

lubricating. The base of the bearing is coated in a proprietary material called Tidorfolon. This was specially developed by Acoustic Signature and consists of a combination of vanadium, ferrite, Teflon and titanium. It is designed to run dry. The bearing carries a ten year guarantee.

The motor passes through a hole in the back lefthand side of the plinth where it drives the square section drive belt that fits around the outside of the platter. Power for this is provided by the Alpha-S power supply unit. This uses a crystal quartz oscillator to regenerate a perfect sine wave to ensure that the rotation of the platter is as smooth as possible. Speed change is controlled by a switch on the front of the rather neat brushed alloy fascia, as is the on/off function.

The deck is designed to accept any Rega tonearm, or any arm based on that design and geometry. The decks usually leave the factory with a Rega arm fitted, however customers can specify their own choice of arm. The review sample was fitted with an Origin Live Silver arm (see box-out for more details).



Setting up the deck was pretty easy, although I

The 24V AC motor is encased in a heavy alloy casing. It has non slip feet underneath.

would advise reading the instructions for the Origin Live arm, since a couple of points, such as the very small hex-bolt used to secure the anti-skate weight support, are not immediately obvious.

I started off playing the Fun Lovin' Criminals first LP from 1996. The opening track, 'The Fun Lovin' Criminal' opens with the beat described on a guitar, which is then joined by the rest of the band. The sound was quite sprightly and immediately got my feet tapping away. The rhythm of this track is very hip-hop flavoured and the Acoustic Signature seemed to do quite a good job in reproducing the

bounce in the beat.

However, I did feel that there was a slight lack of attack to the leading edges of it. I suspected the rather thin and flimsy felt mat that is supplied with this deck of possibly being the culprit, so put a couple of pieces of double sided sticky tape between the platter and the mat. This had the effect of adding a little more impact to the beat and making it feel a bit tighter and snappier.

I also tried an Origin Live Platter mat (£39.95) which is about the same thickness as the felt one, and found major improvements in

“this had the effect of adding a little more impact to the beat and making it feel a bit tighter and snappier.”

every aspect of the sound, from bass depth through to separation of the instruments. It was a very worthwhile upgrade, and if I was buying one of these decks then I would budget for this as well. I returned to the standard felt mat, taped to the platter, for the rest of my listening.

Later that evening I found myself lost in other complex rhythms, this time from Latin America. The bass and conga drums of 'Shirley's Guaguanche' had a very persuasive swing to them. The flute, and doubled up vibes and pianos appeared in front of me,

The large bearing housing, counterweight and stub are Origin Live's development of the original Rega design.



The motor can be seen in the far corner of the deck. It passes through a hole in the plinth and is free standing.

sitting squarely between the speakers. It appeared to my ears to be a well defined soundstage, with the left and right edges very firmly marked out. Some decks allow the sound to fade into the shadows, but this one gave the impression of a firm cut off between the stage lighting and the inky blackness beyond.

The next day was spent playing classical sounds starting with Berlioz's 'Le Corsaire' Overture. I found the LSO neatly framed and well described, although I did feel that there was a very slight tendency for the strings to be a little too obvious on occasion. It was nothing major, but I found myself having another fiddle with the arm set up to see if I could tune it out.

In the end I swapped to the Clearaudio Concept MC cartridge which normally resides on the Sondek. This has a slightly richer tonality than the Ace, but even after this change I still felt that the string sound of this and other LPs was not quite as well balanced as the rest of

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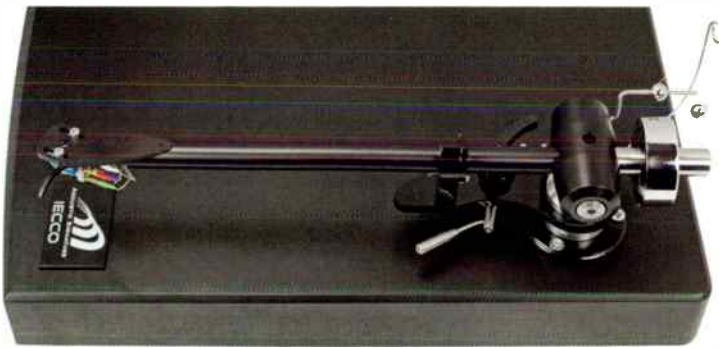
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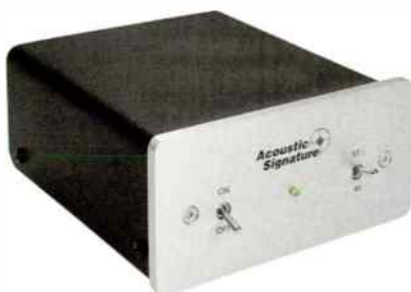
Origin Live fit an aircraft grade, alloy arm tube and head-shell which are considerably stiffer than the original components

the sounds that I was listening to.

I finished the evening with Chopin's Nocturnes and Etudes. The piano sound was very good, with no undignified wobbles to the notes. As the record played I realised that this deck had a very subtle way of imparting emotion. I had, up to this point, been thinking that this was a Four Globe review. I liked the deck and arm combination, but had felt while it did wonderful things with rhythms, and produced a wide tonal spectrum in a very detailed and generally accurate way, that it was a bit more emotionally reserved than I like to hear.

This record altered that perception. By the third track, 'Nocturne No. 2 in E flat major', I realised that I had been drawn into the music, rather than listening to, and analysing the sound. I was relaxed, and instead of focussing the direction of my attention, it was being naturally drawn to the music.

With some decks, such as the Linn Sondek LPI2, this is an obvious part of their appeal, but with this one, the immediate appeal is more beat and image driven. The emotional aspects of music are dealt with in a less obvious, rather more understated way, which will hold a lot



The Alpha-S quartz crystal regenerative power supply unit

of appeal to some listeners. So with this combination of timing, imaging and a dignified emotional presence, I decided that it was good enough to

receive Five Globes.

The finish and presentation are very good with one exception. I did not like the rather clumsy looking countersunk screws securing the arm.

SYSTEM USED:

Benz Micro Ace L and Clearaudio Concept MC cartridges. Luxman E200 phono stage. Townshend Allegri passive pre-amp 2 x Quad 303 power amps Kelly KT3 loudspeakers.

ORIGIN LIVE SILVER ARM

The Silver arm, from Southampton based manufacturer Origin Live (www.originlive.com) retails at £675. It uses the standard Rega fitting and shares its geometry with all Rega 9-inch arms. Origin Live first introduced this arm in 2002 and now offer the Silver in Mk 3A form. The specification includes an arm tube that is made from aircraft grade alloy and Origin Live's own design of stub for the counterweight. This is fitted into the arm by a thin, high tensile bolt. The shape of the stub reduces the contact area with the back of the arm tube, thus causing it to be better decoupled, and, at the same, more rigid than the standard Rega fitment.

The arm bearings are Origin Live's own, with low friction bearings mounted inside a floating bearing housing. The internal wiring consists of Litz cable and the phono plugs at the other end are what is described as "high conductivity RCA plugs".

Other improvements over the conventional Rega unit include an integrated VTA adjuster fitted to the shaft below the bearing housing.

MEASURED PERFORMANCE

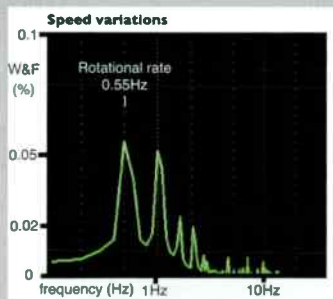
The Acoustic Signature held basic speed very well, producing a steady 3165Hz reading from our Wow&Flutter meter that

moved by a few Hz over one hour. That's a lack of speed drift other turntables would be proud of. As the tone is meant to be 3150Hz the platter ran +0.5% fast, a small error as belt drives go. With this basic stability came low Wow, measuring 0.2%. Flutter was low as well, giving an overall total weighted value of 0.15% — good if not up to Direct Drive that can manage around 0.08%. Piano should sound reasonably stable though, not too "swimmy" of tone, and hold stable pitch too.

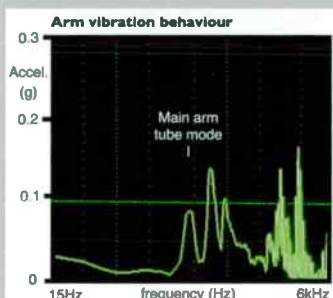
The Origin Live arm was stiff and should give both firm bass and stable imaging. There is some activity in the midband, due to a break up mode, but this is relatively well suppressed.

Both the turntable and the arm manage a tidy, modern performance and together should turn in good sound quality from LP. **NK**

SPEED VARIATIONS



ARM VIBRATION



Wow	0.2%
Flutter	0.05%
W&F, DIN Wtd	0.15%
Speed	+0.5% fast

MUSIC USED:

Berlioz. 'Berlioz Overtures'. London Symphony Orchestra conducted by Andre Previn. EMI Records Ltd. ASD 3212. 1976.

John Ogden 'Plays Popular Chopin'. EMI Records Ltd. HQS 1189. 1969.

Various Artists. 'Latin Jazz Dance Classics Volume 2'. Cubop/Ubiquity Recordings Ltd. CBLP 010. 1997.

Fun Lovin' Criminals. 'Come Find Yourself'. EMI Records Ltd/Chrysalis. CHR 6113/7243 B 37566 1 2. 1996.

ACOUSTIC SIGNATURE ECCO! £1000 (WITH ORIGIN LIVE SILVER ARM £1675)



VERDICT

Precise and level-headed sounding entry-level turntable from Germany.

FOR

- excellent sense of rhythm.
- precise soundstage.
- subtle emotional presence.

AGAINST

- odd choice of arm mounting screws
- very occasional firmness to string sound

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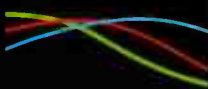
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AUDIO SUSPENSION – ASU100 TURNTABLE SHELF £240

You can spend whatever you like on a turntable – but unless you pay some attention to its set-up and mounting the likelihood is you'll never hear it at its best.

There's no end of companies aiming to sell you the right gear to get this just right and the latest is Brighton-based Audio Suspension. So what's new? Well, the company have clearly put some effort into their design. It's a wall-mount design based around a 20mm clear acrylic shelf which is held onto the wall with two polished steel chrome supports. What's more these supports are aided by silicone rubber inserts to help dampen vibrations. Completing the whole package are two steel wire cables secured by wall supports to ensure stability.

It can all seem a little intricate – but the quality of materials are superb. Audio Support have obviously not skimped on the time and effort put into sourcing the right parts for the job.

And because of that you do have to spend some time getting everything

right. It's not quite a fit-and-forget piece of kit. Instead you really do have to spend some time ensuring set-up and levelling are correct. And then go back, do it again, listen and perhaps do it again.

But once there the Audio Suspension does give a remarkably good sound for the price.

Proudly placed in my living room with a Rega RP3 turntable in situ and the Audio Suspension did seem to do exactly what was asked of it. That acrylic shelf definitely lowers the noise floor and heightens clarity.

It's a subtle difference but all the more impressive for that. The shadings in Arvo Part's 'Tabula Rasa' were just a little bit more pronounced. The delicious vocals in Nick Cave's 'Curse of Millhaven' had a rather more visceral thrill.

Moving the Rega away from the Audio Suspension and back to its usual place revealed just what the shelf was doing. Yes, it is adding a great deal – allowing the turntable to do its job to a much better effect.

And once you get into the hi-fi world

of small details that can be quite important.

Audio Suspension also suggest trying its shelf under other pieces of equipment so I gave it a go. Interestingly, a Rega Apollo-R CD sounded fuller, heftier and more detailed. A Naim CD5i sounded exactly the same as usual.

But away from that there was no doubt the Audio Suspension made a clear difference to the sound of the Rega RP3.

If it has one fault, it's that as good as it looks on the wall as soon as you plug in all your wires things don't look quite so dandy. In fact they can look quite ugly. But then you can always route them through the wall. And then we are getting onto a lot more expense.

But, given the Audio Suspension's price, sonic benefits and quality of manufacture it is seriously impressive. Actually, more than impressive.

But you'll still have to factor in the look and whether it suits your home. If it does then I'd recommend it.

www.audiosuspension.com



SOUNDBITES



Tony Bolton tries out a new phonostage that can trace part of its design back to weather satellites.

A Step in Time

One of the interesting things about some audio equipment is the unusual route that technology can take from its initial implementation, through to its usage within the audio field. In the case of the Timestep T-01 MC phonostage it is the use of low noise circuitry and power supplies that were developed by the company to improve the reception of signals from weather satellites.

Timesteps are more recently known in the audio field as developers and manufacturers of power supply units for the Technics SL1200 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.

After switching on, the instructions advise that the unit is given two minutes to warm up. After then it reaches full performance within about 20 minutes. They also suggest that the running in period will take up to two weeks. I didn't get to complete that entirely, but I feel that the performance had settled down and matured enough that I was



The Ground Lift switch in the centre disconnects the internal circuitry from the earth, but maintains the chassis connection to earth at all times.

probably 95% of the way there.

I spent the first evening's listening playing a mixture of jazz and pop, blending into electronica.

Fed with a modern, well recorded disc, like Shpong's 2009 release 'Ineffable Mysteries Of Shpongland', I found the T-01 MC got into the groove and provided me with a spacious and well defined presentation of the music. The music ranges from live flute and haunting female vocals through to quite pounding rhythms. The sound was big, which suited the production values of the album, without seeming to be overblown.

I was impressed by the very quiet background to everything I played. This was not just the absence of hum, even with the amp turned up high, but the almost complete lack of anything resembling surface noise, unless it was really provoked by a well played record. My recently acquired copy of 'Humph At the Conway' is in pretty good nick despite its 59 years on the planet, but I would normally use a mono cartridge, or set the phonostage to mono, to obtain this level of background quietness. Scratches were equally suppressed, which Dave tells me is down to a complete lack of feedback in the circuit, and very generous headroom for peaks on the signal.

It works effectively and I was able to enjoy a live performance taking place in front of me. I found myself focussing on the subtle details that create the ambience of the building, and the movement of people that adds that little sprinkle of realism to sound.

Over the next few days I explored my record collection through the Timestep, and found my respect for this unit increasing with each disc. It behaved well with the driving finale of Beethoven's 'Egmont Overture', avoiding the feeling of compression on the crescendoes that some affordable phonostage suffer from when playing large scale classical pieces. It was also able to provide the delicacy of touch needed to make Claudio Arrau's performance of the 'Sonata Pathetique' sound thoughtful and considered.

I briefly tried it with the Goldring Legacy cartridge, whose very low output can be a problem for some phonostages. I found that the Timestep's very low noise levels allowed the cartridge to perform well



Power runs from the custom wound toroidal transformer on the right, into the power supply section at the top of the PCB. Below, to left and right, are the two discrete channels of the phonostage.

without any background hiss or hum interfering with the music.

Priced at £995, this phonostage has to be something of an audiophile bargain. It offers a level of performance that, in my experience, usually costs a lot more to obtain. I have encountered bigger soundstages and deeper bass from other units, but rarely combined with a very musical soul that doesn't fight shy of transmitting the emotional integrity of the music played through it. Some phonostages can offer very descriptive sound, but lack the emotional connection with the listener. This manages both.

If you are looking for a well thought out phonostage, that is a plug-in-and-play solution, works with a variety of cartridges, and has a very musical heart, then look no further. It plays elderly records in a way that belies their age, and seems capable of playing all of the musical styles that I tried on it. In short, it is excellent.

SYSTEM USED:

Clearaudio Master Solution turntable/ Universal 12 inch arm/ Benz Wood SL cartridge. Goldring Legacy cartridge. Leema Acoustics Tucana II amplifier. Chario Ursa Major loudspeakers.

MUSIC USED:

Various Artists. 'The World Of Beethoven'. Philips Records. CXL15001. 1970.

Humphrey Lyttelton and His Band. 'Humph At The Conway' Parlophone Records. PMC 1012. 1954

Shpong. 'Ineffable Mysteries Of Shpongland'. Twisted Records. TWSLP36. 2009.

MEASURED PERFORMANCE

The T-01MC has a gain of x1982 or 64dB, which is as expected for a moving coil (MC) phono stage. A cartridge producing around 0.1mV at normal music levels will be amplified up to 200mV and that is just enough to drive a sensitive

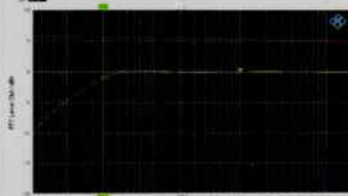
amplifier (200mV input sensitivity) to full output at maximum volume. The output will swing 10V, a healthy amount, putting input overload at 5mV, high enough for most MCs.

Equalisation was accurate, our analysis shows, and a warp filter included. It lifts bass a trifle (0.2dB) around 60Hz and rolls down below 26Hz at 6dB per octave, suppressing warps around 5Hz by -8dB. This is enough to suppress loudspeaker cone flap.

Equivalent input noise was low at 0.1µV and suitable for low output cartridges. Distortion was inevitably higher than a chip-based circuit because of fewer devices, lower open loop gain and lower feedback than a chip-based solution, which most phono stages are.

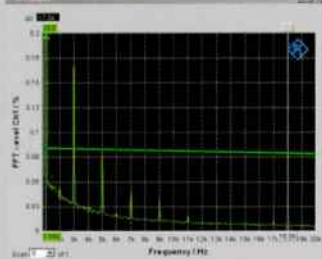
The T-01MC produced a good set of figures all round for a moving coil phono stage, especially for a discrete transistor amplifier. **NK**

FREQUENCY RESPONSE



DISTORTION

THD @ 1kHz	1.9036V	1000.3Hz
0.2731 %	OFF	OFF



Frequency response	26Hz-20kHz
Separation	88dB
Noise (e.i.n.)	0.1µV
Distortion	0.27%
Gain	x1984 (66dB)
Overload	5mV in / 10V out

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AGAINST
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Another phase

Haden Boardman investigates the circuits of Leak TL12+ and Stereo 20, offering a modified circuit to help transform these and many other Mullard EL84 based valve amplifiers.



Stereo 20's both needed mains transformers.

Although there are quite a lot of Leak Stereo 20s and TL12+ amplifiers out there, it has to be said the stock circuit, and therefore stock sound is frankly, well a bit rubbish. Admittedly it is much better than the bigger TL25+, TL50+, and the Stereo 50/60. Steven Spicer's book 'Firsts in High Fidelity (AAP 2000) covers the Leak history, and I won't regurgitate it here. We will concentrate on the high fidelity!

Technically, all Leak valve amplifiers can be traced back to the original – and ultra rare – Point One named for its impressive post WWII 0.1% distortion rating amplifier, through to the more famous TL 12 Point One (Triple Loop Feedback – 12 watts). Both used push-pull Class A, triode-connected, KT66 tetrodes as output valves. The TL12

uses a single, octal based EF37A pentode valve for main gain / drive, followed by an ECC32 octal based twin triode as a phase splitter, and a GZ32 for power supply, high tension rectification.

Both have a substantial choke power supply, and are very well constructed on solid, heavy steel chassis. The "TL" bit stands for triple loop feedback: main feedback from the sixteen ohm loudspeaker terminal to the cathode of the EF37A is joined by localised feedback around the ECC32 phase splitter, along with triode

connected output valves, resulting in 0.1% distortion.

However, by modern standards, I have yet to find a Leak TL 12 Point One that actually manages this!

Next model along was the sweet little TL10, 10 Watts yes, but the



TL12+ rescued from scrap.



Famous 3 watt resistor - do not increase the value.

Point One rating was only for the first five watts of output, not the ten offered by the pair of push-pull KT61 tetrode output valves biased in class AB1. The driver valve is now 'B9A' based glass miniature, in the form of an EF86 pentode, and retains the 'octal' based double triode of the earlier Leak amps. Chassis is smaller, as is power supply, and of course so was the price.

The TL12+ replaced the TL10. It had more substantial transformers, same basic drive circuit, but ECC81 B9A double triode as phase splitter, and the more efficient EL84 output pentode valves.

The Stereo 20 model followed,

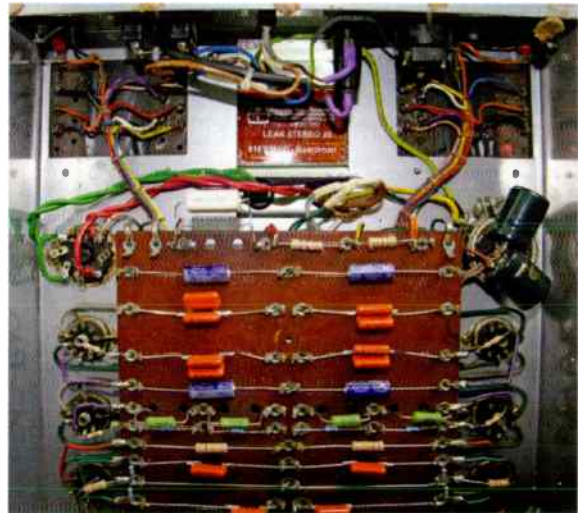
this time replacing the small signal tubes with three ECC83 dual triodes, one dual triode for main voltage gain left and right channels, and one for phase splitting on each channel. Power supply rectification upgraded the GZ32 to a GZ34.

So what is the Achilles heal, and why are the bigger models worse? I am not sure what happened in the 1950's austerity measures, but there was a wild obsession with sensitivity in addition to getting distortion down. In stock form, a TL12+ only requires 0.085 V (85mV) for full output. The cure all at the time was the use of feedback. Feedback is needed, and it is not a bad thing, but

reading some texts from the era, feedback took care of all and every problem: hum in the power supply, phase splitter imbalance, noise, lower output impedance, etc.

Of course it does help these problems, but surely the amp would be better if it worked well without the application first? Lowering output impedance, and thereby raising 'damping factor' is very important. Even a valve amplifier needs feedback to drive any remotely modern loudspeaker.

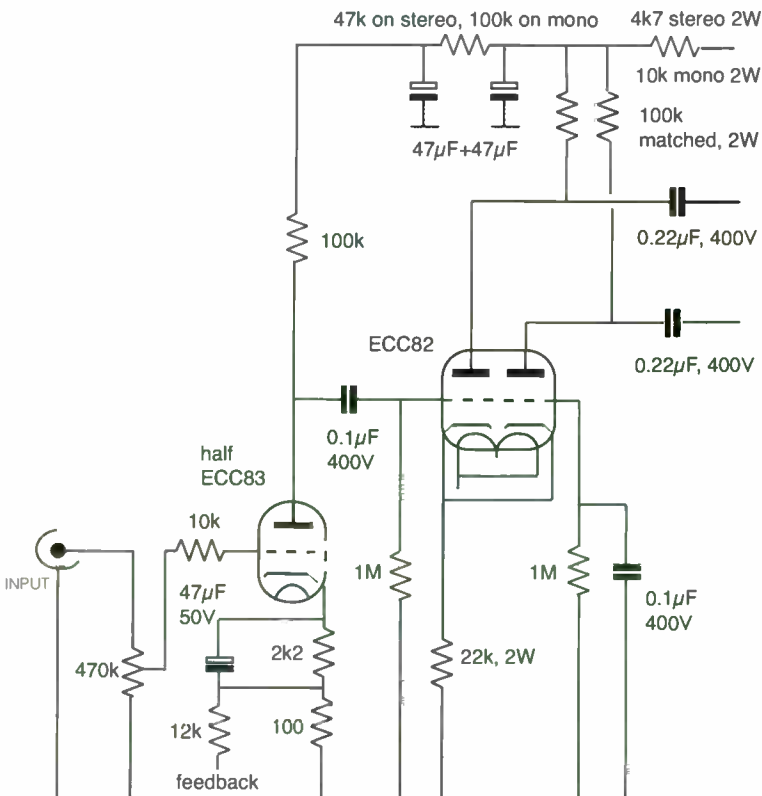
The Leak compromise is more in the phase splitting circuit. Although



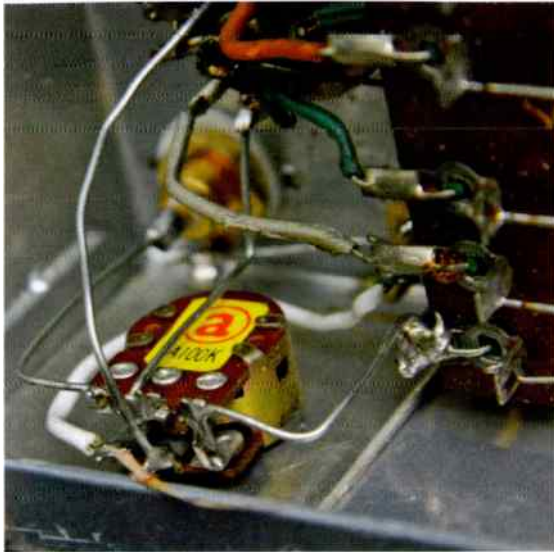
Once was scrapped, now rebuilt Stereo 20

based on the original TL12 Point One circuit, there is too much gain with the ECC81 and ECC83 equipped models.

Additionally, a popular idea used on all circuits was to unbalance the phase splitter's direct current biasing to try and balance the a.c. or audio signal. This was done by the use of uneven anode load resistors. In my opinion, this just creates an audio mess. The lower gain ECC32 valve makes less of a mess and is one reason I think the earlier amp sounds best. On stereo models half of an ECC83 valve is used as drive to obtain around 60x gain, on the 'plus' models the EF86 delivers 180x gain. The ECC83 phase splitter used on stereo models manages 100x gain, while the ECC81 on the plus models, less at around 80x. This amount of gain sacrifices several things. Bandwidth, phase splitter balance, the ability to fully 'drive' and control the output valve's input grid. So the 'cure' for the Leaks is to replace the phase splitter with one that operates low distortion, is linear, ultra wide bandwidth, and can supply a bit of



Schultz phase splitter mod for EL84 based amps.



Modified EL84 drive circuit.

current. The obvious answer is to use the lower gain ECC82 double triode in this spot. As such high gain is not needed it makes sense to balance the thing properly, and the modified circuit is shown here. It is very simple and based on pre WWII 'Schultz' circuit. 100k Ohm anode load resistors (matched) a joint 22k Ohm cathode resistor, and the grid of the second half of the triode treated in the same way as the first; connected to ground via a 1M Ohm resistor, bypassed by a 0.1 µF capacitor.

The anodes of the ECC82 are connected to the grids of the output valves via 0.22 µF capacitors. Do not be tempted to fit larger capacitors here, they will compromise the sound. Measured bandwidth (in isolation) reached several Megahertz! Gain is reduced, and a massive leap in sound quality can be heard. As gain drops, so does background hiss and hum; signal to noise ratio is improved as a positive side effect. The modification is easy to implement on the Leak board, and is of course, easy to reverse.

There is nothing wrong in triode connecting the EF86 drive pentode on a TL12+, but finding nice quiet EF86s these days is proving hard. The use of half an ECC83 is easier, using a similar circuit to the Stereo 20. TL25+ uses a similar sized output transformer to a TL12+. EL34 pentodes require more than double the drive signal of the better sounding EL84, and although the above modifications will help, the TL25+ still sounds poor, if not as soggy and as compromised as the TL50+, which must be regarded as more of a

Volume control fitted instead of pre amp socket.



public address amplifier!

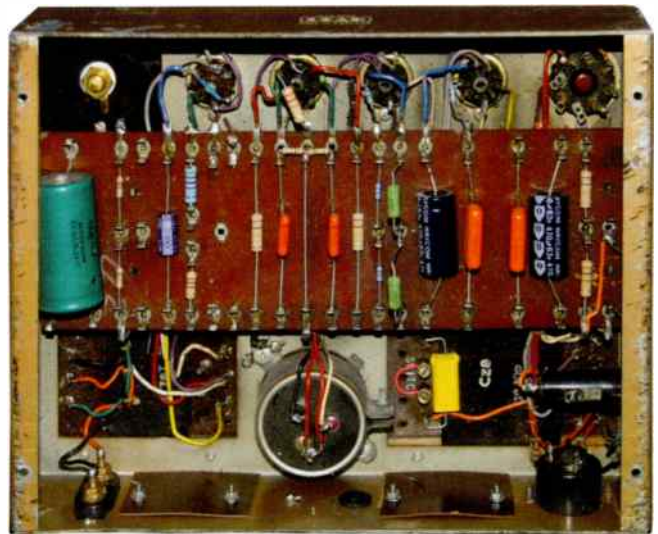
The Stereo 50 and 60 models had poor output transformers in comparison to the EL84 equipped TL12+ and Stereo 20, and odd ball resistors, too much heat on one chassis... The 12 watts offered by the smaller models is frankly enough. It sounds sexy having twice the power, but increasing from 12 to 25 watts is hardly worth the worry, and with a 89dB/Watt 'speaker, the Leak TL12+ and Stereo 20 have enough power.

I advocate replacing all resistors and capacitors with new, modern types. Original valve sockets should be left alone if in good order, they usually are. Never ever use Brasso or similar on valve pins or sockets, and avoid the unnecessary plugging in and

component. As the amp ages, the coupling capacitors fail causing the output pentodes to draw far too much current, which will possibly also be a bit 'leaky' drawing too much current. This all stresses the mains transformer. As a result of the excess current, the small 100 ohm resistor gets red hot, and will burn itself off the board.

Sadly, many a 'buffoon' engineer replace this small 3 Watt resistor with a 7 or even 10 Watt version; the amp will work for a while, before copious amounts of wax emanate from the mains transformer, and its primary coil windings turn to mush, burning out! So do watch for that and lots of wax. Replaceable, but at a price...

The Leak output transformers



Underside TL12+

out of valves.

Original component tolerances used by Leak were very low, and most 'Hunts' capacitors are well past the sell-by dates!

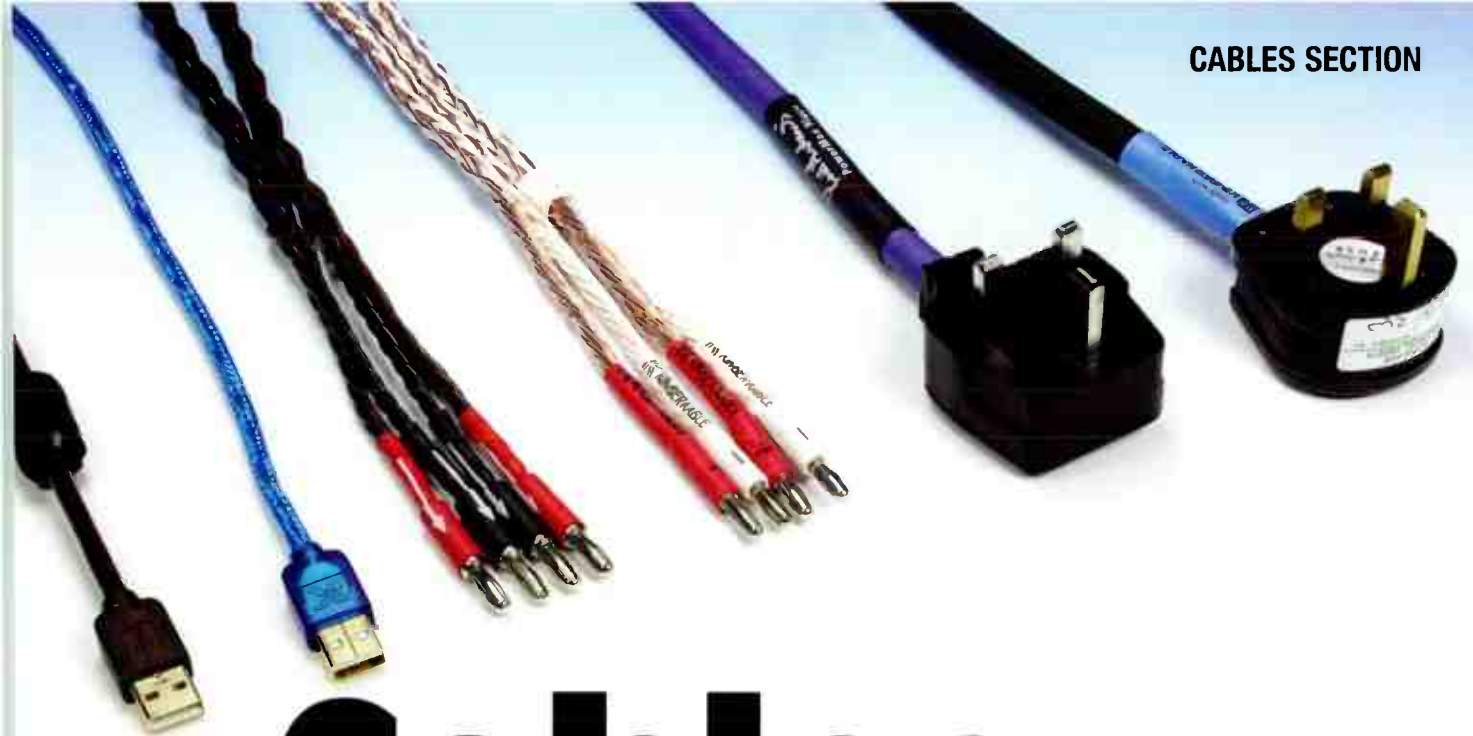
Another simple mod is to replace the preamp feed socket with a small volume control, and fit (in the case of the TL12+) an input socket. This allows the use of the amplifiers without a preamp, and another massive gain in sound quality can be heard. The Leak pre-amps have their charms, but aren't that good for modern use (future article on its way!). For modern digital sources, a simple passive works very well.

Replacement transformers can be had for all Leaks. On a Stereo 20, Leak were, well frankly, a bit 'tight' with the mains transformer specs. There is a 100 Ohm 3 watt resistors that runs hot as a safety

on the TL12+ and Stereo 20 are very, very good. With the above modifications, sound quality becomes quite exceptional. The same circuit can be used on any EL84 based amp, and offers a big improvement on any of the Mullard based designs (Heathkit MA12s, etc).

I first used this circuit back in 1988, nick-naming it the 'Perfect Phase' rebuild, and have completed 100s of Leaks with it now. Back to tools to the original Leak circuit is chalk and cheese. Leaks are no longer inexpensive second hand, but even so, these modifications can help give the amps better sound than some new valve products in the £2000-£3000 price range.

Don't want to rebuild yourself?
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Cables section

You love 'em or hate 'em. Cables raise some people's hackles, but Hi-Fi World readers tell us repeatedly cables improve their sound and are a great upgrade. So here we are with Loudspeaker cables, interconnects and mains cables, as well as accessories such as connecting blocks in a dedicated section. If you hate 'em - don't look. But if you love 'em you now know where the goodies are.

We will look at affordable products across a single manufacturer's range. This month Russ Andrews cables feature.

This month Paul Rigby looks at Russ Andrews cables

SPEAKER CABLES

Kimber 8TC/Kimber 4PR 106

POWER CABLES

Kimber Reference Powerkord/Kimber Powermax Plus 107

USB CABLES

Kimber B Bus/Kimber USB-AG 109

SPEAKER CABLES

KIMBER 8TC



The Kimber 8TC cable features sixteen Kimber TCSS conductors (eight white and eight clear and constructed from copper) that have been woven together. An insulating dielectric has then been added, made from a high-pressure, low temperature extruded Teflon. For the copper part of the conductors, these utilize Kimber's VariStrand conductor geometry. For those blinded by science and brand names, each separately insulated conductor contains seven wire strands of different diameters. The idea of

doing it this way is to provide a better frequency balance. The review cables were supplied terminated with Kimber 4mm bananas but you can buy the cable and fit them with Kimber UltraPlate Postmaster 6mm or 8mm spades. It is also available in off-the-reel lengths for home termination.

SOUND QUALITY

Spinning the Caravan track, 'Nine Feet Underground', on vinyl, the 8TC presented a well-structured sound stage with everything in its place. There was never a sense of muddle or insecurity in terms of the stereo image or the placement of the instruments. There was enough space around each instrumentalist to create an ordered and calming influence to proceedings.

Compared to my reference Black Rhodium Sambas, the 8TC

sharpened the upper mids a touch that placed a degree of emphasis on the organ and Mellotron, providing a slight clinical edge to the top end. The bass, meanwhile, was strong with a vivid presence providing a strong foundation to the vocals and the rhythmic support.

Swapping rock for jazz with the original Mark Murphy vinyl album, 'Mark Time!' (1964) and 'Ballyhoo'. Murphy's vocal was lively, sprightly and slightly sharp in tone while the then popular swathe of accompanying reverb was prominent over the vocal creating some confusion with John Dankworth's alto sax. The slight upper-mid edge did add defining boundaries to Murphy's diction, though, a definite bonus.

CONCLUSION

Strong in the lower frequency areas, the upper frequencies are sharpened, with added emphasis to detail, spotlighting hidden areas of the mix.

KIMBER 8TC SPEAKER CABLE

£373 PER 2.5 METRES (TERMINATED)



VERDICT

An ideal cable for those who, to quote Aerosmith, 'don't want miss a thing' and like to hear their detail placed front of stage.

FOR

- solid bass
- midrange emphasis
- soundstage

AGAINST

- slight stridency

Russ Andrews
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SPEAKER CABLES

KIMBER 4PR



This budget speaker cable arrives constructed from eight stranded conductors made from high-purity copper with Polyethylene insulation. Available with cut and stripped ends or terminated with spades or, as in the review samples, with banana connectors, the 4PR is Kimber's value for money speaker cable.

SOUND QUALITY

Playing the Mark Murphy vinyl album, 'Mark Time!' (1964) and 'Ballyhoo',

via my reference Avid Acutus turntable with SME IV arm and Benz Glider cartridge, the Kimber cable tackled the soundstage in an admirably competent manner. Murphy's delivery was energetic but not quite as sparkling as the reference Tellurium Q Blue. The Kimber softened the vocal, which can prove useful for vintage recordings of this type that can sometimes sound rather strident with incompatible accessories due to a touch of compression during mastering. The Kimber did go too far on occasion, though, which removed Murphy's edge. That said, the often-intrusive vocal reverb was handled well while backing instruments, including John Dankworth's sax accompaniment, was integrated within the soundstage. Distortion was appreciably low which allowed the backing organ to be plainly heard, adding to the complexity of the arrangement.

Moving to the well mastered Caravan prog rock reissue, 'In The Land Of Grey And Pink' and the momentous 'Nine Feet Underground', which spans an entire vinyl side, the meticulous production on this album encouraged the Kimber to new heights. That is, the upper mids were appreciably detailed despite some slight softening on the Mellotron and a touch of veiling on the treble but the cable did suite the high-energy rock presentation. Lead singer, Richard Sinclair's delivery was soft and quite tender while the accompanying organ didn't try to dominate his solo performance.

CONCLUSION

The Kimber 4PR offered a warming presentation that removed a large swathe of distortion to reveal new detail. Despite a measure of veiling in the upper frequencies, the Kimber was able to bring disruptive elements of the mix to order. Very nice at the price.

KIMBER 4PR SPEAKER CABLE

£118 PER 2.5 METRES (TERMINATED)



VERDICT

Offering output that moves towards the sweeter end of the spectrum, the Kimber is a useful addition to the more unruly hi-fi set-up.

FOR

- mellow performance
- structured soundstage
- weighty bass

AGAINST

- treble veiling
- some midrange recess

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POWER CABLES KIMBER REFERENCE POWERKORD



SOUND QUALITY

Spinning the quirky, sprightly, Ennio Morricone track, 'La Bambola' from the CD, 'Mondo Morricone' on my reference Densen B-475 CD player powered by the Icon MB845 Mk.II valve monoblocks, the PowerKord showed a remarkable ability to grab hold of potentially wayward frequencies and bring them, largely, into line. For example, at the beginning of this track, there was an orchestral and vocal combination that attempted to over cook the upper mids bringing a clutch of strident frequencies to force the mids into losing control. When faced with this threat, the PowerKord hung on for dear life, enabling the ear to better discern the vocal delivery detail as well as piano in the foreground along with a gentle strumming of an acoustic guitar in the background.

The Reference PowerKord includes sixteen, what Kimber calls 'Hyper-pure' copper Kimber TCSS conductors, woven around a central earth wire. Each TCSS conductor features Kimber's own VariStrand conductor geometry and the conductors are then insulated in a high pressure, low temperature, extruded Teflon that, says the company, achieves efficient insulation and maximises conductivity. The cable is fitted with a Wattgate W320i IEC plug.

The PowerKord wasn't perfect, though, one or two stray frequencies did escape its clutches but, on the whole, the cable did a remarkable job for the price. This extra focus allowed more midrange detail to be discerned from the orchestral strings while lower frequencies were not as prone to bleeding.

On Frank Sinatra's 'Only The Lonely' from the Capitol CD of the same name, the vocal delivery was intimate and rich in tone. Despite the slightly wayward upper mid direction during crescendos, the PowerKord was able to focus on Sinatra's ability to expose his emotions, interpreting the lyric with almost heart-rending clarity.

CONCLUSION

Despite the odd flaw in how the PowerKord delivers its music to the ear, where the PowerKord scores is its musicality because it plugs into the soul of the performance, presenting it to you on a silver platter.

**KIMBER
REFERENCE
POWERKORD
POWER CABLE
£196 PER METRE
(TERMINATED)**



VERDICT

The Kimber Reference PowerKord brings the heart of the musical performance to the party.

FOR

- musicality
- intimate midrange
- controlled output

AGAINST

- control issues

Russ Andrews
+44 (0)1539 797300
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POWER CABLES KIMBER POWERMAX PLUS



MB845 Mk.II power amps, the PowerMax Plus was successful in diving into the track to drag out the finer elements of the mix. To achieve this, however, the cable tweaked the upper

mids a touch creating a well-lit top end that added a slight clinical nature to these frequencies. Hence, the strummed acoustic guitar strings exhibited a fine precision, orchestral strings provided immediacy while brass demanded your attention. Of course, the other side of this coin meant that listening at high volumes induced some listening fatigue while crescendos on the organ barked a little. That said, all of the detail was brought towards the front end of the stage for examination and the rather ethereal, dreamy vocal had a finer, incisive

nature while bass provided a well-honed punch and a sense of mass. Frank Sinatra's superior master of 'Only The Lonely' from the album of the same name, featured an intimate and rich vocal performance from the singer. The Kimber shone a light on the texture of the vocal that emphasised the maestro's deep, grain-filled and many layered delivery that was a lesson in interpretation. Crescendos did promote a brightness in the upper frequency areas while brass was a little strident but the mix was examined with a fine tooth comb by the Kimber which brought the shy piano accompaniment to the fore.

CONCLUSION

For systems that lack a bit of verve and punch, the Kimber provides an ideal pick-me-up. Offering added zip and punch to the lower frequencies, the Kimber makes a real effort to carefully examine the mix in all its facets.

PowerMax Plus is Kimber's starter mains cable that includes large gauge, Kimber Kable copper conductors plus a specially made mains plug and IEC connector that features full nickel-plated contacts and a slim line, moulded IEC plug.

SOUND QUALITY

Playing the Ennio Morricone track, 'La Bambola', on my reference Densen B-475 CD player, powered by a pair of valve-based, Icon Audio

**KIMBER
POWERMAX PLUS
CABLE £51.95
FOR 1 METRE
(TERMINATED)**



VERDICT

Shining a light on even the most cautious of details, the PowerMax Plus cable from Kimber offers incisive detail.

FOR

- bass character
- etched detail
- midrange emphasis

AGAINST

- bright mids

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AMCRON DC300A, excellent condition with case. New Sprague power caps included, 25,000 microfarads. £350. Tel: 07837 349 582

WANTED: KLIPSCH horn loudspeakers or similar. Will travel. Tel: 01487 814 015 or Email: clydeaylin@gmail.com

LEAK TROUGHLINE III Stereo FM tuner. working well but needs tidying. £85. Pair of full Klipschorn loudspeakers, light oak, mint, demo/collect only (mid Derbyshire) £4500. Tel: Brian 01773 831 830

KENWOOD INTEGRATED amplifier KA-3020SE. Technics CD player SL-PS 670A. Kef Coda 7 loudspeakers. Some cables. Good condition. Original boxes. Makers manuals. Can demo. Buyer collects. Sensible offers. Tel: 01493 444 203

RB250 ARM, very good condition, £50. Free AT OCS if required. Tel: 01302 391 030 (Doncaster)

SYSTEMDEK 11X turntable with Systemdek arm. Black, boxed, very good condition and fully working. £175. Audiolab 8000C preamp, working but needs a little attention. £115. Tel: 01323 728 118 or Email: alanchamberlain@hotmail.com

PERPETUAL TECHNOLOGIES P1-A + P3-A interpolation processor and upsampling DAC (24/96) combination. Original PSU's, unmarked, together only, £495. Prefer dem and collect mid Derbyshire. Tel: Brian 01773 831 830

BANG & OLUFSEN Beocentre 9500 (two) working £80 pair. Technics SLP770 CD £65. Pioneer PL12D turntable £40. Celestion DM12 speakers £65. Marantz SP4320, remote, boxed, £120. Tel: 01708 457 691

SONY WM-D6C Professional Walkman. Mint, case, strap, manual. £170. Rotel RCD-965BXL. Excellent, IEC fitted. £100. Fostex FE1780 studio floorstanders. Mint. £360. Buyer collects with cash. Tel: 01782 205 922 or 07708 597 027. Email: johntaylorhartwell@yahoo.co.uk (Stoke-on-Trent Staffordshire)

MARANTZ SR-4320 amplifier, receiver, tuner. Black, boxed, very good condition. £65. Tel: 0777 1853 777 or Email: harry.dub@gmail.com

LEAK SANDWICH speakers. 1965 two-way with spare tweeters crossovers. Armstrong 521 amplifier, 1968, 2x 25w, original with teak case. Toshiba SR355 turntable, 1980. Can demo. Buyer collection. Offers please. Tel: 07981 943 297

DYNAVECTOR P75 phono preamplifier. Excellent record reproduction. £350. Tel: 01903 260 310

BRYSTON 9BSST upgraded to full SST spec last December. This 5 channel amplifier sounds superb. Long warranty left on it. £3000 ono. Lexicon MC1 processor included in price. Tel: 0777 902 9467

ROGERS LS 3/5A speakers. Made to BBC design with test selected components. Cabinets made of laminated birch plywood with attention to detail inside. Condition excellent. Serial numbers S05120A & B. Tel: Ian 01328 878 616 (Norfolk)

PERPETUAL TECHNOLOGIES Pia digital upsampler. £350 ono and Benchmark DAC1 with rack ears £500 ono. Tel: Peter 01642 559 078 or Email: gravespeter68@gmail.com

QUAD 306 current dumping power amp. Excellent condition and working order. Been serviced by Quad in 2009. £185 ono. Tel: Ty 07502 009 541

MUSICAL FIDELITY A5 amplifier, MF fine tuned (upgraded) to stunning certified performance figures, 275w per side, s/n -108dBs, vast holographic soundstage. Magical music maker. Mint. £950 + P&P. Tel: 0151 608 4481 (Wirral)

TECHNICS SL-DL5 parallel tracking, direct drive, automatic. Rare model. Japan grey black. Used daily. Reluctant sale. Turntable excellent condition. £180. Collect only. Swap Rega Planar Three complete. Tel: 0741 4288 765

REGA PLANAR 3 c/w RB300 and Rega bias upgrade motor kit fitted. Good condition. £250. Buyer collects. Also Project Phonobox MkII, £40. Could post. Tel: 07854 003347 or Email: daveskinner53@btinternet.com (Wirral, Cheshire)

WANTED: VALVE monoblocks, any condition, valve rectification essential. W.H.Y? Also pair output transformers and mains transformers. For Sale: Have superb Melody valve mono's, almost unused, 90wpc, rich spacious sound, suit panel speakers. See further details HFV advert March 2013, page 110. Were 8.2k, asking £1900. Mastercass McIntosh MCD201 SACD/CDP with variable volume level, remote, RCA and balanced outputs. £1600 ono. Complete valve data manual wanted, up to date. Tel: 020 8451 0353

ORIGIN LIVE Ultra Classic turntable (cherry) with OL Silver Mk2 tone-arm, Advanced switch-box and DC200 motor, Goldring 1042 MM cartridge included - £600. Call 07730 796204 or e-mail grimwynde@yahoo.co.uk (Herts)

TURNTABLE POWER supply for Garrard 301/401 Thorens etc. Regenerative mains supply. clone of Loricraft PSU II, £349 no offers. Can post if needed. Call 0207 499 8729.

MAPLETREE Ultra 4A SE Special Edition stereo phono line preamp and power supply. 12snt and 12s7 tubes supplied, umbilical cord included. £400. 01424 446465-Hastings

RADFORD STA 25 'Series 3' valve amplifier including hand written servicing details from when it was silver wired. Cherished for 15 years, now sadly downsizing. £1450 Can be seen in Coventry. Townshend Seismic isolation platform £60 Tel 024 7667 9165

QUAD FM4 Tuner Later model in grey with box and manual. New station memory battery fitted. Excellent condition and superb sound, £95.00. Telephone Mark 01392 420316 (Exeter)

SONY CDP-557ESD cd player. Incredible build quality, 17.5kg Pristine, unblemished Low usage, certainly less than 100hrs. Spent most of its life boxed. Original carton, manual, remote. All offers answered. dew1945@btinternet.com

PRIMA LUNA Prologue 2 integrated valve amplifier in very good condition. Pictures available on request. 3 line level inputs + a MM phono stage. £825 shipped or £800 collected from my address in Teesside. Can demonstrate. Consider swap for Vincent integrated. Phone Steve on 07791314269 or email me at Steve@progmeister.com

QUAD 909 Stereo power amplifier. Rated at 140 watts per channel. In excellent condition, complete with cables, and original box. Owned from new. £500. Tel: 01332 765148. Derby.

WANTED: CYRUS 6, Cyrus 7, or Cyrus 8 amplifier in matt black and in good working order, and also a Cyrus power amplifier. Will collect. mr-gordon@hotmail.co.uk

ACCUPHASE DP800/801 CD/DAC. Absolutely perfect, boxed, stunning sound. Inspection welcome 8,995.00. For more details contact Neil on 01925 656990 or npage-jv@midmac.net

MERIDIAN BY Van den Hul Interconnects Pair interconnects 900mm length, Neutrik phono connectors £37 plus postage and packing. 01582 573570 i.fraser587@btinternet.com

GOOD HOME wanted for Exposure XXI R/C / Super XXV111 pre/power combo. Classic kit from the John Farlowe era. Vgc, one of the two has original packaging. Also Cable Talk Reference XLR to XLR to connect the two. £550.00 ono for the lot. Arcam Delta 270 cd player with remote, new drawer mech fitted by Infidelity Hampton Wick. £75.00 ono. Please telephone 01483 728657 evenings before 9pm.

FOCAL PROFILE 908 standmount speakers in Classic with matching Focal S908 stands (£1600), £475. REGA Mira 3 integrated amplifier in satin - bought new in 2012, perfect with virtually no use (£598), £325. Both boxed. Tel Richard on (07772) 711432 (Bucks) or email richard.schofield@kcl.ac.uk.

KIMBER SELECT 3038 speaker cables 1.00m silver next gen spades, Siltech FTM4SG3 1.00m and 0.5m, Russ Andrews Silver mains and distribution etc, Krystal Cable silver mains with furutech mains plugs, silver wattgate etc.. All approximately 50% of retail, all perfect boxed and very little use. For more details contact Neil on 01925 656990 or npage-jv@midmac.net

WANTED FAULTY or non working Quad 34 preamps, Quad fm3 tuners, Neal 302 transcription cassette decks. Contact Mike 01758 613790 with price.

ONE THING Audio MPX1 decoder with Troughline serviced by One Thing £140. Audio Synthesis Passion Vishay/Silver/WBT £275. Single source ldr volume control £40. Marantz CD67SE £25. Tel 01684 (Malvern) 572547

MARTIN LOGAN Aeries lovely condition but a few years old now so may need a service £650 Nakamichi ZX-9 superb just had £317 B&W Nak service £1250 Lumley Heliiosphere with Clarity 09 mods including 90mm platter upgrade SME arm mount £1000 boxed Call David 07554016461 evenings weekends Winchester location can deliver.

AUDIO RESEARCH Ref 210 mono amplifiers. 200 Hours use from new, perfect, boxed and all accessories. Sale due to overseas work £9,250.00 Contact 01925 656990 or npage-jv@midmac.net

WANTED THORENS 124 or preferably 224 turnable and any interesting valve amps from 40's to 70's. Still looking for the elusive single Radford Auditorium speaker. Will travel, cash waiting. 0117 946 7188 slkw@btinternet.com

WANTED LARGE heavy power amplifier Sansui AU717, 919 or AU111, Pioneer A858, Rotel, Luxman, Quad, Leak, also Valve pre-amplifier & Linn Sondek turntable or similar Any condition. Will collect. 01726812966.

THORENS TD-166 turntable. Mint, box and book. £195. Sansui TU217 tuner. Mint. £100. Wanted: Pro-ject RPM-5 turntable or Rega RP3/Elys 2 turntable, black, and Cyrus DAB 8.0 tuner in black. Tel: 0790 891 8344

QUAD 306 current dumping power amp. Excellent condition and working order. Been serviced by Quad in 2009. £185 ono. Tel: Ty 07502 009 541

NEXT MONTH MAY 2013 ISSUE

The Spondor SP100R2 is a recent update of a loudspeaker whose lineage stretches back to the famous BC3 studio monitor. That means it has a massive 12" bass unit, a polymer cone midrange and dome tweeter. This speaker is for those who want a traditional sound brought up to date – and who better to do it than Spondor? We re-scheduled this unusual trad loudspeaker to appear in our May issue.

Here are some of the products we hope to bring you in the fab MAY 2013 issue –

LOUDSPEAKERS

SPENDOR SP100 R2

VINYL

ZONTEK RECORD DECK & DELTA TONEARM

DIGITAL

QED UPLAY PLUS STEREO BLUETOOTH RECEIVER

AMPLIFICATION

ARIAND VALVE AMP

ARCAM FMJ A19 AMPLIFIER

VAC VALVE AMPS

TELLURIUM ATOM POWER AMPS

NAD C390DD DIRECT DIGITAL AMP

MING DA MC PHONO STAGE

MUSIC FIRST MAGNETIC PREAMPLIFIER

PROJECT STEREO BOX DS

MOBILE HEADPHONE AMPS FROM JUST AUDIO

FEATURE

GRIEG PIANO CONCERTO PIANO ROLLS, PERCY GRAING

We either have, or are about to receive these products, but can't guarantee they will appear, commonly due to a need to re-schedule or failure under test.

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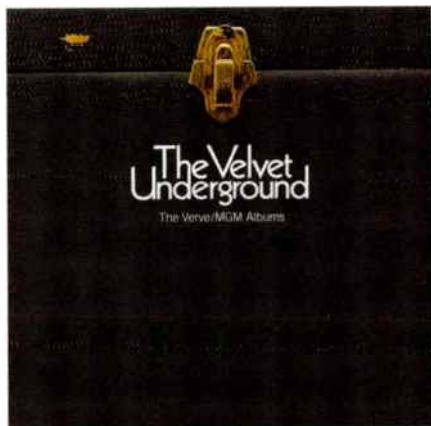
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THE VELVET UNDERGROUND

WHITE LIGHT/WHITE HEAT SUNDAZED



"everything just sounded so much better and we were very excited"

The Velvet Underground were a challenge to the convention. They were children of the underground, pushing their rock music further than anything available in the commercial sphere while their lyrics intruded upon a host of taboos. There was certain propriety within American society, a decency and decorum that the members of Velvet Underground felt was ripe for attack. 'White Light/White Heat' was just that, a completely unrestrained assault on a conservative, aesthetic politeness that the band felt was suffocating art in general.

The album was raw, featuring Lou Reed, John Cale, Sterling Morrison and Maureen Tucker that saw the band at their most harsh and coarse. Those taboos? Well they are tackled from the off with the title track. Drugs are talked about with great relish – amphetamines, specifically. 'Sister Ray' is an unholy noise fest that crams in seventeen minutes of sex, more drugs and violence. In between, you get the splintered guitar streaks of Lou Reed within 'I Heard Her Call My Name' and distorted R&B in the name of 'The Gift' plus other inaccessible maulings that lift the overall album to one of frenzy and turmoil.

As John Cale stated in a recent interview, "Distortion was something we were very interested in. In that day it was tube distortion and you had a variety of things you could do. We had far more opportunities with the Velvets to use that stuff. It was really a musical attempt to take those words and make them more novelistic. There were a few overdubs. Backing vocals. That's what [producer] Tom Wilson managed to bring to it: we isolated the voices. We didn't really know what he was doing. Everything just sounded so much better and we were very excited.

'White Light/White Heat' was done at Atlantic. Gary Kellgren was the engineer. He and Tom had to deal with a fairly disorganised unit at that point – we were all at each other's throats. We didn't have time and we didn't care, we hadn't rehearsed anything. He still managed to get some good things, like the backup harmonies on 'I Heard Her Call My Name'. I remember those, when he played them back. He nodded sagely and said, 'Yes, you sound very commercial'. We were 'Woah'.

The first album was a year of slog, every

weekend and the second one was just kind of slapdash".

This superb album is one of five that is featured within a new box set that has just been released via the American audiophile record label, Sundazed. Undoubtedly, it is a fine achievement from the company that serves the Velvet Underground and general music fans in many ways.

Firstly, most people will never have even seen, never mind played, an original Velvet Underground album. Most will have only have heard Velvet Underground's music on download or CD or via a host of dubious vinyl reissues. With 'The Velvet Underground: The Verve/MGM Albums', you not only get the rare mono version of all three of the band's commercial albums, you also get the mono version – surely the best version too – of 'Nico: Chelsea Girl'.

That, in itself, is more than enough reason to buy this box set. But, that's not all. You also get Sundazed's idea of what the band's unfinished 'lost' fourth album, '1969', should sound like, sourced from the original Verve/MGM analogue masters (as are they all, for that matter) and engineered by Sundazed supremo, Bob Irwin.

Incidentally, for Velvet Underground virgins, Nico was supermodel, friend and lover to a host of important creative and cultural figures, band collaborator and occasional lead singer for The Velvet Underground. She also had a distinctive and inventive solo career. 'Chelsea Girl' featured both John Cale and Lou Reed alongside singer/songwriter, Jackson Browne. Complete with the original LP artwork along with two bonus poster inserts and a sticker, this box set is the must-have collection for any fan of The Velvet Underground.

In terms of sound, there is far more going on in the midrange than has ever been revealed before. Frankly, they leave any CD issue standing and they blow an older 4 Men With Beards vinyl release to the four winds. In addition, the new pressings are quiet, which helps to enhance the midrange detail. The principle factors are air and space over the entire soundstage combined with a definite punch. Undoubtedly, the Sundazed version is the best offering on the market today, no matter what format you might care to name. **PR**

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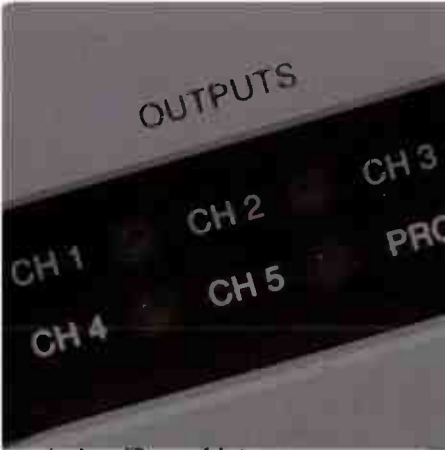


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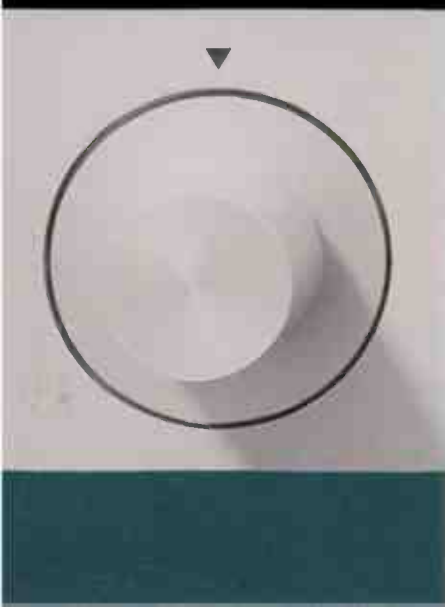
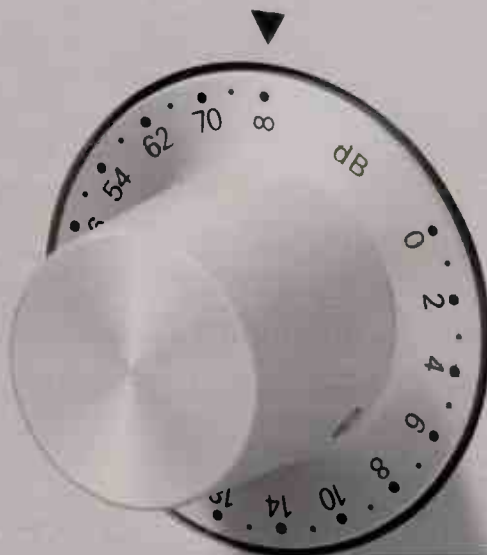
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