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When Herman van de Dungen founded PrimaLuna, his mission was to create affordable valve amplifiers and CD players that not only harnessed the sheer, sensual musicality of valve technology, but also defied the issues of reliability that sometimes accompany it.

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Had I been writing this twenty years ago when Hi-Fi World was born, the audio landscape would look so different to now. These were the glory days of mid-price separates hi-fi, when every major Japanese manufacturer had a CD player, integrated amplifier and speakers for you, from £399 upwards. Buckets loads of kit was sold — providing it was a mainstream Compact Disc player, integrated solid-state amplifier and bookshelf speakers, invariably housed in a black painted box!

But an awful lot of kit that's common now was unavailable then. Phono stages were practically non-existent, whereas these days they're everywhere. The selection of turntables and tonearms on the market has mushroomed too. Digital convertors, obscure then, are fashionable now and many come with USB inputs and/or network music functionality which was science fiction in 1991.

Back then, valve amplifiers were the stuff of dreams for a few deranged, heretical individuals, or the lived reality of ageing audiophiles who'd never got round to upgrading their nineteen fifties or sixties systems. Now they're everywhere, at every price point — from iPod dock money upwards.

As portables went, Compact Cassette was still king. MiniDisc and DCC were still a few months away, and iPods a full decade or more. Nowadays, for millions of people in this country and beyond, these are normal everyday possessions. Cassette, back then the mightiest music carrier ever in terms of sales, is now a faint shadow of its former self...

Loudspeakers have changed enormously too; twenty years ago it was still variations on a theme of nineteen eighties-style boxes, big bangers with lots of drivers and/or small two way bookshelf designs, most using plastic drive units. These days there's so much more choice; driver technology has improved vastly and there's a movement away from conventional drivers with the use of ribbons and/or electrostatic panels all the more affordable.

It's been a fun twenty years watching things unfold; meanwhile inside this issue you'll find everything that epitomises the best of hi-fi 2011-style, from wild single driver egg shaped speakers to slick digital streamers. Enjoy!

David Price, editor

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

To ensure the utmost 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.

Loadspeakers are measured using a calibrated Brüel & 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 Brüel & 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.

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ELECTRONIC MAGAZINE

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

Magnum Dynalab MD-105 tuner.

Leema Pyxis/Hydra II pre-power amplifier.

Eclipse TD712z/2 loudspeakers.

Triangle Comete LE loudspeakers.

Timestep SL1200 EVO turntable package.
Paul Rigby tries out this high end HDD player.

David Price is most impressed by this £1,800 CD transport/network music player combination.

David Price and Rafael Todes enjoy this flagship American FM-only tuner.

David Price enjoys these expensive and exotic eggs!

Adam Smith auditions these limited edition French standmounters.

David Price tries a fine pair of compact standmounts.

Tony Bolton tries a new British high end pre-power combo...

Noel Keywood auditions an affordable network-equipped AV receiver.

Tony Bolton tries this new US designed retro ghetto blaster.

Paul Rigby reviews this premium priced sub/satellite speaker system.

Noel Keywood explains the ins and outs of our comprehensive equipment measurement regime.

Paul Rigby cues up this fine mid-price moving coil cartridge.

Paul Rigby with all the latest black plastic releases.

David Price tries a new, plug and play Technics SL1200 turntable package with an SME 309 tonearm.

Tony Bolton cues up this fine mid-price moving coil cartridge.

Tony Bolton demos a new budget battery powered phono stage.

Adam Smith auditions a newly reworked Rega tonearm.
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ONE FOR ALL
Meridian's new Media Core 600 is described as “a complete Meridian Sooloos multi-zone solution in a single, rack-mountable case”. It's said to be “the most powerful and comprehensive product in this category, providing system core, storage, and multi-zone rendering — essentially a complete Meridian Sooloos multi-zone solution — in a single, rack-mountable case”. At its heart is the most powerful Sooloos system core to date, incorporating a pair of 2TB hard disk drives configured as a RAID 1 array. This provides enough primary storage for around 5,000 CD albums, and always maintains an automatic mirrored copy of the music collection. The are six audio 'end-points', each with a host of high quality audio outputs enabling easy connection across an entire house or project.

Housed in a brand new case design, Media Core 600 incorporates an “advanced switch-mode power supply and highly efficient cooling system” which make rack-mounting and operation easier and more reliable. It not only stores and manages your entire digital music collection but, when connected to the internet, it also provides easy access to thousands of internet radio stations, plus streamed music services from Rhapsody. It is said to connect easily to a range of control options including wirelessly to the free Sooloos App for iPad, iPhone and iPod Touch. It will work with any of Meridian's DSP Loudspeakers — from the in-wall DSP420 to the Reference DSP8000 — to create an all Meridian, fully digital, distributed audio system. For more details, click on www.meridian-audio.com.

OBITUARY: NORIO OHGA (1930-2011)
Norio Ohga, former President and Chairman, Sony Corporation, passed away on April 23, 2011. He played a huge part in evolving Sony beyond its early days in audio and video, into a global entertainment leader. A student of Tokyo National University of Fine Arts and Music, he first met Sony founders Masaru Ibuka and Akio Morita there and was appointed a consultant and advisor to Tokyo Telecommunications Engineering Corporation (now Sony Corporation) before fully entering the Company in 1959. He paved the way for the launch of a succession of innovative and game-changing products, and along with Morita nurtured the Sony brand to great heights. One of Ohga's favourite expressions was said to be, "The four letters of the 'SONY' brand are our greatest asset."

He personally drove Sony's initiatives to explore CD, his instincts as a musician leading him to push for a 12cm format, providing sufficient recording capacity at 75 minutes to enable listeners to enjoy all of Beethoven's Ninth Symphony without interruption. He led Sony's negotiations with CBS Corp, resulting in the establishment of CBS/Sony Records Inc. (now Sony Music Entertainment Inc.) in 1968. In 1989 Sony purchased Columbia Pictures, turning the company into a global entertainment giant. He then presided over the launch of Sony's game business, with the birth of Sony Computer Entertainment in 1993 and subsequent worldwide success of "PlayStation". In 1988 he was presented with the Japanese Medal of Honor with Blue Ribbon, and in 2001 the Grand Cordon of the Order of the Sacred Treasure. His legacy to the global consumer electronics industry lives on.
FOURTH DIMENSION
Acoustic Energy has launched the Neo 4, a range-topping addition to the affordable Neo range of loudspeakers. This big banger marries a substantially built triple-ported 70-litre cabinet with AE’s 38mm wide-bandwidth dual ring radiator tweeter and AE’s signature 5.25in aluminium alloy mid-range driver. Bass duties of this true three-way design are handled by a pair of 6.5in bass drivers featuring AE’s lightweight aluminium alloy cones. High-mass panel construction and a 32mm thick MDF baffle are used, claimed to be “significantly chunkier than on many manufacturers’ designs costing twice the price”. This imposing floorstander measures 1,200x300x200mm and boasts 200Watt power handling, 91 dB/watt efficiency and a highly linear frequency response from 28Hz to 40kHz, so it should be a good tool for tube amplifier users. It sports Polypropylene capacitors in the crossover, air-core inductors on the HF drivers, while revised long-throw suspension and higher magnetic field strength on the LF drivers produces tighter, more accurate bass it is claimed. Finished in Vermont (Walnut) or Black, it costs £699 per pair. For more details, click on www.acoustic-energy.co.uk or call +44 (0)1285 654 432.

HOLA!
Reader Charles Hillard recommends a special vinyl resource from Spain; Madrid-based Flamenco World. Click on the ‘LP Vinilo’ tab and you’ll find a small but unique selection of flamenco and flamenco/jazz fusion LPs. “I can vouch for the quality of the Cigala Music LPs - my copy of ‘Orate’ is one of the best-sounding new records I’ve bought in the last year and that includes a fair few supposedly audiophile pressings”, he tells us. Click on www.flamenco-world.com.

FIRST DIRECT
Like nineteen seventies summers on Radio One, Music First Audio are going on the road! Their roadshow starts in Edinburgh on the 9th and 10th July, from 10am to 5pm at the Radisson Blu, the only hotel on the Royal Mile. They will be showing their range of passive transformer preamps, their MC Step up and a brand new valve phono stage together with amplification from Bel Canto Design and loudspeakers from Stirling Broadcast. If visitors would like to try the products with any of their own equipment, MF Audio would be “very happy to accommodate them” and of course, visitors are very welcome to bring their own music. For more details, call +44 (0)1424 858260 or click on www.mfaudio.co.uk.

THREE WAY
Sony’s new £200 MDR-DS6500 digital surround headphone system is claimed to “reproduce the soundstage of multichannel speakers to create an immersive acoustic space”. Its VPT DSP system builds a virtual 7.1 channel soundstage that stretches ‘behind and beyond’ the screen, they say. The wireless design has an operating range of up to 100m, and automatic tuning switches seamlessly between RF channels to optimise signal reception at all times, with no glitches or drop-outs. The design of the charging cradle houses the phones when not being used; three hours charging time provides power for around twenty hours of listening time. For details, click on www.sony.co.uk.
THIRTY SOMETHING
German speaker manufacturer Quadral are celebrating thirty years of continuous production of their flagship Titan loudspeaker by launching an all-new version. Described as a “mightily impressive, laboratory class, high-end speaker”, the Titan VIII comes with a ten year warranty and is available in over 190 colours. It retails at £5,650 per speaker, a slight reduction in price from the previous model. The new loudspeaker will make its world debut at the High-End Society show, Munich, Germany from the 20th – 22nd May, and will be available in the UK and Ireland June onwards from authorised Quadral dealers. For further information, go to www.quadralgb-ie.co.uk.

NEW FRONTIERS
Pioneer has five new AV receivers in both 5.1 and 7.1-channel guises; the VSX-1021 [pictured], VSX-921, VSX-821, VSX-521 and VSX-421. Improved features and functions across the entire range make it easy for consumers to connect their iPhones, iPads and iPods on selected models, the company says. This will for example enable them to access their music and video content as well as share them with others in one room or throughout the home. With AirPlay, music lovers can easily listen to their music library through their home cinema systems using their home network. This works on both the VSX-1021 and VSX-921 and requires iTunes 10.1 or later running on a Mac or PC. Streaming content to the new Pioneer receivers can be done with ease via Bluetooth and/or DLNA. Both the VSX-1021 and VSX-921 offer DLNA v1.5 support, allowing connection to devices with the same feature. Via Ethernet or optional AS-WL300 wireless LAN converter (sold separately), the receivers can access and play high-resolution music (up to 192kHz/24bit for the VSX-1021 and up to 96kHz/24bit for the VSX-921) from a compatible networked device. Audio can also be streamed and controlled through the Pioneer receiver with a smartphone that supports UPnP / DLNA media servers and renderers, giving users an entirely new way to share and play their music collection. With the optional Bluetooth adapter, the whole range of receivers, except the VSX-421, feature wireless Bluetooth transfer of audio content from any A2DP Bluetooth-enabled mobile device or personal computer.

Pioneer has added vTuner Internet Radio to the VSX-1021 and VSX-921 for access to thousands of Internet radio stations from around the world. From the on-screen display, users can choose from different music formats, station locations or simply search for specific stations and receive the broadcasts with great reception every time. Each model features HDMI (v1.4a with 3D and ARC) connectivity to pass 3D content from a 3D Blu-ray player or 3D cable or satellite broadcast to any compatible display. Pioneer’s Auto Multi-Channel Acoustic Calibration is fitted to all models, as is Dolby ProLogic Ilz decoding for HD audio formats, including Dolby TrueHD and DTS-HD Master Audio. With the exception of the VSX-421, the new Dolby Pro Logic IIz height channel is also decoded. Advanced Sound Retriever is said to enhance compressed audio files by restoring critical data from portable media players as well as Internet radio, “delivering a robust music experience that is near-CD quality”. For details see www.pioneer.co.uk.

ULTRA BLACK
Black Rhodium’s First DCT Ultra Interconnect is said to be “the first ever to be supplied to customers with two separate cryogenic processes during manufacture”. It uses 99.99% pure silver wire, 0.9mm diameter (18 gauge), treated with an advanced Deep Cryogenic Treatment DCT++ process that adds improvements to depth, clarity and timing of audio and video, the company says. The additional processes before and after the DCT in the DCT++ process take these improvements to a much higher level, it’s claimed. The Ultra uses high quality PTFE insulation with air gap to minimise dielectric absorption distortion effects and deliver clean pure music, shielded by a double braided silver plated copper screen. Precision manufactured connectors by Oyaide of Japan are fitted; the RCA variant uses Oyaide SLSC precision connectors that feature a 4N pure silver inner connector and rhodium over silver plated brass outer connector, and the XLR uses Oyaide Focus—1 precision connectors with Rhodium over silver plated phosphor bronze connectors with Svarovski rhinestones in blue and red encased in its shell for channel identification! Prices range from £1,250 per 1m pair for the RCA to £1,600/m for the XLR. For further information call +44 (0)1332 342233 or click on www.blockrhodium.co.uk.
Aquarius replaced the companies GII Mini Sub and is the latest product in IsoTek's unique range of multi-award winning power conditioners that are designed and hand made in England using the finest materials and built to the highest of standards.

Formed in July 2001 IsoTek's vision has been to create high-quality mains power conditioners that stretch beyond current conventions. Through careful market analysis and extensive research, IsoTek has been able to launch products that dramatically improve the performance of all components used within an audio or visual environment, a fact that has been proved by countless international reviews and over 25 audio awards.

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"The whole auditioning process took about 30 seconds. Play a piece of music on GII Mini Sub. Play it again on Aquarius and wonder why you were so attached to the GII Mini Sub." "Very highly recommended"  
Hi-Fi Plus. Issue 68,
ROCK YOUR REGA!

Following on from their impressive Linn LP12 Vivid modification package, Inspire Hi-Fi have now produced a kit for Rega turntables. The company says that their comprehensive upgrade package takes any Rega turntable, be it an old damaged Planar 2 or 3, right up to the later P5s and above, "to an exceptional level of sound and looks, for a low price". The package starts at £189 for a beautiful, professionally hand-crafted solid 50mm Birch Ply plinth with acrylic and Sorbothane coned feet. Everything is manufactured to the highest quality, with attention to detail, enabling the Rega parts to be rebuilt into the new plinth, the company says. Inspire point out that parts of the Rega turntable such as the RB250 and RB300 tonearms, bearing housing and motor, etc. are of very high quality, and as such form the basis of a sound investment in the Quest upgrade package. Other options include practically any veneer such as Santos Rosewood, Cherry, Maple and Light American Oak. The cost of the full luxurious veneer finish is £89.

Inspire say that the Rega parts such as the bearing and tonearm, when fitted to the new solid Birch ply plinth, give a large improvement in sound and "elevate the Rega turntable to a new level of performance with a significant improvement in sound quality". This is even more so when you add the £89 Inspire 23mm machined acrylic platter, Inspire PUKA record weight, ACRI mat and offboard PSU, they say. Practically any Rega turntable in almost any condition, working or not, can be brought up to an extremely high standard. If spare Rega parts are needed, Inspire are able to provide them and also have new tonearms and cartridges available if required. The package is available for DIY, or Inspire will also offer to carry out the complete rebuild in their factory (which is located 1 minute off J29A of the M1 in Derbyshire) for a special introductory price of £40.1f a customer wishes to send the Rega turntable to Inspire, a box and packaging can be provided and Inspire will also collect the turntable from anywhere in the UK for a small charge. Inspire also offer to do a 'while you wait' rebuild of your Rega turntable (by appointment). For details, call +44 (0)1246 827272 or click on www.inspirehifi.co.uk.

ARM'S LENGTH

Audio Note have three new "exquisitely made tonearms" just out. They use a single piece of machined aluminium for the armtube/headshell, which is internally tapered to keep the arm both stiff and light, it is claimed. Another solid block of aluminium is machined to make the bearing housing which contains 'captured unipivot' bearings. The arm uses the same geometry and fixings as Rega arms, so can be fitted to almost any deck, and thanks to a simple and effective collar, VTA can easily and repeatedly be adjusted in tiny increments. The arms are available in silver or black finishes; the three models being distinguished by the differing grades of Audio Note wiring used internally and externally; Audio Note Arm 1 has copper internal wiring and external wiring (external wire is Audio Note AN-A) for £654, Audio Note Arm 2 has Silver internal wiring and silver Audio Note AN-V external wire at £935, and Audio Note Arm 3 sports Silver internal wiring and silver Audio Note AN-Vx external wire for £1,265. For details see www.audionote.co.uk.

ULTRA VIVID

In the May edition of Hi-Fi World we reviewed Inspire Hi-Fi's Vivid upgrade package for the LP12. In the review we stated that the Hercules Power Supply was 'Inspire's Hercules power supply'; we'd like to make it clear that this is Stamford Audio's excellent Hercules power supply, as supplied to us by Inspire. The remainder of the Vivid package is of course manufactured by Inspire Hi-Fi.
A serious music server offering ease of use and proper sound quality is a long-held wish for Paul Rigby. Can the QAT MSS make his dreams come true...?

Music servers have traditionally been focused on convenience and ease of use, with sound quality very much as an afterthought. For this reason they've acquired something of a poor reputation amongst discerning audiophiles, with only products from Naim and Meridian managing to escape this.

Understandable perhaps, as there's a lot that makes life difficult inside them; hard disk drives, computer CPUs and switched mode power supplies create a lot of sound-degrading electrical noise. But the QAT MSS promises an audiophile approach, with hi-fi best practice applied where possible within. In the market, it sits right between the Olive 4HD (£2,250) reviewed in the June 2011 issue and the Naim HDX (£4,500) that editor DP rates.

It's certainly well made; its 425x370x265mm, 12.7 kg box initially appears deficient in some facilities but further investigation provides an underlying audiophile determination! For example, there is no wireless internet facility on the QAT (although wired connection is possible), you cannot play a CD directly from the drive, only rip from it and there is no fan built in to cool the Seagate 1TB hard disk.

Talking to QAT's general manager, Hongfu Mei, in China, he addressed the fan question, "we chose a fan-less CPU and a passive cooling system for the hard drive in order to reduce mechanical noise." The CD drive, "we picked the TEAC DV-W28SS R93, pull-and-grab mechanism, it takes less space and has a greater lifespan than a tray mechanism." Less of the budget then had to be applied to the sonic qualities of the playback transport. As it is, the transport is simple, noisy but it does the job and falls silent after the ripping process. As for the lack of Wi-Fi? "We found that it interfered with the music signal."

Add to that lot the inclusion of two AD1955 DACs feeding a fully balanced analogue output stage, and support for a host of file formats such as FLAC (the standard ripping format), WAV, APE, AIFF, WMA, M4A, MP3, AAC, Ogg Vorbis plus others via future software upgrades, and it's been properly thought through. There's also Internet Radio, two USB connections, a digital out for an external DAC, an external monitor socket and the option to upgrade the internal HDD.

Yet QAT haven't forgotten its identity; every good music server should come with a swish control interface and the RP5 remote pad is precisely that. It's a wireless graphics tablet sporting a colour 7" WVGA screen that acts as the QAT's only interface, talking to the server via a screw-in chassis aerial. Supplied with a resistive screen (a capacitive screen is being worked upon for a future upgrade), the tablet, which can be charged up via the mains, is operated with a stylus but will work, at a pinch, with your finger. Running under Windows CE operating system, it will be upgraded to Android 2.2 in the future.

In operation, the QAT worked well with no slip-ups. Ripping was completed, along with the odd prompt, almost automatically while, if you are connected to the Internet, track names and the cover art are automatically applied. The lack of a Wi-Fi option does limit the QAT's placement, though, because, if your hi-fi is situated away from an Internet point, you will lose that applied CD track/image information. Missing CD text information can be applied manually, however, via the tablet's pop-up on-screen keyboard.

This large mobile screen, which incorporates a pull out stand, works well and is a big advantage over the frustratingly small and fixed Naim HDX screen and the poor, out-of-date, interface found on the Olive. Using a standard CD album art icon approach to trigger song access, the QAT interface is not up to Apple standards, certainly, but it remains straightforward to use, responsive and largely fool-proof.

SOUND QUALITY

Plugging the QAT into my reference, valve-based hi-fi via the phono sockets and playing Skunk Anansie's classic LP, 'Stoosh', the MSS was compared to my superb reference Icon CD-X1 CD player. Of course, the Icon was superior, but what I did hear was a damn good attempt by the QAT to give it a run for its money. The sound was powerful, dynamic and had an unexpectedly...
deep and firm bass, lending it both form and mass with a satisfying drum thump and a rhythmic bass guitar line. As a lowly music server, I also expected the QAT to lose control of the upper midrange and treble, but it remained smooth and all of a piece, with fine filigree detailing. It offered a delicate acoustic guitar strum, some glistening tambourine strikes and cymbal work plus sharp rim shots, plus a passionate and emotional accompanying vocal delivery.

The QAT really came into its own via the balanced outputs; indeed it transformed from being a capable music server with sonic aspirations to a genuinely viable audiophile source alternative. It seemed to dig deeper into the mix, offering a smooth yet punchy bass, a surprisingly incise and nuanced vocal performance plus a stomach punching rhythm guitar. Acoustic guitar and cymbal work exhibited admirable clarity. While listening to jazz vocalist Carol Kidd’s ‘Do You Believe’, the balanced mode QAT delivered a more propulsive output with more subtle inflections than the unbalanced phono socket output could muster, with a more rhythmically precise approach to lower frequencies.

Does it match the standalone Icon Audio CD player outright? Well no not quite, but then again you wouldn’t expect it to. Dynamically, it’s a little softer and there isn’t quite the same degree of upper mid sparkle. But I’m in no doubt that most sub £2,000 CD spinners would feel distinctly uneasy in the company of the QAT MSS. So is this music server a serious digital alternative to a good hi-fi CD separate? You bet! As such, it’s one of the very few hard disk music machines that doesn’t need to be plugged into an external digital convertor to give a half decent sound; it’s a testament to the MSS’s sound that I didn’t feel the need to go running to dCS!

CONCLUSION

After a large amount of listening, I’m confident in saying that when working via its balanced outputs, the MSS offers the best sound reproduction of any recently released music server that I’ve heard. It knocks the Olive 4HD for six, being superior along the frequency spectrum, while it’s at least competitive with Naim’s HDX, offering a richer and more contemplative sound even if it lacks the latter’s punch and insight. Via the RCA phono outputs however, the sound is obviously less convincing, so I’d suggest you used the XLRs if you possibly can. Factor in a fine, fluid tablet interface and decent build quality, plus a wide feature set and it’s a very strong contender in this emerging market.

VERDICT

Taking an audiophile route to music server design, the OAT MSS excels as a music source in its balanced configuration and sports a fine tablet control system.

OAT MSS
Angelsound Audio
£3,600
C+44 (0)1923 352479
www.angelsoundaudio.co.uk

FOR
- sound via balanced output
- easy, tablet interface
- styling

AGAINST
- no Wi-Fi might vex some
The MD 105 is Magnum Dynalab's top solid-state FM tuner, in an already highly accomplished range. David Price and Rafael Todes give it an airing...

It is not easy to review a Magnum Dynalab tuner. Rather like assessing a Bristol motor-car I suspect, frankly there isn't really much in the way of competition; there are other supercars for sure, but none purposed to do precisely what the Bristol does. And so it is with the MD105, king of an already exalted court. I've reviewed lesser Magnum Dynalabs, and swooned at their sound and lovely another-era ergonomics, so what to expect from this, the £2,695 flagship?

Well, take the previous range topper, the MD 102, upgrade the components with higher tolerated ones, upgrade the capacitors and provide a more stable power supply, and you have the 105. It is said to have "an unrelenting focus" on a complete grounding circuit to eliminate any unwanted stray signals, and a zero negative feedback audio output stage. The front end of the tuner has five stages of RF filtration with multiple bandwidth settings (normal, ultra wide and narrow), a dual automatic gain control stage to eliminate the need for a local and distant switch, altering the amount of relative gain that's added to the incoming signal. There's the usual auto blend RF circuit, often seen on classic Japanese tuners as 'hi blend', which automatically monitors and adjusts stereo separation to maximise stereo quieting.

Precision tunable matched IF (intermediate frequency) amplifiers are said to ensure consistency in adjacent channel separation, alternate channel separation and low distortion. The RF section is fully shielded and the power supply sports precision voltage stabilisers for precise tuning. A shielded custom designed toroidal transformer is fitted, coupled with a high grade aluminium chassis. The circuitry is all laid out on thick PCBs to minimise vibration in the chassis, and all contact points are "generously gold plated" for long life. Special AudioCap polypropylene dielectric capacitors with gold plated OFC copper leads are used. Kimber Hyper-Pure copper wiring runs along the signal paths of the analogue output stage, which sports Burr Brown op-amps with Black Gate capacitors. Balanced outputs are provided via gold plated Neutrik XLRs.

As with all Magnum Dynalabs, using it is a joy. Two, easy to read, backlit analogue meters show signal strength (rather optimistically) and tuning accuracy, whilst set in between this is the central blue LED frequency display. Switches beneath provide power (on/off) interstation muting, stereo-mono, bandwidth and a toggle for the signal meter to display multipath. That's pretty much your...
"if you're a radio head, then this is surely your goal..."

The result is an ergonomic triumph, one that reminds me of the good old days of analogue where tuning stations was actually fun! As with all Magnum Dynalabs however, the real enjoyment started when the music came on...

**SOUND QUALITY**
Here's one of the cleanest, purest and most musically believable tuners I've heard. Despite the retro looks, there's little that's old school about the Magnum Dynalab in its performance; don't expect a Leak Troughline! But on the other hand, you don't hear the usual greyness, grain or mush of most other modern FM tuners, which seemingly conspire to sully the signal into something resembling that of a £100 CD portable. Instead, this solid-state output stage equipped Magnum Dynalab (there's always the 105T if you want tubes) gives a consummately focused, incisive and detailed rendition of whatever's coming off air.

Bruce Springsteen's 'Born to Run' on BBC Radio 2's Jeremy Vine show sounded very similar to my LP pressing; a little thin tonally but sparkling with detail and punch. As the song built up to a crescendo, I was struck by the clarity; there was I able to hear into every strand of the mix, instead of a morass of sound that's normally the staple of FM radio listening. Interestingly, this tuner makes you very aware of the BBC's broadcast CD players; it's as if you're listening direct to them. When the music stopped and Jeremy started talking, there was a dramatic difference in the sound; suddenly things filled out and acquired more space; I could hear his voice bouncing off the studio walls.

Moving to Fearne Cotton's Radio One show and I was struck by the difference in sound between The Boss and a modern electro track; 'Mr Saxobeat' by Alexandra Stan is a piece of puerile pop par excellence and not one I'd normally endure, but its heavily EQ'd and compressed mix showed the 105's shimmering treble, expansive midband and punchy, insistent bass. It also timed beautifully, those hi hats stopping and starting with great alacrity; I couldn't comment on the dynamics of course, as I suspect there wasn't a decibel's difference between the loudest and quietest moments of the track!

Winifred Robinson's calming strains on Radio Four's 'You and Yours' were beautifully carried, presenting a very strongly resolved central image between my
**AMPLIFICATION**

**ATC S1A2 150 integrated amp.** Mint, ex-demo. (£2838) Epoa

**Aaron No.1a reference integrated amp.** Stunning performance, hand-crafted in Germany. (£3450) ex-demo bargain, mint. £2450

**Parasound Halo C2 Power Processor and PA75.**

**Channel Power Amp.** One of the finest HT components around at under £3,1000. Digital balance, remote and all accessories. (£5000) only £195

**Cayin B60 Valve MonoBlock Pair (70W).** 16mths old, perfect condition, original boxes & manuals. £65 16.9m loads, built-in bias meter for easy calibration. (£4200) Bargain at only £195

**Mark Levinson 380 pre with PI power.** Excellent, boxed, original packing, factory metal remote. (£12000) Bargain at only £995

**Naïve NAC 52.** Excellent condition, only £175

**Naïf NAP 150.** Boxed, excellent, bargain £675

**Picon Audio MB25.** Stunning 30W valve mono blocks, great reviews, one owner. (£1995) £1095

**Pioneer A6 mk2 integrated.** Black, ex-display, mint, boxed, full warranty. (£499) £299

**Luxman L-307u.** New model, mint, boxed, 5 wks old. 4hrs use. supplied by us, genuine reason for sale, please contact us for details. (£7495) EPOA

**Raysonic C200 all valve pre-amp.** Boxed, unmarked, stunning performance. Cost new £2950 so a complete bargain at only £195.

**ATC C2A2 with 85W power.** Mint, amazing reviews, originally supplied by us. Balance of 6yr warranty. (£3016) EPOA

**Eastern Electric M520 mkI integrated Amp.** Our demonstration, original condition, original packing & remote, won Hi-Fi News group test, awarded Editor’s Choice. (£1995) only £1295

**Restek MPRE+ with MAMP monos.** Ex-demo, mint, boxed, 5yr warranty. Scored 8% in recent Hi-Fi Choice review. (£6000) (£900)

**ASTINew AT2000 plus integrated.** Black, stunning performance, originally supplied by us. Mint condition. (£1735) £1195

**ATC SC A2 pre amp, one owner, supplied by us, one owner, mint, boxed.** (£2521) EPOA

**Chord SPM-1200B Power Amp.** 250W pc/s, black with wooden side accents, excellent condition, recent service from Chord. Original box & packing. Rare as used (£3950), opportunity at only £195.

**ECA Technologies Vista Pre and Lectern Power Amps.** Black with gold logos, immaculate. Very musical combination. (£1700) only £995.

**Ditte XX50 power amp.** With Ditte 5005 Speakers. One owner, supplied by us, new, £1995. Mint, original condition. Mint, boxed. (£2621) EPOA

**ATC SCM 50 ASL Classic Actives.** Great reviews, amazing value (£5000) £2695 with full warranty.

**Quad ESL 2905.** Higher cost Classicise finish, one owner, supplied by us, boxed, original shipping cartons. (£7500) EPOA


**Wilson Benesch Curve Loundspeakers.** Excellent condition, packing, one owner. Boxed. (£5950) £2995

**Quad ESL 280.** Brown, one owner, boxed - a rare opportunity. (£5000) £2695 with full warranty.

**Verity Sarastro mk1 Speakers.** Ex-demo, high gloss Mahogany. (premium finish). Mint with eight cases. (£7159) £1395

**ATC SCM 50 ASL Classic Actives.** Walnut, ex-demo, mint condition. (£10250) EPOA

**Klipsh Heresys III Speakers.** Walnut, one owner, supplied by us, boxed, mint. 39% efficient and a 5-GHz Wi-Fi-World record (£3995) (£495)

**M.B.I. 123.** Satin black, one owner, supplied by us, months old. Mint. Original factory crates. (£1000) with stands (£1995)

**ATC SCM 50 ASL Classic Actives.** Walnut, ex-demo, mint condition. (£10250) EPOA

**Klipsh P 38F Palladium series.** Ex-bad, one of the best spkrs you will ever hear. (£9780) EPOA

**ADAM Audio A.R.T. Pencil speakers.** Cherry/dark silver, astonishing articulation, excellent condition, all original box and packing. (£1600) only £1695.

**Audio Physic Virgo V.** One owner, supplied by us, excellent, original packing, (£5995) £3995

**Audio Physic Scirocco II.** Latest model, cherry, ex-demo, unmarked. (£3773) £7570

**Quad ESL 2905 speakers.** One owner, mint, boxed very low hours. Amazing reviews (£7000) only £9490 with a 5yr warranty.

**Audio Physic Tempos V localspeaker.** Maple, one owner, 8mths old, unmarked, original packing. (£3632) bargain at £185.

**ANALOGUE**

**Michael Gry O SE with Jeff Spall Audiocomods Arm.** Micrometer addition (£100 for arm alone) excellent condition, record clamp, one owner. (£2200) £1295

**Creek OBH.18 MM Phono Stage with OBH 1 PSU.** Immaculate, cracking phono stage (£205) only £115.

**Restek MBA4+ Phono Stage.** Ex-demo, mint. (£1105) £695.

**Tom Evans Groove Phono Stage.** Boxed, excellent condition, (£1900) £1095

**Whisttwo Phono Stage.** Boxed, as new, ex-display, unused (£795) only £595

**Dr. Feickert DPA-10S 10.5 Inch Tonearm.** Stunning, boxed, excellent condition, one owner. (£560) £395

**Jelco SA 750E 10" Tonaarm.** Boxed, new, unused, fantastic reviews (£550) £295

**LOUDSPEAKERS**

**Chord Dino MM/MMC phono stage.** Great reviews, amazing value at only £219

**Whist PS1002T used box phono stage.** Boxed, as new (£1200) only £595

**Roksan Xerxes Turntable with Artmizz Tone arm.** Black, brand new £1500 power supply, excellent condition, minor crack to perspex lid at rear. (£1800) £895

**Michel Iso MC Phono Stage with Hera PSU.** Original box and packing, excellent condition. (£900) and now only £295

**Linn 112 Arm Board.** Original and as new. £295.

**Eastern Electric Minimax Phono Stage.** Months old, one owner. Sensational (£1495) £1095

**MAINS CONDITIONING**

**Pure Power 3000 mains regenerator 2011.** Ex-demo, silver, mint. (£1398) EPOA

**Van Den Hul 85 High Mainstream mains power cord.** 2m, 2 available, both one owner, excellent condition (£350) £199 each.

**Vertex AQ Taga (2011).** 6-way distribution mains filter, great reviews, one owner, mint. (£590) £185

**Naïm Hi-Cap (Olive).** Excellent, one owner. £395

**CABLES**

**Vertex AU Mini Moncago Speaker Links.** Set of 4, 9mLx30m & with Hauptkabel speaker cable - simply sensational. (£770) EPOA

**Eichman Express Six.** £1m interconnect. Boxed, excellent condition. (£1195) £995

**Chord Optichord Optical Cable.** Toslink to Toslink. (£1092) only £660.

**Vertex Hi. Resolution Softon (cra-rc).** Interconnect. 1m, ex-demo, simply sensational (£2047) only £1220

**Vertex Silver Softon (cra-rc).** Interconnect. 1m, ex-demo (£1092) only £665

**Chord Signature speaker cable.** One owner, boxed, as new. 2.5m great reviews. (£775) £445

**ACCESSORIES**

**QUAD ESL 63 GFD MKIIS Speaker Stands.** A 'must have' for any owner of the 63, perfect on axis adjustment regardless of distance. Complete with the original GFD set-up guide (£210) only £95

**Stax SRS-4005 Signature System II with SM1.** £1150. Kimik upgrade (£200). Mint, boxed, as new. (£1449). Bargain at £895!

**Sennheiser HD600 headphones.** Excellent condition, one owner. (£595) £195

**MISC**

**Mission m7ds Surround Speakers.** Black, original packing and manual, perfect condition, with incredible dispersion. Only £60
RAFAEL TODES SAYS:

Listening to Shostakovich’s epic ‘5th Symphony’ on a live Radio 3 broadcast from the Bridgewater hall conducted by Vasily Sinaisky, immediately yielded a rich string texture, woody and complex, bursting with body, yet delicate in its accuracy. The atmosphere of the Bridgewater Hall was captured beautifully, a large deep soundstage, which I could see in front of me, particularly during the tumultuous applause that followed the final notes. Compared to my trusted Nairn which I could see in front of me, particularly during the tumultuous

Listening to Shostakovich’s epic ‘5th Symphony’ on a live Radio 3 times used to poke fun at the military, was so much more engaging a bit murky in the lower frequencies by comparison. The favourite NAI-02 tuner, bass was far more present and real; the Naim sounded NART-02 tuner, bass was far more present and real; the Naim sounded bitingly fast with quite some punch behind them.

The difference between the two tuners reminds me of upgrading from a good moving magnet cartridge to a classic moving coil, suddenly there is presence, body and real nuance to the sound like those which emanate from the live stage. The quality of individual woodwind instruments through the MD1500 oze with personality. The Naim makes a paler imitation by comparison. The chiselled soundstage of the MD just isn’t there with the Naim - it is a pleasant wash, with altogether less information. I also notice where the broadcast

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There are two ways to make a high end loudspeaker. One is to take a conventional box, standard drive units and a well-worn cabinet design, then tweak it, finesse it, embellish it, add a bit of stardust and spend longer on the final voicing than you normally would — then punt it out to the trade and hope that fans of your brand, plus well-healed sorts willing to try something new, will bite.

The other is to start with a — not to put too fine a point on it — bonkers idea that few are likely to love, and then hone it to perfection, on its own terms so that the designer has achieved exactly what he wanted. Oh, and then work out how much it costs to make and hope it’s saleable after all the usual mark ups, dealer margins and VAT have been added!

I’ll leave you to guess which of the two approaches the Eclipse TD712z/2 is. It can only afford to be so as part of Fujitsu Ten, which is a huge and long-lived manufacturer of automotive audio (credited for producing the world’s first car CD player for Toyota, in 1983, for example). Eclipse’s parent company has over four thousand employees and a vast wealth of electronic and mechanical engineering resources. And so whilst Fujitsu Ten goes off and does the donkey work, so to speak, its Eclipse progeny can run round thinking the unthinkable and doing the hitherto undone...

It’s ten years since the launch of Eclipse’s first product, the TD ‘eggs’. These were premium priced, beautifully built active multimedia speakers, cost-no-object high end exotica that had mysteriously shrunk in the wash and selling for a trifling £400! Warp forward a decade and here we have the TD712z, now in their new second incarnation (the originals were launched in 2004); they’re £5,100 per pair in silver, £5,400 in black. The ‘TD’ nomenclature stands for ‘Time Domain’, which is more than just a clue to the designer’s priority; it is the beginning and the middle bit too. Whereas most loudspeakers are designed above all else, to cover a wide bandwidth (say, from 60Hz to 20,000Hz, roughly), and to be reasonably efficient and go loud, to have a flat(ish) frequency response, with the Eclipse speakers all of this was very much second fiddle. Instead, the absolute priority was blistering transient speed. This can only come through ultra light drive units (which are exercised by the tiniest dynamic peak) with no crossovers to introduce phase distortion, and cabinets that have absolutely no overhang. And when I say overhang, I don’t mean the sort you’d find on your sitting room sideboard; I mean in the sense that they don’t store mechanical energy, like a capacitor would electricity, that they then release when they’re ready. From this, all else follows...

Indeed, if transient speed is your design priority, the speaker practically designs itself. It’s got to be full range (to remove the need for a crossover), it’s got to be smallish (to remove the need for an energy storing cabinet), and it’s got to have a very light and stiff cone (you can’t use a single ribbon or electrostatic panel because there’s...
else to worry about!
So the TD712z/2 has a 120mm full range driver with a fibreglass cone mated to a special, ultra flexible rubber surround, and a “huge” magnet behind. It sits in a 989x347x431mm egg shaped cabinet made from steel, zinc, aluminium and composites; the egg is the most rigid form known to nature, say Eclipse, and maximum rigidity means minimum cabinet flex (and associated blurring of the sound). With no two radial surfaces in the same plane, it’s not a happy place for standing waves, and the internal zinc-alloy structure makes for a massively strong shell which is bolted to its matching stands which are said to “earth all unnecessary energy” to the floor. An elaborate ‘diffusion stay’, a five-armed, cast zinc structure on the rear of the drive unit sends any residual energy down into the stand. A special ‘poron’ material is used to give an ultra strong seal between the driver and cabinet.

The ‘damped Wing Stand’ allows adjustment of up to 12 degrees upward, and is said to echo the design of an aircraft wing in the way it slices through the air, so as not to diffract the sound emanating from the speaker all around the room, it is claimed. It’s made from a combination of extruded and diecast aluminium, offering rigidity and internal damping via irregular sized, kiln dried sand. It has an unusual integrated spike and insulator foot arrangement, which further helps ground stray energy; the speakers can be moved without scratching the floor and adjustments can easily be made, and there’s a recess for cables built in. Total weight of one speaker and stand is 25kg.

This new version of the 712 is said to have a more powerful motor system for the drive unit with a more efficient magnet structure, a redesigned damping system for the driver surrounding, new high-density zinc internal components, a new design of coupling to the integrated stand and a cabinet that’s fifty percent larger in volume. The result is a speaker with a claimed “useable” frequency response of 35-26,000Hz; it’s notable that this is taken at -10dB points, our measured performance uses a much more realistic -3dB cut off point and tells a different story! We found this to be a considerably better performance than via my reference Yamaha NS1000Ms, for example. The happy caveat to this is that what treble they do have is really rather nice; cymbals have a grace to them that’s just not expected from single-celled speakers; it’s obvious that a lot of honing has been going on.

So what we have is a deliberately compromised loudspeaker, that forsakes ability at both frequency extremes for prowess in the midband. And what prowess! Sade’s ‘Hang on to Your Love’ can sound like bland ‘cafe jazz’ – all gentle, lazy Fender Rhodes chords and a sultry crooning – but via the Eclipses it had an unexpected urgency. The walking bass line, closely miked, was fizzing with energy (if not weight), lending the song a tremendously propulsive sensation of having your head in a vice.

There’s another point to be addressed; they’re not famously extended in the treble either, and this will disappoint some. Whilst not muffled, you’re never going to find them airy, spacious and atmospheric. As you get older and your high end hearing falls off, this will become less of an issue, but still for me I could hear obviously less ‘air’ to recordings than via my reference Yamaha HS1000Ms, for example. But whilst not extended in the treble either, and there’s definitely the sense of these speakers being ‘well lit’, there’s no sense of them (via the right source and amplification) being shrill. Instead, they use their withering intensity to shine a searching light on the mix, putting you right in the centre of the action. The effect is almost like wearing a pair of ultra high end headphones, but without the sensation of having your head in a vice.

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this though, as the rhythm guitar playing suddenly became a percussive instrument rather than something to fill the mix out; it was super crisp, ultra fast and infectious. I could hear every 'lick' and how it fitted so precisely in with the backing vocals. At the same time Sade's vocals acquired a wonderful grace to their timing, syncopating perfectly with her backing band.

I was also tantalised by the way I heard her various layers of backing vocals; indeed there was one very low level vocal line where she almost speaks the vocal behind her main sung one, and the Eclipse carried this more clearly than I've heard on any other speaker, save perhaps a top Martin Logan. Such was the 'buttery slicing' ability of the TD712s that they imposed dynamic accents brilliantly; again whilst not possessing great scale and power, they can show where individual instruments such as snare drums are struck particularly hard, where so many other loudspeakers at the price (such as the big Spendor STs) simply sit on this sort of nuance.

For sure, rhythmic skill is the key to the Eclipses; Next on, Michael Jackson's 'Billy Jean' was hovering in vocals. Indeed there was one very distinctive rendition that certainly lacked physical heft, or 'bottom' as one might say. But almost immediately this faded from my mind, and I found myself enthralled by the playing of the instrumentalists, and the fierce syncopations of the music. Once again, these loudspeakers cast an exotic spell over me, pulling me in and heightening the effect of every sinuous twist and turn of the snare drum and double bass playing. Cymbals seemed to glide above everything, gilding a magical musical moment. In superficial terms (i.e. what one might call the 'tone') things were disappointing, but once you heard beyond that there was seriously special things going on.

Indeed, that's my major criticism of the big Fujitsu Tens; they're tonally uninviting. It's that glass fibre cone, methinks, which sounds tonally uninviting. It's as one might call the 'tone') things were disappointing, but once you heard beyond that there was seriously special things going on.

So the answer is to go and listen for yourself.

CONCLUSION
This is what I call a 'character speaker', which is to say that within seconds of hearing it, you know precisely what it's been designed to do — whether you like it or not. If ever there was a transducer that purposefully pursues one kind of greatness, at the expense of all others, then this is it. The Eclipse TD712s singularly excels at making music magic; enthralling, gripping, compelling. It's not much cop at many of the other things expected of an expensive loudspeaker; you can forget about deep bass and sparkingly atmospheric treble. Instead this loudspeaker makes you a slave to the rhythm, and — as the song says — never stops the action. Whether you think this is worth the asking price is not for me to say, as it appeals to personal taste so it's for an individual listener to decide. That makes it very tricky to rate; in some ways it scrapes three globes, in others it pretty much deserves six. So the answer is to go and listen for yourself.
When Leema Acoustics Pyxis preamplifier met its Hydra II power amplifier, it was love at first listen, says Tony Bolton...

Wales based Leema Acoustics have, over the last thirteen years grown from manufacturing respected studio monitor loudspeakers to making a wide range of loudspeakers and electronics encompassing amplifiers, CD players and phono stages across three distinct series and price points. Although each series is divided by nomenclature, there is nothing to stop the prospective purchaser mixing and matching as we have done here. So, from the Constellation range we have the Hydra II power amplifier, and from the premium Reference selection, the Pyxis preamplifier.

Both units are housed in the customary Leema casework, available in either black or silver. Although they look the same, the sizes do vary slightly, the Hydra II measuring 440x110x320mm (h x w x d) and the Pyxis being 10mm deeper. The
latter weighs 11kg and the former a fairly substantial 18kg.

Sorry to disappoint a certain subsection of our readership here, but reading the instructions is essential with these units [doh! Ed.], since there are various ways to connect them up, and some controls have dual functions. For example, the volume control becomes a bass, treble or balance control when these settings are accessed. After brief experimentation I settled for using the LIPS connection between them, along with the interconnects, which allows the Hydra II's volume to be controlled internally, so that the signal is delivered from the Tucana II or Pyxis at full power. The lower noise floor was noticeable, with both the shape and perceived agility of the music improving – so care spent setting up is rewarded.

This Pyxis came fitted with the optional moving magnet and moving coil phono stage which costs an extra £404. If both preamp and power amp are purchased together then a special price is available of £6,050, providing a saving of £495. A Pyxis and two Hydra IIs are available for £9,950, saving £1,035.

**SOUND QUALITY**

I was able to borrow a Hydra II a little while ago, so have been using it to bi-amp the Chario Ursa Majors on the downstairs system, alongside the resident Tucana II. Although this

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*Leema Acoustics Hydra II*
Leema Acoustics Hydra II

integrated amp does a good job on its own, I periodically wish for a little more control over the twin 170mm subwoofers housed in the lower parts of each cabinet. Adding the Hydra II not only provided this but had the effect of opening up the sound far more than I could have wished for. The combination gave a vast soundstage into which the Philharmonia Orchestra launched itself into Beethoven's 'Choral' Symphony.

It seemed as though the space between the speakers had grown in all dimensions - a similar change in perspective to moving about fifteen rows closer to the action in an auditorium. Detail such as the interaction between the differing groups of singers and instrumentalists became more obvious and the whole experience became considerably more satisfying.

It was also present for the recent preamplifier group test (HFW March 2011) rubbing shoulders with a pair of Icon Audio 845 valve monoblocks and being fed by solid state, valve and passive preamps. It showed itself to have a very well behaved nature, sweet and beguiling, or somewhat feisty, as the music required. Timing was both tight and sprightly, providing beat driven sounds with an infectious zest that was irresistible.

More recently the Pyxis joined the team, and after a good few hours of running in, I played the same Beethoven track, running from the Benz Micro Wood SL into the Leema Agena and then the Pyxis via its XLR input. Although there was a noticeable difference in the grip upon the lower frequencies with this single amped combination, there was an improvement in the detailing and colour of the sound. Wooden instruments had more shape and, it felt, better detail to the grain of the polished wood. Brass instruments had enough edge to be impactful without vulgarity, and the vocals separated just a little bit more. I felt the Pyxis to be a more open and sharply focused preamp, compared to the already very good one included in the Tucana II.

Since a second Hydra II had been delivered, I was able to try the same track, but with the power amps running as monoblocks. These can deliver a claimed 785W as bridged mono units into the 4 Ohm load of the Ursa Majors so I didn't bother.

"individually these are excellent pieces of equipment, but combined they are superb..."

Leema Acoustics Pyxis

exploring the full volume potential, but found that, at the same volume as before, the degree of presence and my interaction with the music had increased to the point that I really felt that I was listening to a performance, rather than having any sensation or awareness that I was listening to a recording. It was majestic.

By way of contrast a few days later I was playing Dusty Springfield's 'Son of a Preacher Man' from the LP 'Dusty in Memphis'. By this point I was using the onboard phono stage and finding it to be a very competent device. Her close miked voice was almost physically there in front of me, with a neat and precise placement of the accompanists around and behind her. It certainly sounded more coherent and cohesive than I would have expected for the extra cost and proved a worthwhile addition to the preamp. A move to the upstairs system and the Moving Iron MusicMaker III cartridge proved that the MM input was every bit as capable as its MC counterpart.

Over the next few days the digital inputs were explored using both the Njoe Tjoeb CD player as a transport, and my MacBook via the USB input. In both cases the Pyxis's onboard digital convertors did an excellent job. The combination of Middle Eastern instruments and melody, mixed with Western influenced electronica on 'Arabica III' on CD was opened up and analysed, then laid out before me for my perusal. Some of the samples are so well done that it isn't always obvious which is a 'real' sound and which is an electronically manipulated one. Listening through this pre-power combination, and the onboard convertors clarified that in some cases it managed to reveal the detail in sound without thrusting it in my face, in the way that some overly revealing players can do. The shape of sounds seemed honestly depicted without a feeling that they were being spotlighted.

I normally regard computers as something of a poor relation as a music source, tending to burn WAV files to disc for replay, but the USB input lived up to the standard set by the other sources. The driving beats of 'Cymatic Frequencies' pounded around the room, the bass, despite its mass, stopping and starting with the alacrity of a Bugatti Veyron. The level of three dimensionality in the staging was impressive, and provided the free space for the noises that populate Progressive Trance to bounce around uninhibited.

CONCLUSION

Overall a truly impressive performance. It can be bettered, but
only by spending a lot more. The Pyxis proved both user friendly, once the instructions were thoroughly read, and to be one of the most capable preamps that I have had in my house. The sound can be bettered by the ModWright LS 36.5 (with matching PSU) (Hi-Fi World May 2010) but this costs more than twice the price for a line level only unit. The £1,700 Onkyo P-3000R, reviewed last month, offers upsampling on its digital inputs, but only Windows compatibility and not as good a sound.

It is a similar situation with the power amp. Musical Fidelity offer equipment that is at least as powerful as the Leema products, but none of the ones that I have heard have the Hydra II's fleetness of foot, or deftness of touch.

Individually these are excellent pieces of equipment, but combined they are superb. Owners of Tucanas and bi-wirable speakers should start saving now for a Hydra II, but if you can afford it, get the pre/power, Pyxis/Hydra II combination. They leave Bolton Towers tomorrow, and I will be sad to see them go.

REFERENCE SYSTEM
Clearaudio Master Solution turntable
Clearaudio Carbon Satisfy tonearm
Benz Micro Ace cartridge
Ortofon Vivo Blue cartridge
Audio Technica AT-F7 cartridge
Leema Acoustics Tucana II integrated amp
Chario Ursa Major loudspeakers

MUSIC USED
- Various Artists, 'Cymatic Freakuencies', Wildthing Records WIL 1 CD 010
- Various Artists, 'Arabica II', Bar De Lune LUNECD 19
- Dusty Springfield, 'Dusty In Memphis', 4 Men With Beards 4M112
- Beethoven, Symphony 9 D Minor. Op. 125 ('The Choral'), HMW SLS 5053
- Various Artists, 'Arabica III', Bar De Lune LUNEDC 19
- Various Artists, 'Cymatic Frequencies', Wildthing Records WIL 1 CD 010

MEASURED PERFORMANCE
The Hydra II power amplifier produced 144 Watts into 8 Ohms under measurement, increasing to 240 Watts into 4 Ohms, so it has plenty of muscle. With a high damping factor of 56 control over bass will be tight and the bottom end potentially 'dry' sounding.

Bandwidth was wide, frequency response measuring flat from 4Hz up to 90kHz (-1dB). Sensitivity was unearthy high at 310mV in for full output and distortion very low at all frequencies. Our spectrum analysis at 10kHz into a 4 Ohm load clearly shows distortion harmonics hardly exist, so this is a very linear amplifier.

The Pyxis preamplifier has a gain of x5 (14 dB) from Auxiliary and CD inputs to output, a normal enough figure. In combination with the sensitive Hydra II this does however make for a very high input sensitivity of 62mV input for full output, perhaps to accommodate low gain external phono stages. The MM phono stage adds an extra x62 gain (x310 in all), which is adequate, and MC adds x120, again adequate for most MC cartridges. There is no warp filtering and full gain down to 7.5Hz. Equalisation was accurate as our analysis shows, with just 0.3dB variation across the audio band and noise low at 0.4/µV/0.08V, i.e. for MM and MC respectively. So both MM and MC phono stage measured well in all respects. With a full scale OD8 input to S/PDIF from our digital generator the Pyxis gave 1.45V at full volume, so it has plenty of gain and

Leema Acoustics Pyxis

VERDICT

LEEMA ACOUSTICS PYXIS
Well specified British designed and built stereo preamplifier with a highly musical sound.

FOR
- open and detailed sound
- fine phono stage
- excellent connectivity
- USB DAC for Windows/OSX

AGAINST
- nothing at the price

LEEMA ACOUSTICS HYDRA II
Consistently smooth, powerful amplifier with good connectivity.

FOR
- expansive soundstaging
- highly detailed
- fine tonal rendering

AGAINST
- nothing

LEEMA ACOUSTICS
PYXIS £3,995
HYDRA II £3,495

Leema Acoustics Ltd.
+44 (0) 1938 811900
www.leema-acoustics.com
Net Gain

Home Cinema and the lure of high definition digital surround-sound seems to be waning; Blu-ray isn’t on everyone’s lips. Yet Onkyo seem not to have noticed and continue to produce superb AV receivers, subtly repurposed to do more than replay movies. Plug in an iPod or iPhone using Apple’s supplied USB lead and the new TX-NR609 will play your music in surround sound via a squeaky clean digital connection. But there’s more, for just £500...

Measuring 435mm wide and 328mm deep, and weighing a liftable 11.3kgs, the TX-NR609 is relatively compact as AV receivers go and is amazingly compact considering it produced 120 Watts per channel under test [see MEASURED PERFORMANCE]. In use, when not pushed hard, it runs warm but I fancy it stays a little cooler than earlier models; a silent fan kicks in to help cooling if need be, but since 10 Watts or so per channel gives high volume through a modern loudspeaker it will rarely need this.

Facilities

Like any modern receiver the TX-NR609 handles DTS HD Master Audio, Dolby TrueHD and all associated digital processing formats. It can convert stereo to surround sound with Dolby Pro Logic I I I, the ‘z’ suffix meaning a signal can be derived to feed frontal height loudspeakers and it has DTS Neo6.

Most people will want to use fewer loudspeakers, not more I suspect, and for them the receiver can be set to bi-amp front loudspeakers that have bi-wire terminals, to improve sound quality. I switch the Centre channel off and use quality Left and Right stereo loudspeakers (WAD KLS9s for this review) to produce a phantom centre image, as in normal stereo; a Centre channel suits movie dialogue but not quality music reproduction. My Surround loudspeakers are full range too (Usher S520s) and backs are used on a wall shelf (Usher S520s), but these are unimportant.

Onboard are 24/192 Digital-to-Analogue convertors on each channel, and those with SACD collections will be pleased to hear that the ‘609 recognises and decodes DSD fed in through an HDMI cable. You’ll need the right Blu-ray player to do this, however, from Cambridge or Oppo for example. The bad news is that although you’ll get surround sound from SACD, it reaches CD quality standards our tests showed, limited by internal DSD-to-PCM conversion. Pricier Onkios manage better.

There are six HDMI inputs no less, but no multichannel analogue inputs and no multichannel preamp outputs either. You get Composite Video inputs and an output, Component Video inputs and an output, and an HDMI output of course. There are two S/PDIF optical digital inputs and two electrical digital audio inputs, useful for connecting a CD player digitally.

Another room can be fed music, identified as Zone 2. And, finally, there is a VHF/FM coaxial male connector and an AM aerial wire connector, just below an Ethernet socket, all of which supply radio since a vTuner is fitted for internet radio reception.
The '609 will also read music files from a server or from a computer running Windows Media player 11 or 12 (but definitely not iTunes from an iTunes player!). Onkyo's owners manual lists this (see www.eu.onkyo.com).

The front panel carries grey lettering on a black background that was illegible in all except bright lighting, making setup difficult at times. The remote control will normally be used and this was clearly marked, if a little cramped and fussy. The front also carries a USB input to read music files on a memory stick, and an HDMI input too.

SET UP

Before being reviewed, the receiver's firmware needed to be checked and updated if necessary. The '609 did a DHCP handshake with my Netgear router over a wired ethernet connection, without difficulty. Firmware update was needed (1031-0200 etc to 1031-0400 etc) and took three minutes on a fast internet connection in central London; Onkyo say this can take up to one hour. I had to reset the receiver's internal DSP three times afterward though before normal operation was resumed, and the remote control had to have its batteries removed before it would reset and work. Onkyo's owner's manual procedure doing nothing. After this kerfuffle - not unexpected - the TX-NR609 was fine for the remaining review period.

Onkyo have changed the operating logic a little to put preferred playback mode into default memories related to the subwoofer channel, comprising 25/40/63/100/160Hz bands to lessen boomy subwoofer bass. As I use full range loudspeakers I don't use a subwoofer and the main channel has no such LF EQ, which is a pity.

There are a myriad of signal processing schemes, mostly from Audyssey, promising to correct everything you could ever think of and even things you never thought about, but most of the processing is far too technologically simplistic to do anything other than change the sound rather than truly improve it — and there's no end of ways to furtwangle a signal in a DSP! I dialled in Pure Audio to bypass all this.

With radio and older CDs I sometimes listen via Dolby Pro Logic II Music as it clears the front stage of out-of-phase information, adds a little depth and tidies things up generally, benefits outweighing the potential hit to sound quality inherent in conversion to digital and back again.

SOUND QUALITY

I kicked off listening to VHF/FM, and there was an even basic tonal balance with Onkyo's usual strong bass. The soundstage was wide and deep with Adele singing 'Rolling in Deep' on Heart FM, her strong soul delivery coming over forcefully in my lounge. The Onkyo doesn't lack power or punch, but as expected there was a slight lack of high end sparkle from VHF.

Unexpected was some hardness and glare in the upper midband that seemed to affect all stations, bringing insight but an etched quality laced with a smidgen of coarseness. I say this is unexpected because I know Onkyo receivers well and they are usually more benign in their sound than our TX-NR609. Even on Radio 3 with Ingrid jumper playing Beethoven's Piano Sonata No.17, I noticed some glare. The tuner did have a slightly hard, mechanical quality.

I thought little of this, attributing it to a budget tuner module, until I span the Trondheim Soloists on 2L's
Hi-Fi World tests all products before they are reviewed. Many fail this first hurdle, rejected for a variety of faults. Pre-testing is crucial but only Hi-Fi World does it. For those products that pass, our measurements give our reviewers invaluable information about behaviour. Hi-Fi World is the only magazine, worldwide, sufficiently well equipped to be able to apply comprehensive tests in all product categories. Here's how we do it...

LOUDSPEAKERS
Loudspeakers are tested with the industry standard Clio measurement system from Audiomatica of Italy, giving results understood and accepted by manufacturers worldwide. Measuring microphones are a Bruei & Kjaer mic. capsule on a B&K SPL meter and an Audiomatica microphone. Our tests include decay plots and coloured contour maps, as well as unique distortion measurement that provides valuable insight into bass behaviour. See our website www.hi-fiworld/loudspeakers/tests for more detail.

PICKUP ARMS
Our unique arm vibration tests are made using a special miniature Bruel & Kjaer accelerometer attached to the arm's headshell, at the cartridge mounting position, as our picture shows. This reveals arm tube bending modes and high frequency vibrations in the headshell, that degrade sound.
AMPLIFIERS
Amplifiers are connected to large resistive loads, 8 ohms and 4 ohms, and all parameters including power and distortion are measured by a Rohde & Schwarz UPL, the world's most advanced audio analyser. The loads are custom built to our specification, able to absorb 200 Watts without generating high frequency distortion due to magnetic hysteresis caused by iron content in the wire. This allows us to measure crossover distortion at 10kHz accurately and understand its influence upon sound.

DIGITAL CONVERTORS
DACs are connected to the digital signal generator of our Rohde & Schwarz UPL analyser and their analogue output sent to the analyser for analysis. We can measure all parameters and even pre-jitter the signal to test effectiveness of reclocking, allowing us to uniquely determine impact on sound quality.

TURNTABLES
Analysing turntable speed stability is thorny. We have just bought a Kenwood 180FL Wow & Flutter meter to get a high resolution analysis from its frequency demodulated speed stability output, important to see what Direct Drives are really doing.

CD, DVD AND BLU-RAY PLAYERS
To test CD and SACD players you need top quality test discs — and they come from Philips, inventors of the medium. We use Philips discs, as well as Sony and Denon for CD. We use the expensive but comprehensive Burosch DVD test disc set, with top resolution 24/192 PCM data, for DVD and Blu-ray players.

PICKUP CARTRIDGES
To measure pickup cartridges you need an accurate test disc — and there is only one, JVC TRS-1007. We have two of them. It was cut at half speed and needs special equalisation, but is super accurate. That is why our cartridge measurements are of unparalleled accuracy, matching those of Ortofon for example, who also use TRS-1007.

VHF/FM TUNERS
Top quality VHF/FM tuners demand the use of a reference standard RF signal generator and for this we use a Leader 3412 Standard Signal Generator. An external MPX filter and post-equalisation network complete the picture, giving super accurate data for analysis in our Rohde & Schwarz UPL analyser.
For more advice see Letters from earlier issues at www.hi-fiworld.co.uk/letters

A pair of KEF iQ30 loudspeakers are on their way to LAURENCE ROBERTSON, Letter of the Month winner in our June 2011 issue.

Letter of the Month

A Musical Fidelity V-Link will prise out better sound from Alex Cohen's Mac Mini.

FILE COUNSEL
A couple of years ago I decided (with some persuasion) that my hi-fi took up too much of the living room space and started to look for a solution. I found a small box called a Benchmark DAC iPre and hooked it up to a Mac Mini. To my surprise I was blown away by the sound quality and decided to sell my large, room dominating separates. My setup now consists of the above and a pair of ATC SCM20SL Active towers. I have always ripped my CD collection using the Apple Lossless encoder, believing it to be the best way of doing so with the Mac Mini. I have tried other ways e.g. WAV, AIFF and cannot hear any differences between them. Hence I was surprised to read in your recent review of the Electrocompaniet PD-1 that ALAC sounded mediocre when compared to uncompressed WAV. I am still a long way from needing a hearing aid but as much as I try I cannot hear a difference between ALAC and uncompressed WAV, despite trying just after reading your article. Please help me, as if I am losing quality when ripping my CDs I want to know before I go too far down the wrong path. I believe this is a large area of confusion and with so many manufacturers and customers now using PCs, Macs and other wotsits as music servers I feel it should be addressed. To confirm, I connect the Mac to my Benchmark using USB and the Benchmark to the ATCs with Chord balanced interconnects. I find the sound very musical, detailed and balanced. I own a Cambridge Audio Azur 650BD player that I occasionally use as a CD player and find that the Mac, even though not considered a true audio product, sounds far better. I also set the Mac for 24bit 96kHz irrespective of the file being played as Benchmark recommend. I find it sounds better than 16 bit 44.1 even though that is the original format. I eagerly await a response.

Alex Cohen

Hi Alex. If you can't hear a difference then don't let it worry you — but there is one. Through my system it's clearly audible, and manifests itself as a slightly opaque, cloudy haze and a touch less rhythmic flow, plus a slight flattening of stage depth. How can this be? Well, given that ALAC (Apple Lossless Audio Codec) files are identical bit for bit to WAV, the cause must lie not in the files but the way they're delivered. I can only speculate that the extra processing load, allied to possible jitter issues,
causes this. Personally I would always run WAV if I possibly can; why not? These days storage space is not an issue, and surely the best computer file is the original.

There's also the issue that you may at some future date wish to move to a different platform, which may not play AC, in which case you'll have to transcode the AC files to WAV anyway.

If I were you, I'd invest in a Musical Fidelity V-Link (£99); plug this in to your Mac Mini's USB socket, and feed the V-Link's optical digital out into your Benchmark; you should find a noticeable improvement in sound. This is because the V-Link clocks the Mac Mini asynchronously and its optical out will remove the transmission path of electrical noise into the DAC. Hope this helps.

Our measurements have shown substantial jitter on the output of a Mac Mini and little on a Cambridge 850BD. Your findings are at odds with this Alex, so other factors may be involved. NK

B&W BREAK DOWN

I have a pair of B&W Silver Signature 25 loudspeakers (the model with the slate stands). It came supplied with solid silver cables that have become rather fragile. The PTFE insulation has become so brittle by now that the slightest twist could break the cables. I'd like to be prepared when disaster strikes, so I'd very much appreciate if you could suggest a suitable replacement.

Jan Grinaert,
Tervuren,
Belgium

Hi Jan. One obvious answer is another B&W and the B&W 804D. I reviewed in our February 2011 issue comes to mind. It was very impressive in its sound, if not so impressive under measurement. The Diamond tweeter is a little weird; fantastic sound, but one-note. The Bowers & Wilkins Signature Silver 25 dates from around 1991, and did come supplied with a three-metre cable that ran from the crossover to the cabinet. Unfortunately, Bowers & Wilkins is no longer able to supply these cables as spares, as some of the elements of the cable are no longer in production. However, Bowers & Wilkins offer a repair service, which would be of use here. Due to it being a prestigious model, Bowers & Wilkins would prefer that the speaker be returned to their service centre for refurbishment. Also, due to the age of the Silver Signature 25, Bowers & Wilkins would also conduct a full check and test on the speakers to ensure they are functioning to specification.

You should call Bowers & Wilkins on 01903 221700 to arrange for this service.

SHAWN MARIN
(B&W'S P.R.)

NEEDLE TALK

I read with great interest Rafael Todes article on the Garrard 401/Hadcock GH242 partnership as I have a 301/242 combo. It always puzzled me that the Hadcock GH228 is in your World Classics feature yet Noel Keywood admits he was never a fan. I am at the point of trying to decide which cartridge to choose to improve upon the detail of my Goldring 1042 (I also have a Shure V15 Mk4 in hiding). I know that the Cartridgeman's Music Maker III is usually matched with the GH242 but I thought that perhaps there are more choices in the moving coil category so in anticipation I have recently bought a Graham Slee Elevator to pair with my Era Gold V.

Recent answers in the letters column have made me wonder whether the Ortofon Rondo Bronze or the Audio Technica AT 33EV may be suitable candidates as they do not emphasize the treble and are easy on surface noise. Bearing this in mind, should I push the boot out and go for a Kontrapunkt or the Benz Micro SL?

The rest of my kit consists of Cyrus CD8SE +PSXR, Cyrus DAB 8.0, Cyrus Pre V52+PSXR, Cyrus Mono Xs and Spendor SSs speakers. Interconnects are a mixture of Atlas Cables Voyager, Explorer and Equator whilst the speakers are bi-wired cables with QED Silver Anniversary, each cable being 10m long.

What moving coils would suit the GH242, bearing in mind that some of my singles (and odd LP for that matter) are not mint condition. My taste in music is mainly sixties soul, Tamla Motown and R&B. Having been impressed by the bass of the Totem Hawks at the Bristol Hi-Fi show a few years ago, I wonder if these would be a suitable upgrade to the Spendors? An over-riding factor in speaker choice from my advisor is they must be available in maple and not significantly taller than the Spenders. The room is approximately 13 feet square (photos attached).

Thanks,
John Watson

Dating from 1991 B&W say, the Silver Signature can be refurbished at the factory.

Hi John, Assuming you have an 8ft high ceiling Cara, a room acoustics programme, shows that at the listening position you have a strong

MAIL
modal peak around 50Hz in your 13ft square room and we publish the wave pattern at this frequency where, as expected, there is a pressure peak along each wall at 50Hz. So, in simple non-technical terms your room's low frequency modes will happily do this situation and you need high modal peak peak in your room's low frequency modes. So, there are an increasing number of good budget moving coil (MC) cartridges – and by good I mean without screaming treble. The new Benz Micro Ace is one of them and so is the Audio Technica AT33 EV I am told, although I have not measured or listened to it. The AT OC9 MkII does have peaky treble and although quality is fine, I am not personally in love with its lack of balance. NK

THE TRACKING ANGLE

My experience of the Empire 598 Trinidor turntable fully agrees with your evaluation. Indeed, a superb turntable, with clever convenience touches and a beautifully engineered bearing system micro-honed Oilitte bearings and lapped chrome steel shafts machined as individually matched. Apart from the rubber mat, the on/off switch and a tiny plastic collar to turn the LP illumination on and off around the arm-rest, there is more metal in this thing than most turntable engineering departments today are allowed to dream of. Makes you want to cry about the very bottom of the audio frequency band. AG.

To your question how could such a tonearm cope with the predominantly extremely high-compliance cartridges of the day, the answer is: badly. But you generalise, as not all cartridges were high compliance; most moving coils were relatively low compliance. The Empire may well have suited them. I did once own a top of the range Empire 1000 ZEIX MM cartridge, with a maximum tracking force specified at 1.25gms, but quite frankly it was barely useable at such a low downforce. Sound quality from Empires was always good, I must say; I rather liked them at the time, although a Stanton 681 EE was my choice for many years during that period. NK

NEWS OF MY WORLD

It is 10 years since I was first introduced to your magazine (at the time I was hunting up valves for my aunt's 1960s-era radiogram), and within a few issues I was hooked by Hi-Fi World. In doing this I gave up what had been almost three decades of Hi-Fi News and almost every issue now of HFV gives me ideas! I particularly enjoy your Letters pages, hearing the stories of how your readers have put their systems together and their ideas/queries for improving them. Consequently, let me first briefly outline where I am and how I got there. I was inspired by audio as a 12-year-old when my (Totton, Hampshire)
Empire Troubadour turntable, able to track cartridges at 0.01gm

Asking Demetri from Canada?

School's music teacher acquired a brand-new Goldring Lenco GL75 deck, played through a Heathkit amp (assembled by the physics master) and our class listened to Sinfonia Antartica (a wonderful piece — AG). This was 1963 and the sound was a revelation. I knew then that the production of truly high-quality sound would always be important to me. Of course, I wasn't able to do anything about it until I went to university and in the early 1970s as a graduate student I acquired a Goldring Lenco GL69 Mark II (with Goldring G800 cartridge), a Leak Stereo 70 (from Laskys on Tottenham Court Rd. of course) and Tannoy III LZ Monitor Golds. In terms of construction quality, I'd like to point out that the amp and speakers are still going strong, as I passed them on to one of my sons a few years ago!

The late 70s found me in the U.S. where the turntable was upgraded to a Connoisseur BD1 fitted with a Grace G707 (unipivot) arm and F9E cartridge, plus a Nakamichi 500 cassette deck. I was still using the Leak amp but now powering the Tannoy drive units fitted in boxes that I had built myself using the Lea-Lampton prescription (Lea & Lampton 1972 IEEE Trans AU-20, 200) for optimal tuning of a reflex port. Bass was now stunning, but the boxes were rather big (approx 3x2x1.5 ft). My reference recording here is the stunning Virgil Fox direct-to-disc rendition of the Bach Toccata and Fugue on Crystal Clear Records the white vinyl pressing! This contains 20Hz pedal notes that most people don't even realise are there. My modified Tannoy drivers were to be flat down to 20Hz and the house literally vibrated. With the construction "bug" now firmly established, I was inspired by my friend and office-mate, Mike Lampton, to build his LZ-I preamp. The design was written up by him in Audio Amateur (1979/1) and was said at the time to be as good as a Hafler DH101. The LZ-I was based on the Signetics NE5534 op-amp, introduced in the late 70s, the first chip to combine low noise with high slew rate. To complete the chain I constructed a power amp based on OMP-300 MOSFET boards. Headroom was staggering, but I had to watch the volume control very carefully!

Living in the San Francisco Bay Area at the time, I had the opportunity to replace the Tannoy drivers with a 3-way system using JBL 2213s (massive, 12-inch bass units), the Jordan 50mm super-tweeters. I shoe-horned these into the boxes I'd built for the Tannoy super-tweeters. I shoe-horned these into the boxes I'd built for the Tannoy (but with modified reflex ports) and the effect was very impressive, particularly for the bass. Sadly, the Jordans couldn't handle the power and I abandoned these boxes after I'd managed to accidentally burn out two sets of Jordans!

As an aside, the Nakamichi is still going strong today. In 36 years it has been serviced just twice, with the heads and motor each replaced once. B&W in Sussex are the agents and returned it to mint specification. Just a few months ago I played some cassettes I had recorded from vinyl 20 years ago to my current effective additional mod I have made to the Quads. Since I still possessed my California-era JVC ribbons, I found that they sit beautifully on the wooden base provided by OTA. Wiring them in parallel with the Quads provided a delightful extra "fizz" to the top end of guitar, violin and flute that takes it that bit closer to the sound of the original instrument.

Ah yes, the two power amps. The Regas are right now being driven by a PrimaLuna Prologue II, which gives a much smoother and more balanced sound than my home-made OMP-300 power amp. And the Quads are driven by a Leak Stereo 20, fully rebuilt to top spec by Classique Sounds. The latter is

One Thing Audio improved Quad ESL-57 loudspeakers — "your review was spot on" says Phil Charles.
A Leak Stereo 20 from Classique Sounds

Heavily moulded speaker cable, managed to break both speaker terminal units. I found Rego’s contact details, e-mailed them about what had happened, asking whether replacement units were available and what the cost would be. Two days later I received by post a pair of replacement terminal units, gratis.

Now that’s what I call service!

Phil Charles

Hi Phil. Your Akito would be bettered by an arm like the Rega RB301, or one of the Rega modified jobbies such as the Inspire X100 in this issue, or perhaps better like an SME. We now have Benz Micro making some impressive budget MCs and you should well add them to your list. NK

Hi Phil. We will be reviewing the Origin Live power supply in due course, but meanwhile I think you should seriously think about the Inspire Hi-Fi Vivid LP12 mods package; I tried this recently and was immensely impressed by the difference it made for under £1,000. The cartridge is the first priority though; I personally would plump for the Audio Technica AT-33EV (£475) which is a brilliant mid-price moving coil; it’s streets ahead of the Linn Adikt, offering a smoother, sweeter, more detailed and expansive sound; it will be like moving from AM to FM radio! The OC9 is also very good, but apart from a fraction more dynamic punch it’s wholly inferior to the AT33EV, sounding slightly colder, harder, more mechanical and less musically engaging.

The Dynavector is fine too, but lacks the EV’s detail and sophistication, especially in the treble, even if it’s a tad more rhythmically bouncy. The Ortofon Rondo Bronze is also a fine design, but again I’d take the EV over it, the Rondo not having the latter’s subtlety and intricacy. Hope this makes my love for the AT33EV clear! The Akito will track a good moving coil like this well, but you would be rewarded by going up to the likes of an SME 309 or, better still, an Origin Live Silver Mk3a. DP

DIANA GIGG

I have just spent the last 70 minutes or so in the company of the gorgeous Diana Krall and a rather decent bottle of red wine (Merlot) listening to her double album “The Very Best of Diana Krall” on two 160 gms circular pieces of vinyl. My research was carried out on the following equipment: a Michell Gyro SE turntable in beautiful black and gold (purpose-built for me at the factory itself) with a Rega RB250 arm, Lutz silver-wired, and Ortofon Rondo Red moving coil cartridge; an elderly Musical Fidelity X-XP phono amp (the barrel-shaped cylindrical version); a Rotel Caspian Mk I pre-amp and two Rotel Caspian power amps bi-ampling a pair of Living Voice Avatar speakers.

It all sounded rather wonderful,
with Ms Krall's voice and brilliant jazz piano out there right in front of me, and I drifted off into a sort-of magical dreamland
1) How would you suggest I could improve my system?
2) Is there a wine other than Merlot that would aid my concentration on the music? [Blue Nun, obviously AG]
3) What the heck has Diana Krall's husband, Elvis Costello, got that I haven't?

If you could answer these questions I would be extremely grateful.
Roy Stockdill
Watford,
Herts, UK

1) an Icon Audio PS1.2 phono stage.
2) I find a nice Chateauneuf-du-Pape slides down rather well...
3) a proven record of writing pop songs of the highest quality, DP

FOR RICHER, FOR POORER
As someone who has purchased every issue since its inception and also your predecessor, Hi-Fi Review, as well as The Flat Response, I think you can comfortably call me a fan!

Elvis Costello has talent Roy!

In my earlier exposure to all things hi-fi I can recall many trips to the only two shops in London with prices I could afford. One was Richer Sounds in London Bridge when I could barely see over the high counter, and also Cavendish Sales in Whitechapel. I bought a cheap Tensai amp, some Solavox speakers, borrowed an old Garrard turntable with auto changer and I was away! The sound wasn't brilliant but was certainly better than the transistor radio I was using previously.

A paper round and a couple of years later and I had progressed, bit by bit, to a Mission Cyrus I amp, an Akai HX-3 tape deck (not the one I wanted but as the GX model above was out of stock, and being desperate to spend some money, I settled on this one!), AR Legend turntable with Naganoa MP! I Boron cartridge from Laskys and a pair of Monitor Audio R352 speakers. Thank god for 0% interest free credit deals, and a very understanding older sister! My 'lightbulb' moment came in 1986 when I visited KJ LeisureSound and they had around ten different Linn LP12s with various arms and cartridges on display. I listened to a few of them although I only had around 2 in my pocket! I was hooked. Also, they didn't offer 0% interest and I knew on my wages I'd have to forgo any food or drink for around 4 months if were to be able to afford them, so I looked elsewhere! That was in 1986 and since then till now I'm still trying to reach the feeling I felt when I had that 1st audition. To this end, although I read your publication regularly, because of a shortage of funds, I know realistically that I cannot afford to purchase new equipment. To this end I find I am purchasing items from that era and, more importantly more records! My system now is as follows; Linn LP12 with Ittok and Dynavector 10X5 and Original Live Advanced Dc motor, Naim 32.5 and 140, Ruark Talisman Mk 1, Nakamichi CR7, Hitachi FT5500 Mk2, Revox B77 Mk2, Alesis Masterlink, Marantz CDR-630 (given to me for nothing!), Sony PCM-R300 DAT machine, Sennheiser HD580 and a Okki Nokki record cleaning machine. I also use a Sony TC-WEB35S double tape deck for making copies; An excellent machine with an amazing feature list that I acquired for the princely sum of 25, practically brand new! I also have a few standby items I use when any equipment is being serviced. Rega Planar 3 with RB300 and Golring 1042, Revox B710 and Nakamichi BX300, Mission Cyrus 2 and a Musical Fidelity tuner (the one to match the A1 amp). To summarise, my system gives me many hours of enjoyment and sometimes not. I may not be typical of many of your readers but I feel that the most important thing is playing and enjoying the music, rather than upsetting yourself when sometimes the sound is not as good as you otherwise expect. I still record only to tape whether DAT or Compact Cassette and reserve special 'challenging' recordings such 70's dub to reel-to-reel primarily. The CD recorders are used to archive tapes only. I still record only to tape whether DAT or Compact Cassette and reserve special 'challenging' recordings such 70's dub to reel-to-reel primarily. The CD recorders are used to archive tapes only.

Ifield Jones
Surrey

Hi Ifield. You have some fine hi-fi products there, some real classics. It struck me the other day, whilst updating our World Favourites listing on-line, that there are so many really good products around that have just become obsolete and can probably be picked up for a song one way or another, either at end of range knock down prices of the sort Richer Sounds specialise in, or of the same status but from eBay. It looks like this is the way you do it and being able to resist the temptation of the latest is the best allows a lot of enjoyment to be had at very reasonable prices. NK

Fantastic! You have a great collection of kit there and I think your attitude is spot on. I think the only obvious weak point in your system is the Dynavector 10X5 which is a great little entry level MC but hardly taxes the Ittok. Having used (yes, you've guessed it!) an Audio Technica AT33EV moving coil in a tik-tok with brilliant results, I'd counsel splashing some cash on the latest EV version, which will suit your Naim amplification down to a tee! DP

M.A.D. FOR IT!
As a recent visitor to the Hi-Fi Wigwam Show at Scalford Hall I was particularly taken with a system being displayed in Syndicate 12 Room "Valvebloke".

The gentleman in question had a Rega Planar 2, Ortofon 2M Black, Quad 99 CDP-2, Radford STA15, Dynaco ST-70, Audio Innovations 800, Rogers JR149s and IPI M3TLs. My point here is that the items that gave me the most pleasure were the Rogers JR149s and the Radford STA15. I just fell in love and have to say for me this was the highlight of my visit. Now I realise that this is termed, "Olde World" equipment but its communicative sound and lovely balance made me wish for the system myself. Can you recommend a modern equivalent to the Rogers? I currently have a pair of B&W DM6025s driven by an Icon Audio Stereo 40i (one of the originals) which uses KT88s. I love classical music but listen to most genres. Cabling is Atlas Equator and something that surprised me when I inserted...
A MyAudioDesign MY1920 comes close to a Rogers JR149 says David.

Try auditioning Bronze range loudspeakers, which are a real bargain. NK

Hmmm – tricky even at £900. For £400 then you’re talking the Usher S-520; this is an excellent small loudspeaker that’s definitely a little more musical than the Quad 12L but it’s hardly night and day. At £900 you’ve got a wider choice; I’d be tempted to investigate the Eminent Technology LFT-16b for just a few dollars more. We’re reviewing this next month and it has a wonderfully fresh and fluid sound; not everyone’s cup of tea style-wise, though! DP

We will be reviewing the Eminent Technology LFT-16b next month, but a preview is on our website now...

Hi Mike. The CT-95 is, to my knowledge, the last (and some say, the best) hi-end cassette deck ever produced by Pioneer. In this respect the answer to your second question is a definitive “yes” — it is a very good deck. And the presence of an auto calibration feature called “Super Auto BLE” makes the answer to your first
question easier, as the CT-95 can align its electronics to get the most out of any decent quality cassette. Even plain TDK FE and TDK D Type I cassettes could sound surprisingly good when recorded on this Pioneer. However if you are serious about the sound quality and long life of your recorded tapes I would advise you to get some Type II cassettes as these have lower noise and also would preserve the quality of the sound for many years to come. I have cassettes recorded 20, 25 and even 30 years ago and many of these are still sound great!

Brand new Type II TDK SA tapes are available for under a pound on the Internet and in Richer Sounds shops – that is probably a good starting point. Another source of good quality "new old stock" cassettes is the eBay — you may even find some top quality Type IV “Metal” tapes there though the prices for these cassettes are on the rise. Metal tapes are no longer manufactured and as a result command premium prices.

Type IV cassettes also vary in quality and may disappoint if they were not stored properly. For that reason I mostly use premium Type II cassettes - at 2-4 times the price of the TDK SA these NOS tapes provide the level of performance that would surprise many people who’d never listened to a properly made cassette recording. My favourites are SONY UX-S, UX-Pro, Maxell XL-IIS and TDK SA-X tapes.

Now to your last – and the most difficult question. Servicing a tape deck presents a challenge. The only exception is probably the Nakamichi cassette deck brand as there are still a couple of companies that can do a professional service on these. Owners of other makes are generally out of luck and have to either learn how to do it at home or search for a fellow tape enthusiast with the right tools and experience who would agree to do the job. This is somewhat unfortunate situation as cassette decks (like cars, really!) do require a reasonably regular service to perform properly and that service can only be done using the right tools and equipment. Just imagine that you own a car and there were no more service stations around! There are several Internet forums that can help a cassette deck owner in this respect and I would recommend TapeHeads.net (http://www.tapeheads.net) for friendly advice and technical help.

Many thanks
Malcolm Davey

Pioneer’s CT95 had automatic record equalisation to get the very best from cassette, says Alex Nitikin of ANT Audio.

Sony Pro Walkman – contact Sony about service.

TANNOY WIRE
Mr. Haden Boardman. I enjoyed your article on Tannoy dual concentric drivers. I own a pair of Golds in like-new condition and yes, I have rebuilt the crossover which may be tinned copper, but I have doubts about that. If they are aluminium, replacing them with good copper or silver might be the single best upgrade to these amazing drivers. Any light you can shine on this would be appreciated.

Bob Matz
New York
USA

The original wiring is tinned copper rather than aluminium. For an upgrade I would suggest replacing this with PCOCC (Pure Copper made by Ohno Continuous Casting process), such as Oyaide 34/0.18 stranding or similar Furutech. Solid core (0.7mm), PTFE insulated high purity silver could be used for the HF, but will sound brighter.

Hope that helps.

DR PAUL MILLS, CHIEF DESIGNER, TANNOY.

HARD SELL

Although I now live in Melbourne and have done so since 1972, I shall always be the product of my English upbringing, in the 1950s. Every Christmas or birthday my mother would make us write a thank you note for every present we received, whether it was to our liking or not. Such was the way good manners and, if you like, protocol ruled her approach to life. I have, of course over time, come to agree with her. A phrase I like to sum it up " good manners are a social lubricant." So what is all this about? Here is a thank you letter written without meter standing over me! I very much enjoy my system, of Project Perspective turntable, Transcriptor turntable with Shure VI Silk, Cambridge 640p phono stage, Musical Fidelity XI and my home built omni directional speakers. Not quite high end but very musical. Up until recently I had a Micro mc in the Perspective's arm. It finally wore out and so a replacement was sought. I had an old but still in good condition Supex sd700-a mc. and set it up. At first it sounded lovely but I soon found it was sending me to sleep. So
rich and warm was the sound (initially beguiling) that all the excitement in the music was gone. As a listener mostly to jazz, I quickly realised I was missing all the percussion in the music. The top end was so tame it had no zing at all. Great for extended bass of course but I am not a bass freak. I like it real, not just deep. The real bass had gone to be replaced by a warm, comfortable blanket. What to do?

We all know how hard it is to audition different cartridges at a dealers, let alone in our own systems. So I had to do the hi-fi crime and buy with only a review to go by. I purchased my monthly copy of Hi-Fi World, the September 2010 issue to be exact, and there on page 109 was a review of the Audio Technica ATF3/1L. At only 189 GBP it grabbed my attention. By the way, we read so many letters of people bleating about the balance of high end to the more affordable in hi-fi journals that I have to say I believe you get it about right. Who among us buys a car magazine only for a review of a high end to the more affordable in hi-fi? We all know how hard it is to stay with us if everything’s just “this is great and that’s great and so is that;

They want some meat on the bone, so to speak. Even products we covet have downsides; nothing yet invented is absolutely flawless; if it was we’d all be out of a job! The AT-F3/1L is a great little budget MC, and should gain some much needed sweetness with age have fun with it. DP

**TWEAK PEAK**

At present I am enjoying the following set up:

- **Icon Audio’s PS3 phono stage** is ideal for Mike Thompson’s system thinks DP, adding much needed valve euphony.

- **My sources are a Linn LP 12** (serial number 77000 plus), Ekas, Lyra Dorian, Lingo 2, Trampolin, bought second hand two years ago and serviced I reset 1 year ago when Trampolin and cartridge (new) were fitted, Trichord Dino and Dino+ 2 years old. I also have a Leema Acoustics Antilla CD, that is two years old and a Leema Acoustics Tucana (with balanced option) that is two years old. My loudspeakers are Monitor Audio PL 100 on MA stands and interconnects are Chord Chameleon Silver Plus. Loudspeaker cables are Chord Rumble 4 bi-wire and mains conditioning is Isotek Mini Sub G 11 with Isotek Mains cables throughout. All of this is on good quality shelving on wall supports. The CD player also sits on a Mission Isoplats. Listening is shared equally by vinyl and CD and consists mainly of Blues, Jazz, Rock, Mozart and Tchaikovsky. I now wish to tweak this set up and would welcome your suggestions regarding improving mains.

Many thanks in anticipation,

Mike Thompson

Hi Mike - your system sounds superb on paper, although probably the weakest point is the Trichord Dino phono stage, and so it’s this I’d replace first. Either go for the ANT Audio Kora 3T or the Icon Audio PS3, depending on whether you want a little valve euphony injecting (via the PS3), or a wonderfully open straight-down-the-line sound from the ANT Audio. Your supports look pretty good to me, as is your cable. The Antilla upgrade would be worthwhile, but don’t expect a night and day change, just a subtle improvement. DP

No, the weakest point is Tchaikovsky. I recall a Simon Rattle interview in which he said that in all his years leading the Birmingham Symphony Orchestra, he had managed to avoid programming Tchaikovsky altogether. I understand how he must have felt.

AG

**VINYL DEMAND**

I write seeking your help regarding an upgrade path for my existing vinyl set-up which consists of a Michell Gyro SE Deck, SME Series IV arm and Ortofon Kontrapunkt b cartridge. The arm is fitted with the standard SME wiring/cable. The above equipment is connected to an EAR 864PL pre-amp,
Michell Orbe is a good replacement for the Gyro SE.

which has an internal phono stage, an EAR 869, which is used as a power amp and a pair of Spendor S8es.

My main music taste is rock/pop although I do occasionally venture into the realms of classical! I look forward to your response to this request and would just add that I enjoy reading the mail section of your magazine each month as it offers such an interesting variety of content.

Jeff Keilty
West Dorset

Hi Jeff – the weak point here is your deck. The Gyro is superb, but the Michell Orbe is better still, and the obvious next upgrade; it will add bass power and extension, plus a cleaner, more transparent midband and treble, with a more natural rhythmic flow that makes the Gyro sound a little mechanical by comparison. The rest of your system is well placed to signpost the differences, I feel. DP

LANDSCAPE

I've been listening to the second Landscape album, From The Tea Rooms Of Mars... (etc) and suggest that (a) it's one of the great unsung synth albums, and (b) the opening track European Man would make a great hi-fi test track, ranging from its quiet and thoughtful opening (dig those not-very-accurate synth piano sounds, or are they meant to sound that way? Who knows with Landscape...) to the (very loud) peak, and finally the song just bounces along from there. It would give your NS-1000s a good workout! Forget Einstein A Go-Go, this track (and the title track) are the classics! Oh, and while I'm on the line, you haven't published a review of Kraftwerk's The Catalogue on vinyl yet. Either (a) there's no real difference compared to the original LPs (I have The Catalogue on CD) [but this wouldn't apply to Electric Cafe/Techno Pop], or (b) there wasn't enough space in the magazine, or (c) you just had too much time enjoying yourself to write the review!

All the best,
John Malcolm

Thanks for the tip-off, John. I actually have that album and do like it, but whenever I feel the need to hear 'Einstein a Go' I then feel myself reaching for the album that sits next to it in my rack (if it's in the right place, that is), which is New Musik's 'From A to B'; I adore 'Sanctuary' and think Tony Mansfield's songs and arrangements are amazing for that era. I try not to write about Kraftwerk as I become a fawning fool and feel myself drifting into my sixth form dream world where I was going to be the world's greatest ever music writer. Not going to happen, got to let it go! I'll be putting 'The Catalogue' on to my Christmas list though, even if I suspect the reissues won't hold a candle to the original vinyl. DP

To cure your Xerxes, 'phone Roksan's London HQ they told us.

This is a taste of the new Landseer album, From The Tea Rooms Of Mars... (etc) which I've been enjoying recently. Thanks, John, for the tip-off. I actually have that album and do like it, but whenever I feel the need to hear 'Einstein a Go' I then feel myself reaching for the album that sits next to it in my rack (if it's in the right place, that is), which is New Musik's 'From A to B'; I adore 'Sanctuary' and think Tony Mansfield's songs and arrangements are amazing for that era. I try not to write about Kraftwerk as I become a fawning fool and feel myself drifting into my sixth form dream world where I was going to be the world's greatest ever music writer. Not going to happen, got to let it go! I'll be putting 'The Catalogue' on to my Christmas list though, even if I suspect the reissues won't hold a candle to the original vinyl. DP

Hi Raz. An updated World Favourites section has been added and we will be making further updates and adding more information soon. You will also find the 2010 Awards products on the site. I do not know your Cabasse loudspeakers so cannot comment on them.

NK

There have been several iterations of the basic Xerxes, but the general feeling at Roksan Towers is that something like the main spindle or the motor alignment, for example, may have become misaligned in storage. They suggest that you give them a call at their London HQ on 020 8900 6801, with the player available for visual inspection.

AG
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The Clic doesn't just work off CD however, and so the next test was some music files wirelessly from my Mac. As there's no media server software built in, I first needed to download some. The Clic played out in a stable, fuss-free manner. Fun Lovin' Criminals' 'Up on the Hill' sounded much as it does via CD; a fine soundstage was set up, again with oodles of detail and atmosphere, which pulled me in and held my attention determinedly. Bass was tuneful and articulate, showing the counterpoint with the snare and hi-hats in a most fulfilling way; as per the M1 DAC I wouldn't say it offers the last word in dynamics, but it's certainly good in this respect and excellent at conveying rhythmic and dynamic nuances in a song. Overall, it sounded extremely refined and polished, yet musically satisfying too.

The picture continued for other sources; via the direct digital connection my iPod provided a decently smooth and mature sound rather than the toppy screech you normally get via its analogue output. It played music files off iPod nicely too, whilst internet radio was a real revelation, sounding far more polished than expected. Julia Hartley-Brewer's dulcet tones on LBC were delivered with amazing vibrancy considering the low bitrate and unlovely codec carrying it; the Clic's DAC section's innate refinement on LBC were delivered with a few needing 2V. Frequency response was wide, stretching from 1Hz up to 115kHz. The Tape / Fixed output offers no gain (i.e. x1) but still sounded commendably polished, yet musically satisfying too.

As a preamplifier, it's surprisingly good too. Feeding it with vinyl via a Marantz TT1000 and Whist PS.30 RDT phono stage, there was a slight thinning and lightening of the sound compared to running it straight into the integrated amplifier; so don't expect it to compete with serious passive or transformer preamps, but it still sounded commendably unobtrusive and tidy. The powerful crescendo towards the end of Genesis's 'Mad Man Moon' from 'Trick of the Tail' showed the Clic to have great composure; it didn't fall apart when the going got tough.

CONCLUSION

Taken apart, both the M1 CDT and the M1 Clic are excellent products; taken together they make an amazing 'do-it-all' CD player for around £1,800, the like of which there is nowhere else. Musical Fidelity seem to be on a run right now; the past eighteen months have seen one cracking product after another. The Clic of course is the star of the show; it's hard to think of another product that's as versatile at the price aside from Naim's excellent UnitiQute, which is a slightly different kettle of fish with an amplifier built in. I have no hesitation recommending either of these new M1 series Musical Fidelities, and can only wonder what the competition has in store...

REFERENCE SYSTEM

Marantz TT1000/Origin Live Illustrious/Ortofon Winfield tonearm
Whest Audio PS.30RDT phono stage
Musical Fidelity AMS35i integrated amplifier
Yamaha NS1000M loudspeakers

MEASURED PERFORMANCE

Used as a preamp the Clic offers x4 gain (120dB) via the Preamp output and at full volume 6dB from CD gives 8V out, so there's plenty of drive for power amplifiers, which typically need 1V for full output, a few needing 2V. Frequency response was wide, stretching from 1Hz up to 115kHz. The Tape / Fixed output offers no gain (i.e. x1) but still passes through active stages as it exhibits the same 9.5V output limit as the amplified preamp output. Distortion via the S/PDIF digital input was low, measuring 0.23% at -60dB with a 16bit signal and 0.05% with a 24bit signal. Random jitter from the CD transport hovered at a low 6pS, there was minimal low rate clock drift and no signal related jitter induced by a -60dB, 1kHz test tone. The transport is especially clean in its output.

The Clic measures well through both its analogue and digital stages. It should have good sound quality.

DIGITAL OPTICAL INPUT

Frequency response (CD) 2Hz-21kHz
Separation 97dB
Noise -101dB
Distortion -60dB, 16/24bit 0.23% / 0.06% Output (0dB, Pre out) 8V

FREQUENCY RESPONSE

DISTORTION, -60dB, 24 BIT.

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VERDICT 5/5

MUSICAL FIDELITY M1 CDT

Highly versatile, easy to use network player/DAC/preamp with excellent sound. Superb value for money.

FOR

- spacious, airy treble
- superb midband insight
- network implementation
- build, finish, value
- overall flexibility

AGAINST

- nothing

VERDICT 5/5

MUSICAL FIDELITY M1 Clic

Slickly built, attractively styled compact digital transport with strong sound.

FOR

- clean, open sound
- slot loading design
- build, finish, value
- small size

AGAINST

- nothing

REFERENCE

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MUSICAL FIDELITY M1 Clic

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There are mains conditioners and then there's the Isotek Super Titan, says Paul Rigby...

There are mains conditioners and mains conditioners; for everyone who's had a good experience there'll be someone claiming a bad one. So you've got to take each product on its own terms, in your system, and not arrive at any preconceptions. This said, Isotek's name precedes them; if there's one company that's made its (fine) reputation from mains-related products, this is it. They do a lot of live demonstrations at hi-fi shows, where time after time, they demonstrate the efficacy of their products. This prompted me to review this, the Super Titan, a flagship of their range.

At £5,995 it's right on the edges of what even high end audiophiles would regard as acceptable, so for me it wouldn't be a case of it doing a bit of good here and there; to justify its price it would have to work wonders! Happily, I have a high end system (although even in this context £6,000 quid is pushing it), so I duly installed it and listened with interest...

It certainly looks the part; it's a beautiful thing in its own right, and massive. From a beast-like 30kg and spanning 500x500x300m, in no small part due to the fact that it has to deliver 32A. It builds upon the current Titan model but offers twice as much power and doubles the filtering capability: offering a group of four, seven stage, filters to help remove differential noise (the noise from your fridge, for example) and common mode noise which is a more insidious distortion that you only often notice once it's gone.

Designed to work as a sort of pre-power conditioning combo with the current Aquarius conditioner, the reported ideal configuration for sound quality is to plug your power amp (or monoblocks) directly into the Super Titan, the rest of your front-end into the Aquarius and the Aquarius itself into the Super Titan. The point of the Super Titan? To deliver clean and consistent power. So what does it sound like?

SOUND QUALITY
Initially utilising Skunk Anansie's 'Stoosh' as a test CD on an Icon CD-X1 CD player within a valve system, the listening tests began with the basic reference system presenting a tight, thumping bass with a dynamic rhythm guitar, smoky vocals with discernible acoustic guitar and cymbal elements on the periphery of the soundstage.

Next, the Aquarius mains conditioner presented a more focused soundstage with now, centrally placed, rhythm guitar and bass. The downside was a slight upper midrange lift but the reduction in distortion, improved bass grip and more acoustic guitar and cymbal separated the Super Titan from the rest of your system (although even in this context £6,000 quid is pushing it), so I duly installed it and listened with interest...

The Super Titan removed fireworks. The Super Titan removed that. For the first time, I was listening to the music and not the hi-fi. That focused soundstage of the Aquarius-only rig sounded false, in retrospect, and the basic reference sounded relatively veiled and lacking in bass power. Now, the soundstage had a more organic arrangement while each instrument could be heard clearly. In fact, I could have easily written the bass guitar part on a piece of paper, it was that lucid.

Via my Avid Acutus turntable, Ella Fitzgerald's performance on Speakers Corner's 'Cole Porter Songbook' was simply arresting. In standard reference mode, her performance was relatively stodgy, slow and tired. Post Super Titan, Fitzgerald revealed sparkle, a crisp enunciation and elegance. Also, a tremendous instrumental separation was drained of mental separation was drained of tension, as if the performance was simply held promise.

My monoblock power amps were plugged directly into the Super Titan chassis. My reference system has never displayed such a wide and deep soundstage; bass power was immense, almost visceral, while Skin's sometimes subtle vocalisations proved that the upper midrange and treble were particularly nuanced and delicate.

Finally, the monoblocks remained while the front-end loaded Aquarius was connected to the Super Titan. What I heard surprised and shocked me because, up until this point I was presented with more and better...
Flying Comete

Adam Smith listens to the 30th Anniversary version of Triangle's Comete loudspeaker...
the channel in France, as Triangle are the Comete Limited Edition. Along with a special edition pair of loudspeakers, continuing their own birthday celebrations with the release of a second special edition pair of loudspeakers, the Comete Limited Edition. Along with the Antal Limited Editions

rather hard and shut-in sounding, but a weekend of abuse from a pink noise test CD interspersed with the odd blast of DevilDriver [I'd rather listen to the pink noise – Ed.] had them loosened up very nicely, and when I sat down to listen, a very much more couth and ordered loudspeaker awaited me. On occasions I have heard listeners at hi-fi shows dismiss Triangle loudspeakers as "too bright" but I feel sure that at a few hours in front of the Comete Limited Editions would put this theory to bed once and for all. Yes, they are most certainly not dull or woolly sounding, but the detail that they dig out of the music and serve up is astonishing at times. The tweeter is a thing of great beauty as far as I am concerned, both in visual and auditory terms, as I have seldom heard a unit that can offer such precision, focus and speed but yet never once show even the merest hint of edginess or lack of control. All too often, highly detailed loudspeakers draw you in with their top end insight and then slap you firmly round the ears when it comes to less than perfect recordings. I hesitantly dug one or two out to see if I could trip the Cometes up in this way – four or five hours and a whole pile of CDs later, I concluded that it wasn’t going to happen!

The Triangles lay out the innermost complexities of a performance without any sense of strain or difficulty at all. Mozart’s violins from 'Eine Kleine Nachtmusik' soared around my room with breathtaking speed and verve, whilst the piano from Tori Amos’s 'Pretty Good Year' shimmered gloriously in the centre of the soundstage. The piano is not an easy instrument to get right but the Comete LEs almost seemed to offer a Gallic shrug as if to suggest that this was no challenge at all - the hammers hitting strings were vivid and the decay of each note was not an easy instrument to get right but the Comete LEs almost seemed to offer a Gallic shrug as if to suggest that this was no challenge at all. Mozart’s violins from 'Eine Kleine Nachtmusik' soared around my room with breathtaking speed and verve, whilst the piano from Tori Amos’s 'Pretty Good Year' shimmered gloriously in the centre of the soundstage. The piano is not an easy instrument to get right but the Comete LEs almost seemed to offer a Gallic shrug as if to suggest that this was no challenge at all. Mozart’s violins from 'Eine Kleine Nachtmusik' soared around my room with breathtaking speed and verve, whilst the piano from Tori Amos’s 'Pretty Good Year' shimmered gloriously in the centre of the soundstage. The piano is not an easy instrument to get right but the Comete LEs almost seemed to offer a Gallic shrug as if to suggest that this was no challenge at all. Mozart’s violins from 'Eine Kleine Nachtmusik' soared around my room with breathtaking speed and verve, whilst the piano from Tori Amos’s 'Pretty Good Year' shimmered gloriously in the centre of the soundstage. The piano is not an easy instrument to get right but the Comete LEs almost seemed to offer a Gallic shrug as if to suggest that this was no challenge at all. Mozart’s violins from 'Eine Kleine Nachtmusik' soared around my room with breathtaking speed and verve, whilst the piano from Tori Amos’s 'Pretty Good Year' shimmered gloriously in the centre of the soundstage. The piano is not an easy instrument to get right but the Comete LEs almost seemed to offer a Gallic shrug as if to suggest that this was no challenge at all. Mozart’s violins from 'Eine Kleine Nachtmusik' soar...
just sometimes fails to draw them right out of the soundstage as some other loudspeakers can. Instruments showed no such problems however, and the Cometes were more than able to distinguish between the cold, stark sound of a modern digital synthesiser and the much more rounded and warm tone of a traditional analogue type.

Aiding the Triangles' detail retrieval in knitting their performance into a cohesive whole was their fine low end performance. All too often designers can attempt to force too much low bass from a small enclosure with the result that the finished loudspeaker has instant 'showroom appeal' but lacks both detail and agility at the bottom end, as the driver and cabinet pairing struggle against the laws of physics. Once again, Triangle have done a fine job here. The Comete LE's bass performance lacks both detail and agility at extremes of the audio spectrum are raised, in true loudness contour fashion, whilst the midband has a distinctive dip. Most modern loudspeakers possess a midband lift to increase vocal intelligibility and bring the sound stage forward of the loudspeakers. The Comete will sound different to their slightly recessed midrange, and produce strong output midband presence to balance out any warmh and recessed vocals. They need little power to go loud and will likely be lively. NK

The Comete has an unusual frequency response characteristic where both extremes of the audio spectrum are raised, in true loudness contour fashion, whilst the midband has a distinctive dip. Most modern loudspeakers possess the opposite - a midband lift to increase vocal intelligibility and bring the sound stage forward of the loudspeakers. The Comete will sound different to the norm, at least in terms of tonal balance, and it has quite strong treble electrical damping, meaning a Damping Factor of 10 or more. The bass peak means it will sound lively at low levels and, being lightly damped, is probably best partnered with transistor amps and valve amps able to exert some electrical damping, meaning a Damping Factor of 10 or more. The ports peak at 60Hz but are broad tuned and produce strong output down to 40Hz, but not subsonics. Bass will be strong then, and reasonably even, with some emphasis on lower bass likely to add heft. All this comes with high sensitivity, the Comete producing no less than 89dB SPL from one nominal Watt (2.8V) of pink noise input - very loud for a speaker of its size. Amplifiers of 20-60W will run very loud with these speakers.

The decay spectrum is fairly clean although the bass looks a bit hot around 65Hz, due to light damping imposing some overhang. The Port is very wide so to keep the bass tight the drivers are not damped too much, but are tuned to produce clean decay. The midband delivers a very fine job here. The Comete LE's bass performance was generally well judged and neatly balanced.

Winding the pace down once more left me listening to two loudspeakers again. These loudspeakers do not flatter poor recordings, but tell it like it is. This is a good thing, obviously, but might occasionally come as a bit of a shock if you are used to somewhat rose-tinted designs.

Conclusion

The Triangle Comete Limited Editions are a very fine pair of loudspeakers and, as a fully paid up member of the 'bigger is better' school of loudspeaker appreciation, this is not something I say lightly. The soundstage that they generate is better than many floorstanders I have heard, and the detail which they effortlessly pull out of the source material makes the very best of good recordings, no matter what genre of music is involved. Partner them with an amplifier that has a suitable level of midband presence to balance out their slightly recessed midrange, and they're sure to please.

**MEASURED PERFORMANCE**

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Oyaide MJ-12 Turntable Mat
"gave a sense of ease to the musical proceedings in general and
invested the high treble notes with a pleasing shimmer." HiFi World.

For more information on this truly exciting new product and many other
high end audio upgrading accessories, including rhodium plated connec-
tors and high purity silver and copper cables, please visit www.oyaide.
com or contact your nearest Oyaide dealer on:
www.blackrhodium.co.uk/oyaideukdealers.htm
01332 342233 sales@blackrhodium.co.uk

Fidelity Audio Unit 18E Ogden Road Shaw Lane Industrial Estate
Doncaster South Yorkshire DN2 4SJ
01302 739998 sales@fidelityaudio.co.uk
www.fidelityaudio.co.uk

"This is a well rounded and balanced piece of kit that
provides welcome transparency and clarity, allowing
any pair of headphones to sing."

GENÈSE
Nothing but the absolute
Master Blaster

TDK enter the digital world with the introduction of the feature-rich Sound Cube iPod dock that, says Paul Rigby, promises to rock the house and wake up the neighbours...

I am not alone, I suspect, of thinking of cassette tapes when the three letters 'TDK' are mentioned in that order. But recently the brand all but disappeared, that great name falling by the wayside. Until now that is, as it's back under different management with a range of portable audio products...

The Sound Cube is an affecting piece of kit. In fact, just taking the thing out of the box, the smell of the leather carry strap brings a satisfying response. The emerging chassis transfers the olfactory to the visual, as the cube-shaped chassis reveals mid/bass drivers on every vertical wall backed by two 5.25in coaxial drivers plus a 20W amp. The sense of the playful is typified by the volume button (which acts as an on/off switch, complete with a heavy retro click) which runs up to '11'. That's right, Spinal Tap fans! Other frontal controls include a bank of touch-sensitive controls for source, EQ, play, skip and presets. There's a large select control with integral Back and OK buttons for individual source commands too.

Spanning 255x255x255mm and weighing in at a tad over 8kg, the Sound Cube's rear sports RCA and Line In ports, a USB port (for an iPod or USB drive), an instrument port (for basic mixing) plus an 18V power jack for the external power supply. The top of the chassis features a pull-out aerial for the built-in FM/AM radio while the bottom includes a door for 12 'D' batteries. This gives the Sound Cube its portable option and is outrageous in this day and age! Even of the rechargeable type, this portable requirement is extravagant.

SOUND QUALITY

Arguably, the primary use for the Sound Cube will be as an iPod dock (it's a shame that there is no 'tidy' pocket on the chassis). An ill-fitting cable connected my Classic model, being a little wobbly when connected and, on occasion, losing data contact. WAV files via both iPod and a USB memory stick saw a deep, rich bass that, at high volumes, proved too hot for the rather creaky chassis, initiating distortion. This is frustrating because the Sound Cube is a potentially room-filling music source. But still, it does go pretty loud before the madness sets in...

Musically, the TDK handles jazz sympathetically. Bass charm encourages an emotional performance via brass and vocals and, while clarity is lacking and the sound can hardly be described as transparent, the TDK proved to be a pleasant warbling source for background entertainment. Rock was happy to utilise the generous and dominant low frequencies that were available. Its warm, almost sweet presentation provided an effortless yet rhythmic output that was easy on the ears.

For UK radio users, it's a pity that DAB was not included. Yes, I know that audiophiles deride the format but it does provide unique radio programming which was missed via analogue. FM/AM output was surprisingly good, although a lack of external aerial meant that I couldn't find out just how good it could get. Oh, and be careful with the aerial — it might demand constant tweaking to find the best reception but it's fragile. Mine broke off in my hand... ho hum! Aurally, BBC Radio 4 chatter was rich in timbre with a comforting bass lift, providing a warm, analoguey presentation while BBC Radio 2 music offered a full bass wallop with slightly rolled off upper mids that provided a sweet portrait to music that was both flattering and very listenable.

CONCLUSION

The TDK Sound Cube's personality is hardly subtle, especially when compared to a more refined product like the Klipsch iGroove HG, a dock that takes ownership of midrange and treble in the same way that the Sound Cube dictates the bass. The Klipsch offers culture, breeding and a new Tux. The TDK offers lager, a Kiss-Me-Quick hat and a Hawaiian t-shirt! Still, there's a market for this simple, unreconstructed master blaster, I am sure.
WORLD STANDARDS

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

TURNTABLES

REGA RPI 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. Tweakeable, 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, pacy 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 £1,455
Although getting expensive, the latest Radius is a highly grown up package with a flowing yet engaging nature; a fine package.

INSPIRE ECLIPSE SE v2 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 £3,500
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. Exceedingly neutral yet powerful sound is edge-of-the-seat stuff.

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.

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.

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 £4,600
Exquisitely engineered deck and SME V tonearm combo that’s an extremely accomplished performer with classical music.

MICHELL TECNOARM A 2003 £442
The late John Michell’s clever reworking of the Rega theme, using blasting, drifting and rewiring! Surely the best overall performer under £500.

TONEARMS

REGA RB251 2009 £1,363
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.

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The late John Michell’s clever reworking of the Rega theme, using blasting, drifting 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.

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

SME 309 1989 £677
Mid-price SME comes complete with cost-cut aluminium armtube and descehable 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 unpivot 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 ARÖ 1987 £1,425
Charmistic unpivot is poor at frequency extremes but sublime in the midband; truly emotive and insightful.

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

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

SME 3125 2010 £1,750
Twelve inch magnesium alloy armtube plus SME bearings makes an impressive transcription tool with an insightful yet compacted sound. Superbive 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!

SME SERIES V 1987 £3,389
Vice-like bass with incredible weight, ultra clear midband and treble sound, 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 magnet 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 BLUE 2011 £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.

DYNANEUTRAL DV10XS2003 £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.

DYNANEUTRAL DV30X-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.

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 soophricated and alluring performer that takes the vinyl experience to a new level.

KOETSU RED K SIGNATURE 2007 £3,399
The new K Signature adds a hefty dose of insight and finesse to the already impressive Red and the results are fabulous.

STANDARDS

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 £550
Crisp, clean and detailed MC; particularly impressive at both ends of the frequency spectrum

ZYX R-100H 2005 £799
Exceptionally light 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 resolve 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.

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Highly finessed Swiss moving coil that plays music with riflebolt precision.
Optional PSX-R adds bass and dimensionality.

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.

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DENON DC1010AE 2010 £1,700

Powerful, open sound allied to a rich tonality and satisfying subtilety 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 GOLDR 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 unex- pected at this price.

LEEMA ANTILLA IIS ECO 2011 £2,995

Stable and smooth yet superbly detailed and musically engaging, this is class of the £,000 CD player field.

CHORD QBD64 2008 £3,000

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

ELECTROCOMPANIET EMC-IUP 2009 £3,450

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

ACUSTIC ARTS DCP1 MK2 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

Superbly 'affordable high end' CD/SACD spinner with excellent build, massive detail and great poise.

WEISS DAC202 2010 £4,600

Brilliantly open and insightful sounding DAC with a range of useful features.

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 CD555/555PS 2006 £14,000

Very probably the best CD player yet made - certainly the most expensive; a digital tour de force.

ACCUSTIC ARTS DRIVE 1 MK2 TUBE DAC 2 2007 £7,990

Superbly built high end CD transport and DAC combo that shows just what the for- mat can be capable of. Very tangible, musical sound with wonderful dynamics and glissan- ting harmonics. Only curious styling and clunky build detract from its brilliance!

DACS PAGANINI DAC 2011 £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 expe- rience.

NAIM CD555/555PS 2006 £14,000

Very probably the best CD player yet made - certainly the most expensive; a digital tour de force.

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NAIM CDX2-XP52 2003 £6,950

A fine high end machine, but add an XP52 and it becomes one of the most charis- matically engaging 18bit machines we've ever heard. Plays music with such passion!

NAIM CD53 2003 £7,050

The most polished Naim CD to date; tre- mendously capable and musical, but lacks the Routweiler quality of the cheaper CDX2- XP52.
CHORD CHORDETTE DUAL 2010 £799
Well presented mid price designed with
detailed sound and USB input for archiving.

ASTIN TREW AT800 2010 £800
Expansive, detailed, powerful sound makes
this a leading sub-£1,000 contender.

A.N.T. AUDIO KORA 3T LTD 2010 £995
Exceptionally musical and natural sounding all
discrete transistor phono stage, with highly
clicky, 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 QC4P 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 seem so joyful!

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.

NIGHT 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 40/111 2010 £1,200
Excellent starter tube integrated, with plenty
of detail and an expansively musical sound.

AUDIOLAB 8000ES 2006 £600
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.

NAIM NAIT Si 2007 £725
The iicx V version remains one of the most
musically competent and dynamically engag-
ing integrateds at the price.

CAMBRIDGE 840A V2 2007 £750
Version 2 addresses version 1’s weaknesses
to turn in a mighty accomplished perfor-
mance, offering power, finesse and detail.

SUGDEN MYSTRO 2010 £1,225
Sugden’s first Class AB integrated in a long
time surprises: rollickingly 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
Truthfully voiced integrated amplifier with a
distinctly seductive, tube like sound. A solid-
state superstar.

SUGDEN A21A 52 2008 £1,469
Crystaline clarity, dizzying speed and forensic
detailing makes this a 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 comp-
act 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 com-
bines impressive functionality and connectiv-
ity 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 com-
bines power, detail and genuine musicality
with a good range of facilities.

SUGDEN I4A 2007 £3,650
Goodly amount of Class A power, icy clarity
and a breathtakingly fast, musical sound make
this one of the very best super-integrateds.

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 wonderful-
ly relaxed, seamless and even-handed sound
will win this many friends.

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

DARTZEE 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 and
headphones.

PREAMPLIFIERS

CREEK OBM-22 2008 £650
Brilliant value budget passive, with remote
control, mute and input switching, plus an
easy, a neutral sound.

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

NUFORCE P-9 2007 £2,200
Impressive low level preamp with superb
resolution and an engaging sound.

DPA CA-1 2010 £2,650
Excellent solid-state preamp with a meticu-
ously detailed and propulsive sound, but a
deeper 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.

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.
STANDARDS

MODWRIGHT 36.5 PRE/PSU 2010 £5,995
Exceptionally open and expansive, yet musically expressive sounding high end preamplifier.

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.

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 999 2001 £990
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
Pacy, 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 £1,210
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.

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

ICON AUDIO MB45 MkII 2010 £550
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.

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.

=:QUAD II-80 2005 £6,600
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 AMS50 2010 £7,000
Mighty assured high end full Class A integrat ed proffering icy clarity allied to real musicality. Lacks the lucidity of the best tube amps but redeems with power and punch.

LOUDSPEAKERS
Q ACOUSTICS 2010 £645
Great little standmounters with a friendly, fun yet surprisingly refined guilt. Excellent value starter speakers.

ACOUSTIC ENERGY NEO 1 2007 £199
Tidy and well balanced standmounters with pleasing clarity and detail.

MISSION MX2 2011 £200
Sophisticated sound allied with real musical insight makes these small standmounters super value for money.

ACOUSTIC ENERGY NEO 1 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 and Quad's legendary service are nice.

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.

MY AUDIO DESIGN MY1920 2011 £995
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 got a right to be at this price, these refined mid-price standmounters represent top value.

RPR 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, allled to a fast and punchy bass driver. The result is subtle, smooth and emotive.

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

SPENDOR 58E 2008 £1,895
Generously large, silky smooth delivery; dynamic sounding floorstander is an excellent all rounder.

ACOUSTIC ENERGY AEI CLASSIC 2006 £645
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 everhendness makes this a superior; if less charismatic, loudspeaker.

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

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

EMINENT TECHNOLOGY LPT88 2010 £2,300
Brilliant ribbon/moving coil hybrid with seamless, delicate and expansive yet tremendously musical nature.

PHC OBII 2008 £2,950
Cleverly updated floorstanders give scale and solidity in slim and well finished package.
MY AUDIO DESIGN MYCLAPTON
2010 £2,990
Powerful, dynamic, musical yet refined, this unconventional points-source design yields dramatic sonic benefits.

MAD MY CLAPTON GRAND MM
2010 £3,400
Distinctive coaxial standmounters with wonderful soundstaging, bright lucid midband and true musical insight.

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

SPENDOR ST 2010
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
Breath-taking 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...

B&O BEOLAB 9
2007 £5,000
Massively capable loudspeakers that offer dynamics, scale and clarity in an elegantly simple package. Wide range of finishes, too.

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

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.

ISOPHON
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.

REGENERATOR
2010 £15,900
Vast in scale with effortless dynamics and an easy, barrel chested bass, these big bangers are geared for lowish power tube amps. Large room needed!

MARTIN LOGAN CLX LINEAR
2010 £15,990
Meticulously crafted electrostactic that's free from traditional limitations, this is one of the very best loudspeakers money can buy.

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 5T
2010 £5,995
This classy sounding, superbly presented big floorstander will appeal to those seeking high end sonics with subtle looks.

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.

SENHEISER MX-550
2005 £19
Our unqualified recommendation for those seeking a serious sounding pair of in-ear phones. Smooth, detailed and musical.

SENHEISER 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.

SENHEISER 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.

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

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

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.

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

STAX SR-007T OMEGA
II/SRM-007T
2006 £2,890
Simply the best headphones we've ever heard at any price, these sweeetly translucent electrostatic earphones are like no other headphone, or loudspeaker for that matter...
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- CRH-500: 40W+40W

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**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.

**DENON TU-1500AE** 2006 £120

Excellent entry level analogue tuner; slick sonics and fine feature count make it a bargain.

**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-H3OODAB** 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 with fine build and finish at the price.

**ARCAM FM 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.

**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

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

**NAIM UNITI** 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

Fanastically 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...

**NAIM UNITIQUTE** 2010 £1,350

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

**NAIM UNITIQUTE** 2010 £1,350

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

**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.
Some say cables make a huge difference to sound, others that they’re a marketing driven rip-off and proof of the seedy side of the hi-fi industry. Neville Roberts bravely attempts to shed some light on the enigmatic issues in the great cable sound debate...

"A philosopher, a physicist, and a mathematician are travelling through Scotland in a train when they see a black sheep through the window. "That's interesting," says the philosopher, "I see that Scottish sheep are black." "Hmm," says the physicist, "you mean that some Scottish sheep are black." "You are both incorrect," says the mathematician. "All we know is that there is at least one sheep in Scotland and that it is black on at least one side!"

Welcome to the weird and wonderful world of cables, where knowing what's currently knowable isn't quite enough, and indeed can be quite misleading! This is why, when hi-fi journalists assert that wires have 'a sound' of their very own, magazines get a barrage of letters complaining. There's no such thing, they say, as cable sound, and to assert there is, is surely proof of some nefarious agenda, doubtless tied in to advertising, marketing, payola and suchlike...

Whilst there may be or may not be human motives at play in the great cable conundrum, the fact that they apparently measure near identically yet can sound so different doesn't prove the existence of these one iota. What we do know is that we don't know how to comprehensively describe cable sound through technical measurements yet; this is absolutely no proof that cables sound the same, or that you should conclude it's all about marketing!

Personally, I started from the position of a sceptic many years ago. But as a physicist by training, I am used to making judgements on the basis of observable, repeatable experiments, and this had me using my ears and not just calculations, to conclude that cables can and do sound different. There are plenty of excellent articles on the basic theory of cables written by electronics engineers who can explain far better than me the importance of capacitance, inductance, characteristic impedance and so-on. And these things that we can measure are very important, but they don't explain the whole picture...

THE ISSUES

With direct current (DC), a cable is simply two conductors of electricity which are insulated from each other to prevent shorting. The electric and magnetic fields resulting from the current flow soon stabilise into a fixed pattern around the conductor. The conductors need to offer negligible resistance to the current flowing within them in order to avoid wasting power through heat generation. Oxygen-free copper has splendid properties, but alas, when it comes into contact with the air or is subjected to high temperatures during the process of applying the insulation, it doesn't stay oxygen-free for long! Silver or silver and gold wire is really excellent, but rather expensive as would be expected. The metal can be cryogenically treated to modify its crystalline structure which, if done correctly, can produce noticeable audible improvements. More on this later...

However, as soon as we start to send alternating current (AC) through cables we need to consider other issues. Apart from the DC electrical resistance of the wires, whether they are audio interconnects, mains cables or loudspeaker cables, the reactive elements of the cables come into play and these in turn will affect the impedance of the cable and the phase characteristics of the signal. The electric and magnetic fields around the conductors will be constantly changing, and that in itself will have the potential to induce undesirable signals in the cable. As frequencies increase, current tends...
to flow through the surface of the conductors due to what is known as Skin Effect.

Furthermore, the dielectric properties of the insulator play an important part in modifying the electric and magnetic fields around the conductors. The best dielectric is air, with a Dielectric Constant close to 1.0 (that of a vacuum). However, air would not be a good choice for several reasons, not the least of which is the lack of support for the conductor! Teflon with a Dielectric Constant of 2.1 and Polyethylene at 2.3 would be better choices, but even these will start to have an influence on the fields around the conductor.

Not only are the choices of material important in the design of cables, but also in their construction. Coaxial cables have the benefit of containing the electric and magnetic fields within the cable and help to screen out interference from outside sources and are therefore the design of choice for audio interconnects.

Mains and loudspeaker cable construction ranges from simple parallel wires to complex weaves of individually insulated wires.

Then of course, one must not forget the two ends! Plugs and sockets will all play an important part in maintaining the physical layout (such as the use of RCA phono plugs to maintain the coaxial structure). Low contact resistance is extremely important in order to avoid such issues as a connector becoming a point-contact diode, changing its resistance depending on the direction of current flow!

Another complication is interference from outside sources. This can be in the form of electrical interference from the mains transformers or radio frequency signals, such as those generated by mobile phones. It can also be physical interference caused by external vibrations or even internal vibrations from the cables themselves, all of which will induce unwanted signals in the cable. So, I think it is fair to say that the issues affecting cable performance are complex, to say the very least!

The Knowledge
Let's start by examining what we can explain – capacitance, inductance, dielectric properties, interference suppression, conductivity and so on. A cable of any length and configuration can be viewed as a network of series inductors and parallel capacitors, as shown in the accompanying diagram. Each of these elements is a little inductance-capacitance (LC) filter, which has an impedance which varies with frequency. This is insignificant at low frequencies, but starts to become important as the frequency increases. The actual values of inductance and capacitance will give a particular cable its own unique character. As inductance causes the current to lag the voltage (and capacitance has the inverse effect), cables will cause minute phase errors between current and voltage which are frequency-dependent.

At higher frequencies, a cable can also be viewed as a transmission line with a defined characteristic impedance, and therefore we must also consider the wave propagation properties of the cable. Many would argue that even with frequencies of 100kHz or higher, the transmission line effects are not relevant. A frequently quoted rule of thumb is that this only becomes relevant in cables longer than a tenth of the wavelength of the signal — that’s about 300m long at 100kHz! However, it’s not that signals suddenly change from being the movement of matter to the movement of energy as the frequencies increase, it’s just that we need different ways to explain the relevant factors. Let me explain...

It is often thought that it is the movement of electrons that constitutes the signal, when in fact the velocity of the signal is much faster than the speed at which the electrons move. It is actually close to 3x10^8 m/sec, the speed of light. The signal travels through the conductor by displacing electrons in much the same way as a wave moves across the surface of a pond, or more accurately as sound travels through the air (as the air molecules vibrate in the direction of propagation, rather than perpendicular to it as with water). This speed is modified by the properties of the cable, such as the Dielectric Constant of the insulator and the physical configuration of the cable itself. However, even this is an over simplification of the issues as there is still no universally agreed explanation for the phenomenon of signal propagation. As with light, the true behaviour of signal propagation through a cable is likely to be best explained by a combination of both particle (the propagation of matter, such as electrons) and wave (the propagation of energy) properties and how they interact.

So, why are the transmission line properties of a cable important for audio? As I mentioned earlier, a cable has a defined characteristic impedance. This is the impedance of an infinitely long length of the cable (at a particular frequency). For the sake of argument, let’s consider a standard 75 ohm coax cable, although the same discussion will apply to any cable design. Being infinitely long, there is nothing to reflect the signal back along the cable. If one then removes a finite section from the cable (say, a 1m length), the two pieces left are also infinitely long, by definition, and each has a characteristic impedance of 75 ohms. Therefore, our 1m length of coax would have seen 75 ohms at both its ends and, as I said before, there is nothing to cause reflections of the signal within the cable. So, if this cable is terminated at each end with a 75 ohm load, then the cable is said to be perfectly matched with no reflections to attenuate or distort the signal. This is great for audio frequencies, but at audio frequencies — right? Well, actually, no!

I mentioned that the characteristic impedance of a cable varies with frequency. If we look at a graph of the variation of this for a standard 75 ohm coax cable, the greatest variation occurs between 5Hz and 50kHz — right across the audio spectrum! This is going to give rise to unwanted reflections within the cable which vary with frequency. Granted, these reflections will be tiny, but my argument is that any unwanted signals, however small, are going to add to interference and other unwanted affects that, cumulatively, may well affect the sound that we hear.

The point of mentioning all this is...
The award winning A.N.T. phonostage is the preferred choice of many professionals. Featuring breathtaking realism and stunning dynamics, vinyl has never sounded so good! This no-compromise design is available in moving coil or moving magnet versions and features, Class A, no overall feedback, passive equalisation and no transistors or op-amps.

Hi Fi World said "Cue up your favourite LP and sit back in awe as the music issues from the groove. It's an exceptionally musical device, bristling with energy" Now available for 35% less directly from the factory on the phone number below!

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

SME - AT/OC9 - Benz & Denon cartridges - Clearaudio - Hadcock - SL-1200 mods
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By applying our more advanced DCT++ process to the cable before assembly instead of our standard DCT process after, we have further improved the sound quality of our award winning 'Polar Illusion' cable. At the same time we have added a very effective double braided screen and given the cable a new high end appearance.

The Phantom is made from two tightly twisted silver plated copper solid cores insulated in low loss PTFE, responsible for its fast detailed sound quality. DCT++ processing adds depth to the sound and enhances the timing of the music's rhythms. Termination using the highly acclaimed Eichmann Bullet plugs ensures the ultimate in musical detail shines through.

The Phantom is a very special interconnect for Black Rhodium and we have written a short account of its progressive development from cables that have won 5 stars in What HiFi? and 'Best Buy' in HiFi Choice to our new Phantom that we offer today. Hear this cable at you nearest Black Rhodium dealer and you will want to buy it!

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Audio Research, Krell, Moon, Ayre, Avid, Naim, Sonus Faber, Martin Logan, Totem, Anthem

60 Durham Road, West Wimbledon
London SW20 0TW
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JULY 2011
to highlight that the performance of cables is hugely complex and all we can do is surmise what things could be affecting what we hear. The issue here is that we can't explain the whole picture at the moment. When we seem to have a nice flat frequency response, why do some interconnect cables sound clearer and cleaner and have better bass control as well as improved imaging? Why do we get similar effects with mains cables, especially mains cables driving turntable electric motors? The fact is that many people, including myself (and I started out as a sceptic many years ago), can hear a difference.

COLD COMFORT
I previously mentioned cryogenic treatment of audio cables. This is a fairly common process applied to metallic alloys to improve their mechanical properties through stress relief and the formation of micro-particles, a technique that can also be applied to cables and valves. The physical changes to the metals are clearly evident, which is why, for example, some musical instruments are subjected to cryogenic treatment. There are claims that these instruments experience improved tonal performance due to the altered physical and mechanical characteristics after cryogenic treatment. It is even claimed that tympanic instruments will resist cracking and sliding parts will resist wear and last longer as a consequence of this treatment. In addition to modifications to the physical properties, some people speculate that cryogenic treatment causes the crystal boundaries and the impurities in the metals to be changed and the properties of the dielectric insulators to be modified. The truth here is that no one really knows why this all works — it just does!

As with cryogenic treatment, opinions differ about the value of burning-in cables. Some say it is a complete waste of time. However, many people have experienced permanent changes in sound quality once a cable has been used for a period of time. The weight, body and smoothness can improve and the overall tonal quality is better. Incidentally, should you want to try burning-in your own cables, you can download from the internet a modified pink noise file created for this very purpose by searching for "trybaby.mp3" on Google.

CONCLUSIONS
When I started out with my budget system comprising mainly homemade bits of equipment, I had the opportunity to try out different cables, but to be honest, I could discern little difference between them and my trusty home brewed concoctions. This was just as well as these elite products were way out of my price range as a student. It was only in recent years, as my system has grown in quality, that I started to perceive the improvements offered by one cable above another. Over time, I started to hear the subtle benefits that higher quality cables offered — better clarity and realism, a greater involvement with the performances and lower noise floor. So as we improve our systems, more subtle changes become apparent. Crudely put, if you spend £20,000 on a high-end audio system, you are very likely to hear the improvements that good quality interconnect cables make. Conversely, a cheap system purchased from your local supermarket is unlikely to show any benefit from a Russ Andrews cable upgrade.

Cable-sceptics will point out the apparent irrelevance of typical steady state measurements and are pleased to point out that the calculated frequency effects of the inductive and capacitive values of any normal audio cable at normal lengths are much higher than any audible frequency, including the all-important harmonics. This simplistic argument implies that such delicate, complex and highly variable sonic qualities affected by different cables such as imaging, sound stage depth, clarity and ambience can be completely explained by simple frequency attenuation. Whilst it is easy to define the "first order" effects of LC filters and how they affect frequency attenuation, their indirect effects of phase errors and time delay of the audio signal on our perception of the more subtle aspects of sound reproduction cannot be so easily defined.

Many people are sceptical about claims of sonic benefits, which they consider to be unsubstantiated since they can't be backed up with scientific proof. With all due respect to the sceptics, that's rather like saying that bumble bees couldn't fly until around 2005 when scientists finally managed to put this perplexing mystery to rest! We constantly live in a world where new, unexplained issues arise.

Physics is the study of how and why things work. We are taught to keep an open mind in all that we do and update our theories based on the input of new information. The theories should then converge on what is actually correct, but we can never be one hundred percent sure. Like bees in flight, maybe one day we will be able to explain most, if not all, of the ways in which cables affect sound, but if that's not in my lifetime, I'll be content to enjoy the unexplained!
Xperience, gained...

V Pack, now including:
Ortofon Vivo Blue cartridge
Pro-ject Evolution tone arm
Pro-ject Xperience turntable

Price tag - £1,000

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The original Quad 11L loudspeaker was radical; not in itself, but as a concept for the company. At the time of its launch in 2002, the phrase ‘Quads’ was virtually synonymous with electrostatic loudspeakers (the ESL-57, 63 or 988/989). If you had Quad speakers, well you had large panel shaped objects that plugged into the mains! For the company to put its name to an utterly conventional box that owed absolutely nothing to previous loudspeakers was a bold gambit, and I’m sure a few diehard Quad traditionalists privately did not wish it to succeed...

Well, the rest as they say is history; the speaker made its very own niche as a quality pair of £350 standmounters, being distinctive for both its clean, open and largely voiceless sound and, unexpectedly, its superlative finish. Here was a budget speaker that was finished to a standard you’d expect of a product at least ten times its price; its piano lacquer black was sublime.

Reviewed here is the newest, third generation of the 11L. It follows the 11L2 which in turn was a tweaked version of the original, and has identical cabinet dimensions of 310x190x243mm (giving a volume of 11 litres, geddit?) but brings a wider variety of finishes including a cheaper non-lacquered cherry or rosewood veneer (tested here) for £330, making it £50 less than the cherry or piano black lacquered veneer. The company says it’s been extensively revised on the inside, too...

The mid/bass unit gets an uprated motor system for its 125mm Kevlar cone; this material is a favourite of many modern manufacturers for its relative lightness and stiffness. Partnering this is the uprated 25mm fabric dome tweeter, with a shallow horn or ‘waveguide’ housing to control dispersion. The crossover, which does the business at 2.2kHz, has also been upgraded with superior component mounting, Quad

Quad’s 11L Classic is the company’s latest and most affordable loudspeaker; David Price listens in...

Four Real
I found the bass to be surprisingly tuneful; there’s little sense of plodding or one-noting; it’s not the world’s most extended as you’d expect but it’s not been engineered to boom or boof around 90Hz, as per so many classic small Mission designs for example, to add weight and give the illusion of being something bigger than it really is. As such, it follows bass notes going up and down the scale faithfully, letting you concentrate on the tune just as much as the rhythm. It’s good at the latter too; stopping and starting as well as can be expected from a budget open box design. The result is a firm and faithful underpinning of what goes on further up the scale. Although in absolute terms of omission rather than addition; you get a soft, feathery hi-hat sound that doesn’t stand out or ever descend into spikiness, yet it’s fairly open and atmospheric too. It’s nicely balanced into the smoothish midband, and whilst it doesn’t quite extend up to where the angels live, the IIL gives the sense that it’s ‘all of a piece’; you’re not listening to the sound of two drive units fighting it out for the right to call the cabinet their own. Again, it ultimate terms the treble lacks low level detail and atmosphere, but it’s plenty good enough to signpost difference between the silky cymbal work on ‘Reaper’ and the harder, more metallic strains of ‘New Gold Dream’ by Simple Minds. Classical music is of course the great leveller of any loudspeaker and the Quad took Pamela Thorby’s soprano recorder on Linn Records’ ‘Venice Collection’ (The Palladian Ensemble) surprisingly easily in its stride. Recorders are naturally bright and thus sometimes unlistenable even on some fairly pricey loudspeakers, but the IIL sounded composed. It managed to convey the instrument’s natural resonances, without exacerbating them. Ditto its reproduction of cello, which was most satisfying tonally, sounding vibrant and full bodied. The track flowed gracefully, the Quads being capable carriers of rhythm, if not necessarily born to rock! Overall this loudspeaker came across with only very few weaknesses, and certainly there were no flaws at the price which isn’t something that can be said of every sub £400 speaker.

SOUND QUALITY

Having spent far more time than is healthy with high end speakers of late, it was fascinating to hear the Quads. I remember the originals, and their successors, and the active versions too, very well — and can report that relatively little is different. It’s not as if the company has radically reworked their entry level mini-monitor, but there is certainly a subtle smoothing out of the IIL, and on the whole it comes over as being more polished; impressive given that it was famous for its polish all along. Saint Etienne’s ‘Hug My Soul’ is a bouncy slice of nineties electropop, but it can sound quite poorly recorded on lesser loudspeakers. I was impressed that the Quads gave it a serious airing; they came over as more animated than I remember their predecessors, although they’re not exactly party blasters. But allied to this was a refinement simply not expected from a £300 speaker, which is in so very many instances a symphony of booms and squawks and crashes.

Blue Oyster Cult’s ‘Don’t Fear the Reaper’ showed the Quad’s rather lovely (for a budget design) treble. Its tweeter commits the sins

"there was a refinement simply not expected from a £300 loudspeaker..."
DP: Who were you designing the Quad 11L Classics for?
PC: The customer will be after a realistic sound that reveals the exact portrayal of instruments and vocals and allows them to dig deep into the performance. For this Classic edition we felt we could go further by re-evaluating the 11L design to tweak the sound and make this a classic mini-monitor in the L53/5A tradition. Accordingly the bass performance and presence of the midrange were balanced to enable great insight into the music. This speaker draws you in to the musical performance rather than throwing it at you.

DP: What sort of drivers were used, and why?
PC: As per the last generation, a self-damping impregnated Kevlar lattice weave is used for the bass-midrange unit and a fine polyester woven fabric dome for the treble. However the motor system of the bass driver was redesigned to lower distortion whilst the dust cap and surround were modified to improve clarity in the midband and smooth the response through the crossover region. For the treble unit we designed a new waveguide which improves the upper midrange output and optimises its dispersion to marry with the bass unit through the crossover region.

DP: What type of crossover was employed?
PC: Linowitz-Riley electrical filters were chosen for the crossover which was extensively evaluated through iteration between measurement, crossover simulation and listening tests. We went through thirty two variations before we were satisfied! In terms of construction we use high performance Polypropylene capacitors in the signal path and low loss laminated silicon-iron core inductors for the bass section. The crossover itself is split into two PCBs to remove interaction between the bass and treble components and to allow an optimal component layout. Bi-wiring really benefits this speaker. We design and make our own internal cables for the 11L from high purity copper.

DP: How did you arrive at the cabinet design?
PC: Box construction was evaluated carefully to reduce panel resonance. The final choice was a combination of MDF and particle board, the relative thicknesses chosen to lower the audibility of panel resonance as well as block the transmission of the sound from the inside of the cabinet. The walls were optimally braced to control flexure at low frequencies. It is always difficult to get a quart out of a pint pot. Thankfully, these days we can simulate the speaker and crossover performance using advanced software and this allows us to optimise the physical and electrical characteristics to achieve a desired result in a way that would normally take years. Similarly we constructed a virtual crossover which allowed us to balance the requirements of minimum phase and a smooth transition between the drive units as well as ensure a good off-axis response. This gave us a good starting point from which we only needed to fine tune using extensive listening tests.

DP: Is there any one aspect of the design you're particularly pleased with?
PC: The design of the speaker should be viewed as a whole; the components work together to produce a sum greater than the performance of any one part. But I am particularly pleased that the 11L Classic sounds much bigger than its size would lead you to believe. It fits the Quad tradition of an accurate, natural and realistic sounding transducer. In addition it is musically dynamic and revealing, seducing the listener with its performance and creating that all important emotional connection with the music and the performers. It's a speaker to admire the longer you listen to it.

CONCLUSION
It's a strange conundrum; on one hand the Quad brand was often derided as 'pipe and slippers' hi-fi; purveyors of reassuringly well made, solid and dependable quality audio equipment for the middle classes; on the other the electrostatics were – and still are – some of the most radical loudspeakers ever made. In the 11L we see more of the former than the latter; if you want left-field from Quad then it's the high end speakers you have to buy. These small boxes are meticulously well engineered to give a neutral, smooth sound via utterly conventional means. They sound excellent, albeit in a way that might not actually chime so well with their intended market. At this price, people often want a bit of character, a speaker with 'attitude', but the 11Ls are all about getting the job done without drawing attention to themselves. For me, that's precisely what a good budget speaker should do, so it can be kept as people upgrade the rest of their ancillaries, showing each step up without getting in the way. But that won't be everyone's idea of a good time at £300 which is a shame because it's not for loudspeakers to have character, it's the musicians that play through them. A great, grown up loudspeaker at a very teenage price!

VERDICT
Refinement and poise beyond their price allied to superb finish, and there's nothing more you could reasonably ask of these speakers.

QUAD 11L CLASSIC £329.95
Quad Electroacoustics (+44(0)1480 447700 www.quad-hifi.co.uk

FOR
- gentle, sophisticated sound
- pleasingly musical
- compact size
- superb finish

AGAINST
- headbangers don't apply!

MEASURED PERFORMANCE

Our frequency response analysis clearly shows the Quad 11L Classic is unusually smooth and flat in frequency response. This means it will sound both tonally balanced and free from colour. Such loudspeakers are also low on 'character' though: a neutral performer as this will disappear acoustically and not make itself known. The sharp treble peak diminishes off axis and with the Quads facing straight down a room they measure flat in the listening position, around 30 degrees off axis.

Bass rolls down below 150Hz then descends sharply at 70Hz. However, the ports provide strong output around 55Hz and our impedance trace show they provide good bass unit damping too, so the little Quad is likely to have quite obvious and well controlled bass.

Sensitivity was high at 87.9dB, considering the small cabinet size. Impedance measured 4 Ohms with pink noise – a music like signal – but the bass unit is 4 Ohms and minima are 4 Ohms as a result. The load is fairly resistive, a good sign as amplifier matching goes.

The small Quad 11L Classics are supremely accurate and well engineered. This is a loudspeaker for those who want the unembellished truth, a classic Quad quality. NK
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 CD45E 1998 £200
A touch soft in the treble and tonally light, but outstanding in every other respect.

LINN KARIK III 1995 £1775
The final Kariik 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 267 1988 £995
Beautifully built two-box with pre-amp stage. Very musical although not as refined as modern Bitstream gear. No digital output.

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.

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.

NAIM CDS 1990 £ N/A
Classic Philips 14x4 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 14x2 DAC, and you even get remote control!

SONY CDP-R1/DAS-R1 1987 £3,000
Sony’s first two boxer was right first time. Tonal 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 14x2 DAC to provide a clinically precise sound; supreme build quality allied to the pure unabated luxury of a paperback-sized remote control.

TECHNICS SL-P1200 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 14x2 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 inventive, 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 DAc MAGIC 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.

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

ARISTON RD115 1972 £96
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 PL112D 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.

DUAL CSS05 1992 £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 301/7DI24 rivals.

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

LINN SONDEK LP12 1973 £86
For many, the Brit superdeck; constant mods mean 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.

MARANTZ TTI000 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
Sennial Japanese engineering. Sonics depend on plinths, but a well mounted SP10/I will give any modern a hard time, especially in regard to respect of 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.

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.

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 'superdeck'; this iconic design was the only real competition for Garrard's 301. It was sweeter and more lyrical, yet lighter and less impactful in the bass.

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.

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

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.

TECHNICS AT1120 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 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.

HADCOCK GH228 1976 £46
Evergreen unipivot, with lovely sweet, fluid sound. Excellent service backup.

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-dimension-al sound, ultimately limited by the tonearm.

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.
CLASSICS

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 A100 1987 £1900
Fast, dry and with excellent transient, this first DPA integrated is the real deal for eighties obsessives. Ridiculously punchy 80W per channel from a tiny, half-size box. Radical, cool and more than a little strange.

ROGERS A75 1978 £220
The prototypical Audiolab 8000A — lots of sensible facilities, a goodly power output and nice sound in one box. The later A75II and A100 versions offered improved sonics and tight performer all the same.

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 CS1/PS1 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 general purpose tool.

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

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

NAD 2020 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.

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

PREAMPLIFIERS

AUDIOLAB 8000C 1991 £499
Tonaly 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 LX-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.

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

QUAD 22 1958 £25
The partner to the much vaunted Quad 6L6 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...

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 weight than the smaller Stereo 30. Despite concerns over reliability their rarity means high prices are the order of the day.

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

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

MUSICAL FIDELITY XA100 1996 £1000PR
200W of sweet smooth transistor stomp in a grooved tube. Under-rated oddity.

NAIM NAT03 1993 £995
The warm, atmospheric sound is further proof of Naim's proficiency with tuners.

RADFORD STA25 RENAISSANCE 1986 £977
As 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.

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.

PIioneer M-73 1988 £1,200
Monster stamp 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.

QUAD FM4 1983 £240
Supreme engineering 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?

SONY ST-5950 1977 £222
Tremendously smooth and natural sound plus an oscilloscope for checking the signal strength and multipath.

NAIM ISO 1988 £N/A
I This Tom Evans-designed black box starred the trend for high performance offboard phono stages. Charismatic, musical and punchy - it lacking in finesse.

REVOX B750 1975 £520
Sound, brilliant sensitivity and superb build. 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.

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.

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

LEAK STEREO 60 1958 £N/A
The first of the current dumpers is a capable design with smooth, effortless sound and a decently musical sound, 606 and 707 continue the theme with greater detail and incision.

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

MICHELL ALECTO 1997 £1989
Of the big valve sound with enough power (25W) and lots of subtlety.

MUSICAL FIDELITY XA100 1996 £1000PR
200W of sweet smooth transistor stomp in a grooved tube. Under-rated oddity.

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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.

QUAD FM4 1983 £240
Supreme engineering 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.
CLASSICS

TECHNICS ST-8080 1976 £180
National Panasonic's special 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.

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

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 1960 £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 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

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

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

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

PIONEER DATMAN 1996 £599
Super clean sound makes this an amazing portable, but fragile.

KENWOOD DM-9090 1997 £500
Serious and sophisticated sound thanks to well implemented ATRAC 4.5; surprisingly musical MD recorder.

Spendor BCI 1976 £240
Celestion HF 1300 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!

LOUDSPEAKERS

ACOUSTIC RESEARCH

AR185 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 AB1 subwoofers for an extra two octaves of bass!

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

HH ELECTRONICS TPA-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.

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 as forte.

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

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 as forte.

MAGNEPLANAR SMGA 198X £800
Technological loudspeaker with genuinely musical abilities; fast, smooth, open, dry.
When a classic goes "pooft" 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 classics up and running again after its deposited a small ring of soot uniform your ceiling!

**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 Astin-designed floorstanders combined HOA drive units and metal dome tweeters with surprisingly warm results. Benign load characteristics makes them great for valves.

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

**YAMAHA NS1000** 1977 £532
High tech Beryllium midband and tweeter domes and brutish 12" woofers in massive sealed mirror image cabs equals stunning transients, speed and wallop allied to superb transparency and ultra low distortion. Partner carefully!

**MISSION X-SPACE** 1999 £699
The first mass production sub and sat system using NXT panels is a sure-fire future classic - not flawless, but a tantalisingly unboxy sound nevertheless!

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**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!

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**CLASSICS**

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WIN A NUFORCE ICON 2 AMPLIFIER AND AMPHION ION LOUDSPEAKERS WORTH £900 IN THIS MONTH'S GREAT COMPETITION!

Here's your chance to win the desktop amplifier and speaker combination that Paul Rigby liked so much in the May 2011 issue of Hi-Fi World. This is what he said...

"The average size of a new house is reducing with room sizes shrinking, so we now see hi-fi manufacturers seeking ways of not only dropping the size of their kit but they are having to become more innovative in the design of that hardware. This represents a structured partnership between two established brands; NuForce and Amphion, offering an integrated amplifier and a pair of bookshelf speakers as a stylishly presented system. Taking the dinky NuForce Icon 2 first, this amp's small form factor will be ideal for a cluttered living room, study or bedsit as it can be placed in numerous pigeon holes, hidden away under shelves or can be blended in amongst other personal items. Measuring just 150x90x30mm, the amp weighs in at only 0.45kg, offers 24 Watts into 4 Ohms and 18 Watts into 8 Ohms and is packed full of features. The Amphion speakers are designed in a minimal yet modish fashion as two-way affairs with a rear facing bass port, a 1" titanium treble unit plus a 5.25" paper-based mid/bass cone producing 86dB sensitivity. Relatively compact in size, the speakers span 268x134x220mm and weigh 5kg. The driver grilles can be ordered in a wide variety of colours.

Taking a batch of rock CDs, the system was able to successfully convey the music's energy and excitement. The Amphions, due to their small size, offered restricted lower bass but, aided by the NuForce's inherent accuracy, the available bass was presented with an illuminating clarity and character. There was never the sense that the lower registers were out of control, which gave a music a real bounce and fluency. Midrange was dominated by the Amphion's superbly insightful drivers which did reach deep into a mix and pulled out previously lost harmonic voices and more subtly placed instruments. Playing a mix of jazz CDs featuring a higher class of mastering, a wealth of detail was always on offer. Acoustic guitars were plucked with a metallic precision while chord changes were tracked as fingers changed position while piano notes were well formed. As a near-field solution, this system really comes into its own, at ease and able to present the listener with a convincing, effortlessness. All in all, the NuForce/Amphion combination is a good looking, compact system that will improve the sound quality of any computer immeasurably."

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QUESTIONS
[1] Which two brands are pairing up with this system?
[a] NuForce and Amphion
[b] Quad and Audiolab
[c] Linn and Naim
[d] Marantz and Tannoy

[2] How powerful is the icon 2 into 8 Ohms?
[a] 18W
[b] 180W
[c] 1.8W
[d] 0.18W

[3] What is the Ion's bass driver made from?
[a] paper
[b] polypropylene
[c] Kevlar
[d] carbon fibre

[4] What's special about the Ion's grilles?
[a] they come in a variety of colours
[b] they're made from Clingfilm
[c] there aren't any
[d] they're held on by magnets

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About

Haden Boardman tells the story of the long, lost Sonab OA5-11 omnidirectional loudspeaker...

Omnidirectional loudspeakers have never really hit the mark in the UK market. Back in the mono radiogram days, lots of systems were fitted with multiple drive unit combinations to help widen the single channel sound, such as Decca Decola, 3x 12" Tannoy or Goodmans units, or Grundig with their switchable seven speaker arrays, for example. But there was no specific thought or design to these; the early days of stereo saw assorted drive units pointing up to the gods with small diffusers on the tops (such as those beautiful Wharfedale columns, or Goodmans 'bowl' speakers to name but two omnis from the late fifties).

It was the early nineteen seventies that really showed a marked technical challenge to the omnidirectional market, with such gems as American Acoustic Research's top LST model, top of the range Goodmans, and the famous Dr Amar Bose's 901 direct-reflect technology. But I feel the most influential speaker from this period was this, the Swedish designed and built Sonab OA5-II.

Sonabs are based on the work of one Stig Carlsson, with what the designer called 'Ortho Acoustics' (hence the OA in the name; the 5 corresponding to the amount of drive units utilised in the design). Ortho Acoustic theory relies on room boundaries in your front room for the loudspeakers performance. The cabinet must be located quite close to a rear wall, and ideally near a corner (if space permits). Locating the speaker this close to the wall will boost bass output below 300Hz, and the close proximity to the wall allows the tweeters to radiate their extra energy back to the listener's seat. The whole point is to add an acoustic depth to the presented sound field. To make the back wall of your listening room disappear, and the instruments of the orchestra to float out of thin air (or your back wall). Carlsson argues that without the four little tweeters providing the extra treble energy, this cannot be accomplished. He also seems to advocate that the use of tone controls is not such a bad thing in acoustic room correction.

Manufactured from 1966 to 1973 (in mark II form from 1970), the OA5 followed on from a family of much more expensive units, using active valve power amplifiers based on various output transformer less designs. The earlier OA6 featured OTL amplifiers, active electronics and an extra bass unit. I doubt any of these earlier active designs exist much outside of Sweden, I have never seen any, but are fascinating and sophisticated all the same.

OA5 was the first standalone passive speaker marketed from Sonab. Box volume is a reasonable 47 litres, its size 240x610x430mm, and the boxes weigh 10kg each. The main drive unit is the superb Alnico magnet equipped Philips 971OM full range speaker (an odd 220mm sized twin cone chassis, something Stig Carlsson had used in even his earliest nineteen fifties prototype designs) pointing up to the ceiling complete with four small Peerless MT20HC 50mm cone tweeters, firing at a central wooden post, and off your walls.

The design is a bass reflex, using a similar acoustic loading technique to that which Goodmans Industries used with the Acoustic Resistance Units on its nineteen sixties designs. The ports are located on the loudspeaker's base. The crossover is decent enough quality, the speaker has a reasonably high efficiency (around 92dB/W) but the power handling capacity of the Philips unit is not outrageously high. Frequency response is claimed as 45Hz-18,000Hz. There are a couple of factory adjustments fitted to the crossover; the Philips full range unit is actually much more sensitive at 97dB/Watt on its own! So it must be attenuated to match the four small tweeters, which are less sensitive, which will not help damping factor.

Input connections are via those once popular two pin speaker DIN 'dot and dash' plugs. Horrid things, I made some adapters up out of a short bit of Chord Rumour speaker...
Cabinetry is quite nice; a teak veneered 'sleeve' has its black metal grill standing some 50mm proud out of the top, and a black base to the bottom corresponding to the inner 'match tray'.

Service wise, Philips stopped making drive units some twenty years ago, so a blown 9710M means a dead speaker in all truth. Damage can occur to the surround, which is thankfully a cambric paper type and not foam, but due to the horizontal nature of the Sonab, any exposed to cigarette smoke, or used in dusty and damp environments may have problems. The set for review needed a good vacuum cleaning; the inner whizzer cone was almost bonded to the bass cone with fluff, despite a tight grill cloth being fitted (albeit some forty years ago). The 9710M is a great unit, but power handling without the Sonab crossover is only around 40W RMS.

Simple tweaks would be to remove the grill cloth. The units are mounted via proper machine screws, but Sonab chose to use a couple of rubber grommets on each screw to almost decouple the Philips unit from the cabinet. Weird! Internal wire is rubbish, but gaining access to the crossover is a day of a job, and do leave the presets factory fixed, unless you have suitable equipment to calibrate. And the aforementioned two pin speaker DIN connection. Load wise the 9710M dates from the age of the valve amplifier, and these speakers are pretty easy to drive, a valve amp being perfect, something like a Leak Stereo 20 ideal.

**SOUND QUALITY**

Despite some of Carlson’s claims, the Sonab OAS proved very room-dependent in its performance. Used with my own little EL84 pentode valve based push-pull Class A integrated design, the Marantz Project D1 DAC and a myriad of digital sources, (cables all from Chord Co Sarum) the results were more than a bit mixed! A modern constructed house with dry lined walls, a very solid floor and very generous proportions (25 by 14 foot) saw the speaker acoustically at quite a loss. The dry lined walls absorbed far too much of the speakers carefully designed treble energy, and actually sounded quite mushy and dull, with a warm balance. Placed as recommended, one had to get quite close to the OASs to enjoy a decent sound. Lively, but at the same time quite soggy. At the back end of the room, it really was not very impressive at all, with the sound stage appearing to be almost monophonic in its presentation. Only on some of the more outrageous 1960's Decca Phase Four ‘ping pong stereo’ recordings did the set come somewhat alive.

It was decided to switch venues, back to a large Victorian front room with fourteen foot high ceilings and hard plastered brick walls. With minimum furniture and a solid wood floor and just a few rugs about the place, the Sonabs performed much better, despite the use of an inferior D/A converter. They really did gain a sense of air and atmosphere. Playing familiar recordings still provided something of a mild disappointment. ABA, you would of thought being very much at home on these, but not so. My favourite track, 'The Day Before You Came', sounded like it was being played yesterday! Countering this, the classic ‘Jazz at the Pawn Shop’ actually sounded pretty darn impressive, managing to do what Carlson intended, with the back wall of the room appearing to disappear to a certain extent.

Changing from record to record, it became clear these devices loved the more minimal crossed pair XY recording techniques rather than multi track studio constructions of fake stereo imagery. On more weighty classical (Stravinsky Firebird) I remained a tad underwhelmed. Jimmy Smith’s ‘Organ Grinder’s Swing’ communicated, but for both of the latter, I felt more acoustic power was required in the room. Despite this, I feel that overall the OAS has quite a lively open sound that, is no doubt quite unique. Bass wise, there is a certain lack of punch and weight, although bass sounds remain quite fulsome. The Philips 9710M drive unit frankly needs a bigger cabinet to perform as a reflex enclosure, a much bigger cabinets. Let’s just describe the bass as a tad soft.

The midrange, by using the room boundary, was placed acoustically much higher physically from the speaker, a good thing, but strong vocals, and upfront instruments lost their bite, energy and vitality. Let’s just describe the midrange as a tad soft. Treble from a full range unit pointing up to your ceiling is never going to have the full on effect of a drive unit pointing straight at you. Modern transistorised Class AB amplifiers; this might explain some of the bright reputation the design has earned over the past forty years...!

**CONCLUSION**

I have to admit I was a little disappointed by the Sonab OAS. On certain recordings, the speaker did as its designer Stig Carlsson intended, literally making the back wall of the room disappear. But sadly on the vast majority of the music I played, the speaker drew far too much attention to itself, sounding quite coloured and veiled. On the plus side it is very easy to drive to quite loud levels, and as long as is it is physically located close to a wall, performed with some consistency. In fact for those not allowed ‘proper’ loudspeaker set ups because of the domestic acceptance factor, they may be very well worth considering.

I paid £80 for this set off a well-known auction website, the condition is perfect electrically but not immaculate cosmetically. Good pairs have been seen to trade for three times that, which in truth is the value of a pair of the Philips 9710M drive units (in fact I have seen these sell for more on their own; which tells its own story - for the curious a four cubic foot sealed enclosure works best with the alnico version on the 9710M). I cannot help feeling the Ortho Acoustic approach was more relevant in the old mono days.

Carlsson carried on his research and development, and despite the Sonab name falling through different owners (the company went bust in 1989 - in recent times some Chinese made budget speakers aimed at the multimedia market appeared with the Sonab name), he managed to relaunch the designs under a different moniker in the nineties, Stig Carlson himself sadly suffered a sudden and fatal heart attack in March 1997, and the newer designs, not that dissimilar to the OAS, remain in limbo.
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Okay, I admit it. Hi-Fi World is not without its causes célèbre. We do rather like to have ‘great debates’ here on this magazine, and they rage on and on in the letters pages sometimes for years, or even decades! Since the first issue arrived on newsagents shelves in 1991, we’ve created all sorts of journalistic mayhem...

When I joined the team back in 1994, we were in the middle of the fallout from Noel’s outrageous contention that valve amplifiers sounded better than solid-state. One of my first tasks as a wet-behind-the-ears editorial assistant was to sift the Hi-Fi World postbag for interesting letters (and it was literally a Royal Mail sack back then), and there were hundreds every month telling us that we were just plain bonkers to even give space to the damn things. Noel was declaimed as certifiable, a Luddite, deaf and so on and so forth...

Our next moment of reckoning came when Linn arrived to install its Troughline tuner out of the loft, and Graham Tricker duly fettled it, fitted a new FM decoder and some new passive components, evicted some spiders and blew out their cobwebs. Result? It was the best tuner any of us had ever heard. I remember listening to Jazz FM on the office system thinking, “I don’t quite know why, but this is nicer than anything else I’ve ever set ears on.” Vast in scale, capacious in stage depth, sugary sweet in tone, it was coloured as hell but what the hell! We simply had to tell everyone, and yes, you’ve guessed it, the postbag swelled yet more. By that time, I was going on press trips, and meeting some of the journalists at rival magazines. More often than not, someone would very politely sidle over to me at a hotel bar and earnestly enquire, “were you guys being serious about that valve amp/ the Garrard 401...?”

By the mid nineties then, Hi-Fi World was getting the reputation as a lunatic fringe magazine. Many manufacturers simply didn’t want to be associated with us at all, because they felt their products were too serious to be seen in such a publication; in their minds we were a cross between Viz and Private Eye, whereas what they aspired to be was The Daily Mail! So my championing of the vinyl format in it didn’t help matters, then...

Having recently been living in Japan, I’d noticed that the country that was first to adopt CD had now started selling new vinyl again; BlueNote Japan, EMI Japan and a number of other labels were repressing brand new vinyl records and selling them for 3,000 Yen apiece (about £30), considerably more than a new CD. This led me to scratch around and look for any signs of a vinyl revival here, and the BPI duly confirmed that 12” sales were booming. In 1995 I penned a feature entitled ‘Black Art’, suggested vinyl sounded better than CD and predicted a UK vinyl revival. Three sacks of mail arrived the next month, mostly addressed to me...

I had calls for my sacking, accusations of deafness, doubts expressed about my sanity and all number of arguments against me, my favourite of which was, “it is clear that CD is superior to vinyl, after all, What Hi-Fi says so...” Oh well, there you go. For several years after that, friendly chats with fellow hacks in hotel bars on press trips ended with, “do you really think vinyl sounds better than CD?”

Despite some angry letters, we did get a lot of support too – it certainly wasn’t all ‘outraged of Kidderminster’. And then in 1997, just when I thought it was safe to come out of the cupboard, I bought an old Pioneer PL600 turntable for £17 from Loot. A high end, fully automatic direct drive turntable – after some fettling of its collapsed rubber suspension and general cleaning inside and out – it sounded superb. Its bass was tighter and punchier even than my beloved Michell Orbe, and it had a clearer, more animated sound. Thus began the direct drive debate, which ten years later resulted in us modifying a humble ‘DJ deck’,

From computer audio to One Thing modded Quad electrostats and transformer preamps, Hi-Fi World has had no shortage of ‘discoveries’, and generally we haven’t been too wide of the mark. The fact that in 2011 you can buy a Brinkmann Bardo direct drive turntable, an MF Audio Passive Pre and a pair of Icon Audio 845 tube monoblock power amplifiers now with total ease now shows how the mainstream has come to us, rather than the other way round. If all this sounds a little self-congratulatory, please indulge us just this once, as it’s our twentieth birthday year!
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*World Radio History*
Anyone making important public broadcast technology decisions should be an engineer...

Steven Green

One of the most frequently raised objections to the proposal for DAB to be replaced by a more modern digital radio technology is that once a system has been launched “a line has to be drawn in the sand”. Everyone should simply get behind the technology, because it’s too late to make any changes to it, that is. This is invariably followed by a comment about the technology replacing DAB being out-of-date as soon as it’s been launched, and that people would only start complaining when the next technology that improves performance has been invented...

There is of course some merit to these objections, not least because this is the normal way that new broadcast technologies progress. However, such a blanket objection to replacing existing technologies is, in my opinion, a licence to accept incompetence, and that is precisely what has happened with the UK’s adoption of DAB.

To briefly recap on some of the features offered by the 1980s version of DAB that we’ve adopted in the UK, 98% of stereo stations use a bitrate of 128kbps (or lower), which is a one that was judged to deliver “annoying” sound quality in blind listening tests; and a large number of music radio stations now broadcast in mono on DAB due to cost or capacity issues. The reason the broadcasters decided to use such low bit rates in the first place was to squeeze as many stations onto the DAB multiplex as possible, yet it’s estimated that around 100 commercial radio stations (approximately one third of all commercial stations on FM) will never be able to broadcast on DAB because there’s either insufficient capacity on the local multiplex in their area, or because the stations can’t afford the incredibly high transmission costs associated with broadcasting on DAB. And this doesn’t even take into account the large number of “community” FM stations that have popped up around the country over the last decade that wouldn’t be able to broadcast on DAB either. The current proposal is that those stations that can’t broadcast on DAB will continue broadcasting on FM after the notional digital radio switchover takes place.

It beggars belief that the BBC and the Radio Authority (who regulated commercial radio before Ofcom took over that role) either completely overlooked the above issues, or knew about them but decided to relaunch DAB in 2002 anyway. Furthermore, DAB could have been upgraded in the late 1990s so that it performed almost as efficiently as DAB+ does today, because most of the technologies that were adopted for DAB+ were available at the time!

Although the AAC+ audio codec that has been adopted for DAB+ wasn’t available until 2003, the AAC codec was standardised in 1997, so it could have been incorporated into DAB from that moment onwards. The BBC R&D department took part in two different blind listening tests to compare the performance of AAC with MP2 (which is the codec that is used on the old version of DAB we use in the UK), and both tests confirmed that AAC was twice as efficient as MP2. The BBC R&D department also made reference to this fact in a document published for one of their open days at the time, and warned against reducing the bitrate levels too low with MP2. The other main technology that was adopted in the design of DAB+ was Reed-Solomon (RS) error correction coding, which was adopted to make transmissions more robust. RS coding was invented in the 1960s, and it had become commonly used by wireless digital communication systems that were designed from the early 1990s onwards.

The process that takes place when technology decisions are made at the BBC is that the experts from the R&D department give presentations about the technologies to the executives, and the executives then decide what to do. So I’m sure that the BBC executives will have been told about the availability of these modern technologies, but they must simply have decided against adopting them, and opted to relaunch DAB in 2002 without first upgrading it.

I personally think that anyone making important public broadcast technology decisions such as these should be an engineer, or should at the very least have a basic understanding of the technologies. Unfortunately however, the BBC executives making the decisions about DAB were Simon Nelson, whose background was in marketing, and the BBC’s Director of Radio Jenny Abramsky, whose background was in journalism. In my opinion, it’s not at all surprising that these two people failed to grasp the significance or the ramifications of making the choice that they did, faced with complex technologies...

No one would argue that if DAB were up to the task of being a modern digital radio system then we should stick with it, but the reality is simply that we’re being asked to accept a second rate system due to the insufficient understanding of its complexities. As a licence payer, I feel that this is simply unacceptable.
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hese days a lot of discussion revolves around the dear old LP and I’m relieved to have the responsibility of arguing this is a valid medium taken from me. As turntables, arms and cartridges develop so we hear more and more about what is on an LP and few listeners seem to have a keener ear for all this than Rafael Todes. That’s because he is a music scholar, violinist and the only reviewer to be a professional musician first and hi-fi reviewer second. So when Rafael declares, as he did, the Garrard 401 to be good but far from perfect I feel vindicated. It isn’t perfect; I use it because I enjoy it and because it does a great job, meaning it is practical and exciting to listen to. Mine is also so vast and heavy it is immovable and that is just how I like it, because I hand cue and need a turntable that sits still. Mine is mountain-like in its anchordness to mother earth. Suspended chassis belt drives were a wobbly breed in many senses that could never match up.

Two things the Garrard has; pace and bass. Pace is so great I sometimes get up and look at the strobe and back speed off a bit. Does the turntable run too fast when the strobe says it is running at the right speed? It sounds like it and I really should test this, because I saw a comment the other day from an American listener, who thought the Garrard 401 to be good but far from perfect I feel vindicated. It isn’t perfect; I use it because I enjoy it and because it does a great job, meaning it is practical and exciting to listen to. Mine is also so vast and heavy it is immovable and that is just how I like it, because I hand cue and need a turntable that sits still. Mine is mountain-like in its anchordness to mother earth. Suspended chassis belt drives were a wobbly breed in many senses that could never match up.

Good minds have come along to address its weaknesses, from a resonant platter to a motor drive supply that is, in some ways, electronically crude. This was explained to me by Dave Cawley of Sound Hi-Fi, who is a proper engineer (not a tinkerer) and has delved into the servo system of the Technics SL1200.

As I have been using and testing turntables for a long time and remember the debates about Direct Drives ‘cogging’ rather than turning smoothly, I was a bit taken aback to be told by Dave that he could see these effects under test. I am not aware that the cogging effects were ever measured; it was scientific speculation I thought. But Dave Cawley said otherwise. Suddenly my imagination was fired...

The measurement system he used to test this was identical to one I used long ago – and it worked brilliantly. Unfortunately, a crucial element was a Rank Kalee Wow and Flutter meter that died on me. And Wow and Flutter meters went the way of dinosaurs These days we measure jitter instead!

So I hit eBay in a search and found one in the USA and one in Germany. The one in the USA isn’t there any more! It’s here, having found a very appreciative UK owner. To be precise it is a Kenwood FL180A and you can see it in our feature on testing, on page 34-35. A V&F meter like this has an FM demodulator onboard and an output from it that, when sent to a spectrum analyser, gives a clear picture of turntable speed variations, from disc eccentricity, through low rate wow and up to higher rate flutter, which is where Direct Drives appear to sin.

So far, analysis from the Kenwood’s output has confirmed that the Technics SL1200 has no drift or wow (i.e. variations below a 5Hz rate). Our current V&F meters from Rohde and Schwarz and Clio have already made this clear. Tantalisingly though, a spray of harmonics from 5Hz-10Hz has appeared with one turntable. Are these the mysterious cogging components for which Direct Drive was originally dammed? It certainly looks like it. A belt drive Rega P3/24 doesn’t suffer them (but it has typical belt drive wow). I will need to test many more samples before a pattern emerges but our improved turntable measurement method is already yielding interesting results and looks to be very revealing. It will give us a clearer insight into turntable behaviour under test and demystify the subject a little bit more.
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adam smith

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hilst I continue to be thrilled at the resurgence in the interest in vinyl which continues to show no signs of abating, I can’t help being slightly bemused at the way in which this has manifested itself in terms of the necessary hardware; one piece in particular.

Consider for a moment the turntable – new ones are popping up left right and centre and although these are mainly belt drive, true ingenuity is being shown from quite a few companies in terms of the ways in which to achieve the best from this type of drive system.

There are high mass types, low mass types, decks with fixed suspension, bouncy suspension or semi-bouncy suspension and platters that range in size from ‘barely bigger than an LP’ to ‘looks like a Formula One tyre’. Heck, there are even some new idler drive and direct drive units lurking on the fringes of the market, although sadly most bearing price tags that keep them well and truly out of the reach of us mere mortals!

Cartridges are also holding their own. Some classic designs such as the Shure M175, Goldring 1000 Series and the dreaded Denon DL-103 never went away, but the likes of Nagaoka, Ortofon, Goldring, Kiseki and Audio Technica are bringing out new designs at a far faster rate than we had ever expected. But what of the arm that is essential to mate the piece in particular.

Concern I have, then, is the same one that Editor DP alluded to in the Letters pages last month regarding his Yamaha NS-1000 loudspeakers – namely why do so many people think that they can do so much better than a company with serious engineering knowledge and a healthy R&D budget? Everywhere you turn these days there appears to be a so-called ‘new’ arm coming along, about which I get unduly excited, and then I find it’s yet another Rega, modified in the manner of whatever the vinyl resurgence would be much less successful, and at the very least a heck of a lot slower.

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Rafael Todes tries a new, plug and play Technics SL1200 turntable package with an SME 309 tonearm.

Tony Bolton cues up this fine mid-price moving coil cartridge.

Adam Smith tries Pro-ject's Leather It turntable mat and Avid's Level 45 turntable level and 45RPM adaptor.

Tony Bolton demos a new budget battery powered phono stage.

Adam Smith auditions this newly reworked Rega tonearm.

New on Music On Vinyl is Nina Simone's 'And Piano!' (1970), an LP that took Simone into the experimental which made this LP a slightly more difficult listen but worth the perseverance. Soft Machine's 'Third' is, unlike the first two of the band's albums, not often seen as a reissue but, presenting a mixture of jazz fusion and electronica, is arguably the band's best LP release. Another candidate for such an accolade is the Screaming Tree's 'Dust' (1996), a tight, hook-laden, worthy piece of lyric writing from the post-grunge, hard rocking outfit.

This UK label celebrates Japanese rarities. We start with a Buddhist ceremony featuring the usual finger cymbals et al but with some superb fuzz/psyche guitar playing and female orgasmic moaning! 'Ceremony – Buddha Meet Rock/People' is from 1971. Next, some Japanese prog from the Far East Family Band and their second album, 'The Cave Down To The Earth' (1975); a spacey, Pink Floyd-influenced LP with Gilmouresque guitars, essential for prog heads. Magical Power Mako recorded over twenty LPs, 'Super Record' (1975) mixes folk and psychedelia with extra Asian influences and experimental rock. A sonic experience for those krautrock fans looking for the next stage.
**ROQUETING THROUGH SPACE**

Krautrock has seeped into and from many of this month’s releases. Well, après moi le deluge guys, because ‘Roqueting Through Space’ (Fruits De Mer; www.fruitsdemerrecords.com) is awash with the stuff. Presented as a 500 copy limited edition LP with a free 7” single, it takes tracks from the likes of Neu!, Can and Brainticket and reimagines them via contemporary groups such as Vibravoid and Alpha Omega.

**LILLITH DUOS**

Reissuing a vinyl album and packing a CD version of the album alongside, Lillith has two Gary Moore albums on offer: ‘1995 Gary Moore Live At Montreux’ plus ‘1990 Gary Moore Live At Montreux’ in which the guitarist returns to his blues roots examining fare from US and British-based blues greats.

**BACK ON BLACK**

...is back! In the Vinyl News at any rate with two releases from Witchfinder General, complete with ‘Carry On Wench’-type artwork! A New Wave Of British Heavy Metal movement-era band, influenced by Black Sabbath that later proved to be an influence on the doom metal scene. The excellent ‘Death Penalty’ (1982) is a Sabbath-a-thon while ‘Friends Of Hell’ (1983) is a less successful foray yet still of interest to Sabbath fans. Also look out for Motorhead's ‘Overkill’ (1979) — arguably their best ever — a fierce, in-your-face LP showing the band at the height of their powers. Contact www.backonblack.com.

**PJ’s HERE**

PJ Harvey’s new album, ‘Let England Shake’ (Island) has hit the beloved wax. A fascinating examination of her country, ‘England’ takes war, the people and its mores as a central theme. A fascinating conceptual piece.

**...AND FINALLY**

It’s a packed section, this month, so let’s get to it... Pardial were a German prog-folk group, majoring on an acoustic sound. This ‘Legend’ reissue (Sireena; 1970) has an early ELO, Beatle-esque feel with medieval overtones (www.sireena.de). Dutch garage punks The Outsiders, released ‘CQ’ (Jackpot) in 1968. Complete with R&B, folky tracks plus some post-punk-like songs, this limited edition reissue includes the silver foil cover and a recent band interview (www.jackpotrecords.com). New out on Headspin is The Graviators’ self-titled album. Influenced by Black Sabbath with grinding guitar and heavy, syrupy riffs that hang on to your leg like a the teeth of a rabid Doberman.

The Kuhn Brothers & The Mad Rockers (Wah Wah) mix free jazz with psychedelic to form this self-titled LP from 1969. This LP would help to pave the way for the later krautrock classics and so is essential for fans of the genre (www.wah-wahsupersonic.com). The Sound Of Siam: Leftfield Luk Thung, Jazz & Molam In Thailand 1964-1975 (Soundway) is a 2LP compilation. A right mix of themes here: Luk Thung (Thailand’s country music) and Molam (roots) combine funk, psyche, soul and the exotic to provide a cornucopia of vibes. A Thai curry of hot and spicy musical tastes (www.soundwayrecords.com). The Magic Bullets (www.myspace.com/magicbullets), a US-based pop band, has just released its self-titled album via Mon Amie, that immediately reminds me of some of the outfits I used to listen to the eighties such as Orange Juice, complete with jangly guitars. Ah, memories! ‘Violet Cries’ is the new album from Esben And The Witch (Matador), complete with a download voucher. An indie-rock band from Brighton, they have a punk/goth/’Siouxsie and the Banshees for film soundtracks’ edge. See www.matadorrecords.com.

Newly released by NLF3, this math rock LP ‘Beautiful Is The Way To The World Beyond’ (Clapping Music; www.clappingmusic.com) will appeal to fans of thoughtful art rock with jazz elements like Tortoise. Finally is Eat Lights Become Lights’ new album, ‘Autopia’ (Enrapture; www.enrapture-records.com). Sounds? Imagine Jamie Oliver starting with an electro/krautrock base and dabbling with other sonic ingredients to see what happens!

**VINYL NEWS**
Step Change

Sound Hi Fi are offering a brand new Technics SL1200 deck, heavily modified with bearing, feet, mat and power supply tweaks, plus a fitted SME 309 tonearm and Audio Technica MC cartridge. Rafael Todes tries this ‘turnkey’ turntable package...

Regular readers will know the story – a once universally derided ‘disco deck’ is found to have hidden depths. Not very well hidden, actually, as the Technics SL1200 is a superb turntable made a bit less so by its tonearm, turntable mat and feet. Replace these with aftermarket items, and even tweak the power supply (worthwhile but not essential) and you’re cooking on gas; the humble ’1200 will slay giants...

Trouble is, you can get far too into this. There are umpteen different tweaks, and just as many alternatives using different products which may or may not work better; a thesis could be written on the aftermarket platter mats alone! So what to do if you’re one of those naive innocents who just actually want to, ermm, listen to music? Contrary to the writings of some people on internet forums, it’s actually even more fun to listen to music via the Technics than it is to align every screw in the deck (and that’s a lot) so it faces west, or to twiddle with the power supply wiring until the next millennium.

Timestep have the answer; it’s an off-the-shelf package of mods which effectively give you a ‘plug and play’ SL1200, no questions asked. This is the brainchild of Dave Cawley, who runs Sound Hi-Fi; he comes from high end electrical engineering background, having previously worked for Philips in a senior engineering capacity. The Evo, as it’s called, is a brand new deck for £3,695, said to provide a ‘turnkey’ solution for those who don’t want to spend the rest of their natural lives twiddling with the innards of an SL1200! There’s the option of an Audio Technica AT33EV moving coil cartridge for an additional £449, and a STB-MS clamp/weight for £225. If you want your own deck modded to full Evo spec (including SME 309), then it’s £2,895 plus the aforementioned options. Of course, the Technics SL1200 has now been discontinued, but Dave bought a good quantity of the very last box-fresh ones, so if you do go for the whole package, rest assured you’re getting a brand new deck.

The major turntable mod is to bypass the stock power supply and rectifier circuit; Dave removes the transformer and redundant PCB and fits his own power supply. There’s also a motor modification to reduce the phase comparator loop filter gain and move the turnover point, thereby eliminating the low frequency instability. Next, he fits a bespoke bearing to replace the standard one, with twice the diameter and twice the surface area of the standard bearing. It runs on a silicon nitride ball on a replaceable PTFE thrust pad. The bearing feels physically more solid than the standard one, and it feels substantial to spin around with the fingers as if surrounded by more viscous type of oil.

The feet chosen to replace the standard Technics fare are Sorbothane; they’re like sticky black logs and are jammed in to the sockets tightly. They are squidgy when grabbed; when the turntable was located on my sideboard, these feet seemed amongst the best at insulating exogenous vibrations. This of course may mean little in terms of how the feet help to absorb the energy from the arm and cartridge, but nevertheless it is a good start. The arm selected is an SME 309, a chip off the old V block. Looking physically like its older brother, it performs a fair percentage of its tricks for a lot less money. Currently the list price of the arm is £995. The cartridge supplied on this deck is an Audio Technica AT33EV, a moving coil which costs £449; this cartridge is a particular favourite of editor DP.

SOUND QUALITY

I fired up the deck and listened first to ‘Also Sprach Zarathustra’, the Richard Strauss’ Tone Poem used in the film ‘2001: A Space Odyssey’. It starts with a very low, earth shaking note on the organ, lasting around twenty seconds —16Hz according to my iPhone app, which on the Technics, is rock steady, and provides the platform for the famous brass triad that builds up. There follows a rhythmic figure on the Kettle drums, which the Timestep Technics does to the point where you can feel the instrument in the room. It’s a striking sound, only possible from a turntable of superlative speed stability; it gives the music an incredible ‘hewn from granite’ sense of utter unflappability.
and poise. I honestly can't think of another sub-£4,000 deck (including arm) that even comes close.

Listening to 'Loose Tubes' on the Technics, as compared to my Fletcher Audio Omega 0.5 reference, and there seemed to be more impact from the sticks hitting the drums than with the belt drive deck, the percussion sounded more immediate and faster. I felt almost bruised listening to it! The soundstage was large now, and I wasn't aware of the bass problems that were present with the unmodified deck; indeed the mods seem to let the original stock deck out of its cage, so it can run around and make mayhem!

A favourite piece of music of mine is the Mozart 'Concertante for winds', and here the deck showed an ideal blend of grippy detail and warmth of tone which conveyed the effortless charm of the performance. The pulsating double basses had real clarity, and the tone of the woodwind soloists was really beautiful. There was both body to the sound and finesse to boot; it felt like listening to a reel-to-reel with the master tape.

The first movement of Kurt Weill's second symphony contains a combination of angry and swashbuckling moments. What the deck does so well is communicate the orchestra was less pronounced compared to my reference Fletcher Audio deck; although this package better it in so many ways, it does lack a little stage depth across the midband. The section seemed a bit depleted; this is a minor whinge for what is otherwise is a very sweet and smooth sounding cartridge, I found.

On Mozart's 'Symphony No.39', using the same combination I got a huge sounding orchestra, full

"powerful yet stable, commanding and invigorating, scintillating yet subtle, this is a brilliant sounding turntable package..."
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PRO-JECT LEATHER-IT £50
New to Project's lineup of handy widgets and accessories are two new turntable mats, one rather simpler and made of cork, but the other made of a quality grade of leather.

Interestingly, leather has not been widely used before as a mat, with only Acoustic Solid and Jean Hiraga being the other exponents that come to mind. As a softer material, leather has the distinct advantage of not adding undue weight to the platter or suspension of the turntable and its more malleable surface ensures that larger dust particles cannot cause scratches; something that is not unknown with hard mats.

The mat itself is smart, available in both black and grey, and offers a good level of damping, although not quite enough to fully silence my Garrard 301's bell-like platter, so the Leather-It went onto the acrylic platter of a top secret turntable DIY project that I currently have in progress [que? Ed.], and the results were most intriguing, yet impressive. Whereas many mat upgrades make things brighter and shinier, the Leather-It instead focuses far more on the midband and seems to lower the noise floor to allow the music to be better heard. Spatiality was improved over the bare platter and it became easier to follow instruments as they played. Equally, bass lines were more vivid, augmenting the turntable's general tunefulness and the top end seemed generally more polished and insightful, but without any hint of undue glare or fizziness.

All in all, not only does the Leather-It smell fabulous, it adds a surprising sense of sophistication and poise to vinyl replay and is well worth checking out.

[Contact: +44 (0)12345 611166, www.henleydesigns.co.uk]

SOUNDBITES

AVID LEVEL 45 £40
One of the disadvantages in vinyl's rise from the ashes is that some of the accessories that we took for granted in the past have failed to keep pace with the increase in reproduction equipment. A perfect example is the 45rpm adaptor that allows seven inch singles with large jukebox-style centre holes to be played on a conventionally-spindled platter. Back in the vinyl heyday, you would find these in all shapes, sizes and colours but, today, black plastic seems to be the rather staid norm. Thank goodness for Avid...

The Level 45 is a set comprising a beautifully machined stainless steel 45rpm adaptor along with an equally lovely spirit level. The adaptor and level can be used on their own, of course, but are also designed so that the level fits directly onto the adaptor with the sort of mechanical precision that makes one sigh with pleasure! The result is that correct levelling of the turntable can be achieved with measurements taken directly over the spindle and then you can remove the level and get on with the important business of spinning those old rock 'n' roll 45s. For a mere £40, the pairing won't break the bank of even the most impecunious vinylista and the result is both a handy gadget, and a tantalising taste of the Avid engineering high life. Great value and very useful! A.S

[Contact: +44 (0)1480 869900, www.avidhifi.co.uk]
Ever Steady

Artisan Silver Cables' new Silver Moving Coil Phono Stage is unique in its class for using battery operation. Tony Bolton finds it a most competent performer...

Over the last twenty years or so, various pundits have confidently predicted the demise of vinyl, yet over the past few there's been a multitude of new products dedicated to the better reproduction of an allegedly moribund format. It is therefore safe to assume that now, at the start of the second decade of the twenty first century, that the format is very much alive and kicking — and products such as this are testament.

The Artisan Silver Cables' Silver Moving Coil phono stage comes, as their name suggests, from a company that has previously specialised in making interconnects and speaker cables. Artisan Silver Cables is based in Newport, on the Isle of Wight, and is the brainchild of Alister Staniland. He has a background in electronics and an interest in hi-fi that has grown from a life-long passion for music, he says. The company started making solid silver interconnects a couple of years ago, then introduced speaker cable, and now, with the company's trademark Teflon-coated, solid silver internal wiring, they have launched this MC phono stage.

The electronic design has been done by Dr. Chris Gittins, who hand makes and tests each one. Along with the silver wiring, the internals boast Panasonic FK series power smoothing capacitors and the same company's audio coupling capacitors. This phono stage is unusual, especially at this price point, in that it uses battery power. This is provided by a Vapex 280mAH Nimh battery which is charged by what is described as "a high capacity current source" which "provides a very low noise Virtual Battery Internal DC power supply". This decouples the audio circuitry from the mains, thus providing a quieter background.

The casework is made of aluminium and I measured it as being 106mm wide, 127mm long and 35mm high including the feet. My scales showed that it weighed 150 grams. Care may be needed when choosing interconnects since a stiff cable is likely to move the phono stage around the shelf. The supplied mains transformer/plug is fairly bulky and proved a bit of a snug fit in between other plugs on one of my gang sockets.

The rear deck contains the mains connection, a substantial earthing post and four phono sockets for the input and output. These are not labelled or colour coded so reference needs to be made to the instructions to establish which connections are which. The front has a switch and two LEDs. With the switch in the up position the unit is charging and the green light is displayed, flicking it down made the red light glow, and activated the audio circuit. The instructions claim it will run for seven hours before the batteries become discharged; I think that is fairly accurate. I only lost power once, and that was at about three o'clock in the morning after a very long listening session. For normal use I would regard the power reserve as more than adequate.

I have found that silver wiring requires a lot more running in than copper, otherwise it can sound somewhat bright and over-exposed in the higher frequencies. For the first few hours of listening this held true with this phono stage. After about fifteen hours things started to tone down a bit and the midrange began to expand to fill the void beneath the treble. Another twenty hours on and the sound began to get a lot more balanced. Purchasers of this...
unit would be well advised to allow at least one hundred and fifty hours of use before its full potential is achieved.

**SOUND QUALITY**

Once the phono stage was settled I started listening to Mozart 's 'Eine Kleine Nachtmusik'. This is an unusual recording being on a 12inch 45rpm disc.Although originally made in 1962, and released at the normal 33rpm, this recording was remastered in the nineteen seventies to take advantage of the greater dynamics and detail available when playing at a greater groove velocity. (The 'HMV Classics 45rpm dynamic sound series' also included works by Ravel, Tchaikovsky and Strauss amongst others, and are well worth seeking out.) I was immediately impressed with the levels of detail and texture that flowed out of the speakers. It was certainly more than I expected to hear from a phono stage costing just under £300. I found myself focusing on the sound and style of bowing on the violins, being able to almost picture the arm movements of the players. There was precision aplenty in the stopping and starting of sounds and the whole effect was quite involving.

Moving my focus down to the midrange and again I felt that I was getting almost a closeup of the shape of the sounds and the way that performers were generating them. Here there seemed a lot of shape and texture, although there were a couple of occasions where I felt that a little more depth would have added an extra layer of solidity to the sound. Bass was fast and detailed, although again I was left with a little feeling that, in this system, at least, there could have been a bit more substance to the shape of the lower registers.

A little later I had dug out an old favourite of mine, an LP called 'Ella and Her Fellas'. This 1958 Brunswick release made use of masters that she had made between 1938 and '52 with a selection of the jazz greats of the time, for Decca Records (the American label was a separate company to the British one at the time). The tracks vary from the easy flow of 'Sentimental Journey', with Eddie Hayward and His Orchestra to the uptempo boisterousness of 'Stone Cold Dead In The Market' accompanied by Louis Jourdan and His Tympany Five. Despite the fourteen year age range of the recordings, the quality is excellent and the pressing itself has survived the years very well.

When played through this phono stage, again the high levels of resolution applied to the detailing in the mid and higher frequencies gave a close tactile quality to the sound that was quite engaging. There is no stereo/mono switch fitted so the vertical modulation of the stylus over any wear or damage in a later cut groove resulted in the usual pops and cracks at the extreme left and right of the soundstage. Since the record was in pretty good condition it wasn’t too much of a problem, but I refrained from playing some of the more used records in my collection. The rich velvety textures of Ella’s voice were well displayed and the swing to the beat was tightly timed and precise.

Staying with rhythmic sounds I played Bentley Rhythm Ace’s eponymously named first LP from 1997. This Birmingham based group was founded by Richard March from Pop Will Eat Itself and Mike Stokes. Live drums were played by Keith York and Fuzz Townsend, who came from the same group as Richard March. The music is an eclectic mixture of live instruments and both instrumental and vocal samples, mixed in with some very odd synth generated sounds and held together by a big driving bass that earned the style the name of ‘Big Beat’. Reproduced through this phono stage I was again immersed in the detail and projection of the mid and treble, but would have preferred more bass weight. My Chario/Leema combination is not normally shy in this department, but in this instance it didn’t seem quite as powerful as it has done with other equipment combinations.

As such, I think that the Artisan Silver would be a great foil for the dark and rich tonality of amps such as Prima Lunas, where it would complement their lower registers and enhance the higher ones. In most aspects of its performance it seems to punch well above its price, offering an openness and detail that rarely appears unless one spends quite a lot more. I would put a lot of this down to the battery power supply, which by removing the risk of any mains borne interference, allows for the smaller details to stand out. The converse of this is the problem that I have encountered with a lot of battery powered phono stages - with the exception of the Holli Batt2ria and the Sutherland Hubble (both far more expensive) - which is a lack of bass weight. The shape and detail are there but the sheer mass isn’t.

**CONCLUSION**

A great new product from Artisan Silver Cables, their new MC Phono Stage offers excellent detailing and insight at the price, with a refreshing lack of general mush considering its very modest price. Its lithe but light low end means it’s important to match it to the right cartridge and/or speakers; I’d suggest Audio Technicas and Lyras wouldn’t be ideal, whereas the more balanced sounding Ortofonos would work well and deep, dark Dynavectors better still. With this caveat in mind, I’d advise prospective purchasers to take advantage of the thirty day money-back guarantee that’s offered and have a listen. With the right ancillaries, it offers sparkling performance at the price.

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**MEASURED PERFORMANCE**

Our frequency response analysis showing RIAA equalisation accuracy reveals an overall lift of 1dB at high frequencies relative to output at 200Hz so the Artisan phono stage will have a bright balance and emphasis detail perhaps, but it might well make many modern MCs with strong midband output a little hard and bright. Full gain is maintained right down to 1Hz so there is no warp filtering and cone flap may be obvious at times with warped LPs. Gain measured x1140 so 0.4mV input gives 400mV output, enough to drive most amplifiers even when using a low-ish output moving coil cartridge. However, x1000 does not match the lowest output types; x3000 is needed. In a similar vein input noise was high at 0.2pV, 0.08pV is common for a quiet MC stage. BdR quieter than the Artisan so this preamp is best used with high output MC cartridges like Ortofon. Distortion was very low at 0.003%.
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Quad 306 amplifier.

Quad 4115-2 power amplifier.

Quad 22 pre amplifier.

Quad P.52 pre amplifier.

Quad EMI valve tuner.

Quad EN13 tuner.

Quad QC.22 pre amplifier.

Sums SCD-X8770QS SACD laser Al channel.

Leak/Chrislo point I pre amp.

Sugden A48 & 148 tuner.

CR Developnients Romulus valve amp.

Pioneer AN10 integrated amplifier.

Krell P.

Hifiman DI.12 Illium ribbon standing speakers.

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Arcam Alpha 7SE CD player.

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Mission 30119 Series 11 arm.

Mission 2042.

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Mission 1012 GX.

Mission 578S.

HARHETH MONITOR 40.

Clearaudio Symphony.

Cleartone PLUS.

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Conceptual Part

Tony Bolton listens in to Clearaudio’s latest Concept moving coil cartridge...

The Concept is priced at a relatively modest £560, plonking it straight into the most hotly contested part of the MC market. Brands such as Ortofon, Dynavector and Van Den Hul are already well established here, and there also reside some really heavy hitters such as the Benz Micro Ace (£595) which I reviewed in the May 2011 edition of this magazine.

Weighing in at 8 grams, the aluminium and magnesium body is coated with a ceramic surface layer and houses a micro-line stylus attached to a Boron cantilever. The rectangular body shape made alignment fairly easy, although the cantilever is hidden under the body so I found a small torch made the job a little easier. Tracking weight is suggested as 2 grams (+/- 0.2g) and I found that it sounded at its best exactly at this weight.

SOUND QUALITY
After a few days usage the sound settled down. In a classical mood, the first record up was a late nineteen fifties pressing of Heifetz playing the Bruch Violin Concerto. Although very well recorded, this unplayed parts of the groove wall were equally at home with any genre of music, whether it was as engaging as it was effortless. The tonal balance of a symphony orchestra and lead violin gave a very good account of itself, without giving anything seeming to be over or under emphasised. Bass instruments were well shaped with a depth to them that showed the high level of competence that mono recording had achieved nearly sixty years ago.

A little later on I found myself playing a near mint 1956 copy of ‘Hoagy Sings Carmichael’. Although his most popular between the nineteen twenties and forties, his very laid back style was successfully updated for this LP and merged with more contemporary jazz instrumentation. The evergreen ‘Georgia On My Mind’ had a flow that was as engaging as it was effortless.

The following evening I returned to more modern fare, and explored some of my electronica collection. Air’s classic late nineties album ‘Moon Safari’, with its combination of synth pop, acoustic guitars and strings, as well as processed vocals, was opened up for inspection in a very musical manner. I enjoyed the precision of the sonic images of the performers and the mesmerising flow to rhythms.

CONCLUSION
The Clearaudio Concept MC is an excellent performer that will give the Benz Micro Ace a run for its money. Both were equally at home with any genre of music that I could find and seemed undisturbed by aged vinyl. I felt that the Concept was a little more upfront in its description of sound. I would unhesitatingly put the Concept very high on the audition list; it maintains the Clearaudio pedigree.

<table>
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<tr>
<th>FOR</th>
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<tr>
<td>high quality, affordable</td>
<td>nothing at the price</td>
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<td>new moving coil cartridge</td>
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<tr>
<td>budget moving coil cartridge, bettering even the Benz Micro Ace. This market is hotting up.</td>
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The Clearaudio Concept has ruler flat frequency response our analysis shows, all the way up to 8kHz – quite an extraordinary performance. It is as flat as CD in fact. The lift in treble above 8kHz measures +3dB, just enough to be audible as a slight top end sheen. Inner groove tracking loss (red trace) reduces this a little, but not so much as to make the cartridge sound dull on inner grooves: the stylus reads short wavelengths well. The Concept will sound balanced and even, with just a little top end sheen, but it is unlikely to sound overtly bright like many budget MCs.

Tracking was superb at 2gms downforce. The highest level torture tracks at 300Hz and 1kHz were cleared with comparative ease, an unusual result few cartridges manage. Distortion was very low both on lateral and vertical modulation, the latter being due to an accurate vertical tracking angle value of 22 degrees our tests showed. This is a low distortion cartridge, always a good sign.

Output is on the low side at 0.62mV at 5cms/sec rms, but not so low as to be difficult to work with. Most MC preamps have x1000 gain, enough to give 620mV output to an amplifier from the Concept and all amps will reach full output with this.

The Concept measured superbly for a budget moving coil cartridge, bettering even the Benz Micro Ace. This market is hotting up. NK

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<th>SPECIFICATIONS</th>
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<td>Vertical tracking angle</td>
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<td>Lateral distortion</td>
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<td>Frequency response</td>
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<td>Tracking force</td>
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<td>Weight</td>
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<td>Tracking accuracy</td>
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<td>Vertical (1kHz)</td>
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<td>Noise (45µm)</td>
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<td>Output</td>
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MEASURED PERFORMANCE

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Anatek

AMPURS

Art Stilleto cherry finish £ 645

ATC 5CM Active 10 bookshelf speaker with stands £ 1195

Accrete Energy original black Aluminium pillar

Aurum Cantus black orchid speakers piano black £ 495

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EAR 8341 black finish £ 595

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Cyrus CLS50 £ 245

Castle Howard 2 Oak finish £ 495

Beauhorn Virtuoso reference Lowther tern loaded so- Xs £ 2495

Rotel RC850 pm amp £ 95

Rotel RB850 power amp £ 175

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Installation
Vinyl fans amongst you who attended the Heathrow Hi-Fi Show back in March may have paid a visit to the Inspire Hi-Fi room, to check out their range of turntables. As well as the Eclipse, Apollo and range of LP12 Vivid upgrades, Inspire were showing their new range of Rega turntable modifications in the form of the Quest package. As the room was quite crowded each time I visited however, I wondered exactly how many visitors spotted Inspire's new arms, and if so, how many dismissed them as merely rebadged Regas? I must confess that this was the first thought that crossed my mind until I examined more closely, realised that there were quite a few differences to a vanilla Rega, and then saw a certain arm guru's name mentioned on one of the information banners. Then I became very intrigued indeed.

Robert Isherwood has most certainly made a popular and wise choice for the basis of his new X100 and X200 arms in the form of the OEM Rega RB251, but eighteen months of development work have led to quite a comprehensive range of modifications to the basic structure. Most notably, the arm tube is amputated and a brand new tapered carbon fibre tube is fitted instead, to result in a nine inch arm for the X100, or a twelve inch item for the X200. To the end of this, a new headshell is fitted, which is actually more of a simple cartridge support platform and offers the potential to remove troublesome resonances suffered by the conventional item. Under the accelerometer at least, it would appear that this has indeed been a successful venture [see MEASURED PERFORMANCE]. At the other end of the arm, the counterweight stub is replaced by a machined stainless steel item and weight, and with these modifications in place, stage two begins.

The name I alluded to earlier appears at this point, as the arms are shipped off to a certain Audio Origami in Scotland where they are fully rewired with Cardas OFC cable and the bearing alignment is checked, set and configured with the levels of precision that we have come to expect from John Nilsen. Robert also states that the bearings are handpicked at Inspire before the arms are sent off, ensuring that only the best items are sent. Another modification made at this point is the inclusion of a small brass pin into the headshell assembly which is then earthed through the arm wiring. This, Inspire state, "ensures that static build up from record to cartridge and tonearm is nullified, giving better tracking and increased performance of the stylus in the groove".

Fit and finish of the arm is very good indeed, as one would expect, and the new tube is neatly grafted on with just a small silver band giving away the join. The X100 retails for £699 and the 12" X200 at £769, although Inspire are offering special introductory launch prices of £630 and £700 respectively, and there is the option of a version of either arm with built-in downforce gauge for an extra £80, presumably based on the RB301 instead. Alternatively, you can supply your own Rega arm for modification to X100 status for £550 and to X200 for £600.

Finally, and most encouragingly, "one of the best arms you can buy for under £1,000, and for me a new standard by which other Rega-based designs should be judged..."
Inspire specify that they are not making any wild claims for their new baby. In particular, Robert says that he has no wish to compare either to the SME V, which seems a common policy these days, instead stating that the “performance is quite breathtaking”. Once battle was done with the new three point Rega mounting, which is structurally effective but a right pain to interface to my Garrard 301’s SME style mount, I was ready to be beguiled!

**SOUND QUALITY**

Firstly, a brief recap; a standard RB251 is a very impressive performer for the money. It is tight, focused and well balanced across the frequency range, but for me belies its budget origins by struggling to involve on an emotional level. Its rather grey tonality is quite a dominant gene within its DNA and few modification packages have ever really eradicated this. As I cued up the Ortofon Kontrapunkt b fitted into the X100 on my 301, I wondered if Inspire would manage to pull this off.

And the verdict is...yes! From the first bars of Caro Emerald’s ‘Back It Up’, the X100 had me in the palm of its hand (or should that be headshell?). This is a track with a funky salsa vibe and as it blasted out into my room, the dreaded ankle twitch began straightaway and I knew if I wasn’t careful, I would be up and dancing, which is not a pretty thing to encounter before on an arm and should provide the sort of silky smoothness of SMEs, eliminating the small degree of edginess in Regas. Of course, Rega arms are very stiff and give great stereo and dynamics; this upgrade successfully capitalises on those properties our vibrational analysis suggests. NK

The Inspire Rega RB251 arm has a first bending mode at 230Hz, a fairly low value suggesting it is less stiff than many modern tubes. However, it is very well damped, so the main mode is strongly suppressed and the related third order mode hardly exists. The usual Rega tube signature around 1kHz has been all but eradicated. Also banished is the high frequency ringing of the headshell that Regas suffer (and that modern SMEs do not). So the new headshell works very well and should provide the sort of silky smoothness of SMEs, eliminating the small degree of edginess in Regas. Consonance T988 has just a fraction more air and space around its top end and the SME M2-9 has just a touch more fluidity throughout the midband, but the X100 comes very close to them in these areas, which is no mean feat, and pulls firmly ahead of both in the bass department.

**CONCLUSION**

I couldn’t help being slightly concerned that, by following the Rega modification route, there was a risk that Inspire Hi-Fi could have come up with another ‘me too’ product that merely offered a different way to skin the sonic cat, so to speak. However, the well thought out design, the superb engineering and the icing on the cake in the form of an Audio Origami fettle mean that the X100 is not only one of the best arms you can buy for under £1,000 but, for me is also the new standard by which other similar Rega-based designs should be judged.

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**MEOURED PERFORMANCE**

The Inspire RB251 arm has a first bending mode at 230Hz, a fairly low value suggesting it is less stiff than many modern tubes. However, it is very well damped, so the main mode is strongly suppressed and the related third order mode hardly exists. The usual Rega tube signature around 1kHz has been all but eradicated. Also banished is the high frequency ringing of the headshell that Regas suffer (and that modern SMEs do not). So the new headshell works very well and should provide the sort of silky smoothness of SMEs, eliminating the small degree of edginess in Regas. Of course, Rega arms are very stiff and give great stereo and dynamics; this

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**VERDICT**

Cleverly engineered, beautifully built and sonically superb, the X100 sets the bar for Rega modifications even higher.

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**SOUND QUALITY**

The initial test was as a largish room system, with the satellites perched upon a pair of Atacama HMS 1 stands, the crossover frequency set at 120Hz to suit the 301.2 satellites and the sub set to 60Hz (reflecting the size of my listening room).

Playing a selection of rock CDs via my Icon CD-X1 silver disc spinner, I was immediately impressed with the lower frequency range. Bass was grippy and informative for its associated woofer size. The upper midrange and treble did suffer a little from restricted frequency extension at high volumes with delicate transients never fully explored, yet there was certainly enough information to please all but the most particular of audiophiles.

Varied jazz CDs experienced similar restrictions in the upper frequency areas but, that said, the Elac handled complex guitar picking with aplomb, bass was tuneful and vocals tracked the emotion of the songs easily over a relaxed and ordered soundstage.

Bluetooth output was easily set-up via my Apple iPhone 4, where .wav files extracted via Exact Audio Copy software were punted to the Elac. Requiring more gain to achieve similar volumes, the Bluetooth output was sonically limited, making the uncompressed files sound more like 128kbps MP3s. Still, despite the restricted amount of information on offer, the Elac handled it with admirable clarity...

The system really came into its own when it was hooked up to my PC as a near-field system. Running rock .wav s, the Elac produced newfound upper midrange sparkle and a beautifully constructed three dimensional soundstage that appeared to range over to the back of my desk and beyond. Plucked rock guitar strings were resonant, while piano was vibrant and animated. Jazz-based vocals were almost playful with a direct, emotional feel. The Elacs proved to like music in a cosy, intimate atmosphere.

**CONCLUSION**

A fine package, overall. Via Bluetooth it sounds fairly anaemic but does offer the user a flexible, mobile music playback route with a responsive interface deserving of a three globe rating. Feed it decent uncompressed sound sources though and you get an easy, expansive sound that’s admirable for its price and size, being both musical and easy on the ear. As you might expect, it works best as a near-field system; for PC or small room use, the Elac Micromagic II is good-natured, melodic and with plenty of detail to delight the ear.

**VERDICT**

Ideal as a near-field system but also good as a full room set-up, the Elac offers flexibility for anyone looking for a small room or PC-based rig.

**FOR**

- overall musicality
- great for near-field use
- versatile design

**AGAINST**

- dynamic extension
- Bluetooth performance
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Ex-demo and second hand items

Digital

<table>
<thead>
<tr>
<th>Product</th>
<th>Was</th>
<th>Now</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arcam Alpha 8SE CD player S/H</td>
<td>600</td>
<td>199</td>
</tr>
<tr>
<td>Heed Audio DACitus DAC BNIB</td>
<td>370</td>
<td>269</td>
</tr>
<tr>
<td>living Control Music Box 3 BNIB</td>
<td>2887</td>
<td>1499</td>
</tr>
<tr>
<td>living Control Room Box4 BNIB</td>
<td>1712</td>
<td>999</td>
</tr>
<tr>
<td>Primare CD30.2 CD player S/H</td>
<td>1500</td>
<td>699</td>
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Analogue

<table>
<thead>
<tr>
<th>Product</th>
<th>Was</th>
<th>Now</th>
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<tbody>
<tr>
<td>Heed Audio Quasar MM/MC 2 box Phono stage x-demo</td>
<td>740</td>
<td>499</td>
</tr>
<tr>
<td>Heed Audio Questar MM Phono stage BNIB</td>
<td>300</td>
<td>219</td>
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<tr>
<td>Kuzma Stabil S/ Stogi S double arm version Xdemo</td>
<td>2795</td>
<td>1750</td>
</tr>
<tr>
<td>Kuzma Stogi Tonearm x-demo</td>
<td>1390</td>
<td>799</td>
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<tr>
<td>Mark Levinson No320s Phono Module x-demo</td>
<td>995</td>
<td>649</td>
</tr>
<tr>
<td>Pink Triangle LPT/New Heed Orbit PSU/Roksan Tabriz S/H</td>
<td>N/A</td>
<td>599</td>
</tr>
<tr>
<td>Rega Planar 3/ Super Bias S/H</td>
<td>N/A</td>
<td>199</td>
</tr>
<tr>
<td>Roksan TMS/Attrezzi/DS5 Turntable S/H</td>
<td>N/A</td>
<td>2250</td>
</tr>
<tr>
<td>Well Tempered lab Amadeus BNIB</td>
<td>2195</td>
<td>1899</td>
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</table>

Preamplifiers

<table>
<thead>
<tr>
<th>Product</th>
<th>Was</th>
<th>Now</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audolici AP01 preamplifier S/H</td>
<td>2100</td>
<td>999</td>
</tr>
<tr>
<td>Conrad Johnson Classic Phono x-demo</td>
<td>2400</td>
<td>1750</td>
</tr>
<tr>
<td>ECS Finestra Preamplifier Phono S/H</td>
<td>N/A</td>
<td>379</td>
</tr>
<tr>
<td>Krell KAV250p preamplifier S/H</td>
<td>2398</td>
<td>995</td>
</tr>
<tr>
<td>Spectral DMC15SS new in box full warranty</td>
<td>6995</td>
<td>4995</td>
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Amplifiers

<table>
<thead>
<tr>
<th>Product</th>
<th>Was</th>
<th>Now</th>
</tr>
</thead>
<tbody>
<tr>
<td>47 lab 50 Humpty PSU x-demo</td>
<td>1999</td>
<td>1199</td>
</tr>
<tr>
<td>47 lab 50 w Gain card x-demo</td>
<td>1999</td>
<td>1199</td>
</tr>
<tr>
<td>Audio Technica AT-MA50 Mixing Amplifier S/H</td>
<td>399</td>
<td>149</td>
</tr>
<tr>
<td>Bel Canto eVo4 Poweramplifier S/H</td>
<td>3400</td>
<td>1649</td>
</tr>
<tr>
<td>Chord Electronics SPM1400 B mono S/H</td>
<td>12000</td>
<td>4299</td>
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<tr>
<td>Electrocompaniet AW250R S/H</td>
<td>4999</td>
<td>2499</td>
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<tr>
<td>Graaf GM100 Power amplifier re-valved S/H</td>
<td>5999</td>
<td>2299</td>
</tr>
<tr>
<td>McCormack DNA125 power amplifier S/H</td>
<td>1999</td>
<td>995</td>
</tr>
<tr>
<td>Rouge Audio Corus Integrated valve S/H</td>
<td>1850</td>
<td>1199</td>
</tr>
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Loudspeakers

<table>
<thead>
<tr>
<th>Product</th>
<th>Was</th>
<th>Now</th>
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</thead>
<tbody>
<tr>
<td>Leema acoustics Xero Black Ash S/H</td>
<td>750</td>
<td>499</td>
</tr>
<tr>
<td>Martin Logan Fresco pair inc stands S/H</td>
<td>1500</td>
<td>699</td>
</tr>
<tr>
<td>Martin Logan Quest Light Oak (new panels) S/H</td>
<td>N/A</td>
<td>1299</td>
</tr>
<tr>
<td>Martin Logan Vantage dark cherry x-demo</td>
<td>5149</td>
<td>3499</td>
</tr>
<tr>
<td>PenAudio Charmisma x-demo</td>
<td>2715</td>
<td>1899</td>
</tr>
<tr>
<td>PenAudio Charm Sub modules x-demo</td>
<td>2175</td>
<td>1499</td>
</tr>
</tbody>
</table>

Midland Audio X-change are looking for All high end audio separates best prices paid for good examples.

Cables and Accessories

<table>
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<tr>
<th>Product</th>
<th>Was</th>
<th>Now</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apollo 80cm single column Stands S/H</td>
<td>149</td>
<td>99</td>
</tr>
<tr>
<td>Cardas Cables Golden Cross 3m speaker cables</td>
<td>1999</td>
<td>999</td>
</tr>
<tr>
<td>Electrocompaniet ECS1 M6 feet x4 BNIB</td>
<td>189</td>
<td>49</td>
</tr>
<tr>
<td>Jadis KT90 Valves x 4 BNIB</td>
<td>600</td>
<td>300</td>
</tr>
<tr>
<td>JPS Ultra Dual bi wire 2x8 Spades to banana S/H</td>
<td>549</td>
<td>279</td>
</tr>
<tr>
<td>MIT Terminator II Biwire 2x10ft S/H</td>
<td>599</td>
<td>249</td>
</tr>
<tr>
<td>Nordost Heimdall 2x3.5m Speaker cable S/H</td>
<td>1500</td>
<td>799</td>
</tr>
<tr>
<td>Spectral MI-350 20ft interconnect S/H</td>
<td>2100</td>
<td>899</td>
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<tr>
<td>Stereovox 2x2.5m HDXV speaker cable S/H</td>
<td>350</td>
<td>169</td>
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<tr>
<td>Stereovox HDVX 0.5M digital S/H</td>
<td>199</td>
<td>75</td>
</tr>
<tr>
<td>Synergistic Research AC master Coupler 5ft IEC-UK S/H</td>
<td>499</td>
<td>149</td>
</tr>
<tr>
<td>Transparent Balanced Reference 2x30ft x-demo</td>
<td>6345</td>
<td>3299</td>
</tr>
<tr>
<td>Transparent Reference SC 2x10ft x-demo</td>
<td>6192</td>
<td>3199</td>
</tr>
</tbody>
</table>

Tuners & Tape decks, power supplies

<table>
<thead>
<tr>
<th>Product</th>
<th>Was</th>
<th>Now</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyrus DAB 8.0 Tuner Silwer S/H</td>
<td>600</td>
<td>379</td>
</tr>
<tr>
<td>Magnum Dynalab FTR remote/Tuner for Etude S/H</td>
<td>395</td>
<td>179</td>
</tr>
</tbody>
</table>

Midland Audio X-change are looking for Audio Research, Krell, Mark Levinson, Naim Audio, SME, Wadia.
CODA CSX Stereo power amp (330 watts @ 8 ohms). New.

TAF 1000 CD player £1300. (RRP £1500)

NAIM 5i latest excellent condition, £430. Wanted: Bicor 200 cabinets or constructor of same. Tel: 07716 139 026

ELECTROSTATIC SPEAKERS, very good condition. Inner sound. Buyer to collect. £800. Tel: 0116 291 0415

NAKAMICHI TX1000 self centering computing turntable, 2 armsm has separate power supply. Ultra rare make sensible offers. Tel: 01277 89 599 or Email: n الملك@gypsytower.com

BANG & OLUFSEN Beocord 2400 cassette £50. Technics SL5 turntable £60. Sansui AU701X tuner £60. AR A60 amp, Sony 3140F power amp, spares or repair, £15 each. Tel: 01708 457 314

KIMBER 0.5m PB $14db attenuated Naim CD interconnect £40. Kimber 0.5m 11db attenuated CD phono interconnect £20. Tel: Stuart 07846 675 141 (Northants)

KOETSU BLUE Lace. Brand new. Mounted but unused. Finest ever platinum coiled cartridge 0.2mV output. Very few in existence, boxed. Inspection welcome. £4,995.00 For more details contact Neil on 01925 656990 or npage@tadmur.com

TECHNICS SL1210 Mk2 good working order £160. McIntosh MCD201 SACD/CDP rem. vol., brilliant £1500. Approx 20 wpc single ended valve integrated, modded, good working order, £400. Wanted: B.A.T. integrated, anything B.A.T., Grah GM20. Tel: Shalom 07951 553 091

LINN BASIK tonearm mounted on Linn LP12 armboard. Very good condition. Offers. Graham Slee Gram Amp 2 S.E. phono stage, mint, boxed, £75. Goldring 1006 cartridge, Little use £25. Tel: 07941 174 804 after 6pm (Gloucestershire)


ARCAM SOLO Amp/CD/FM/ DAB All-In-One unit. £650. Also Naim Uniti Amp/CD/FM/ DAB All-In-One unit (to current specification) £1550. Both in immaculate condition, complete with boxes. Tel: 0203 807 8935

MISSION ELEGANTE E82 floorstanding speakers (pair), anthracite grey, £600. Roksan Kandy K2 integrated amplifier, £500. All excellent condition and boxed, or £1000 for everything. Tel: 0161 437 2899 or Email: steveroberts.mail@freeserve.co.uk (Stockport)

EBAY MY *** wad kr88 int amp £1350 £425. Meridian 206 CD player (£1000) £125 open to offers T: 07976 621529 leads up north KIMBER D-60 digital coaxial cable, phono, 1m, only 5 hours use (RRP £350) - £190. Yellow mains cables, Russ Andrews filters, other items. Call Mike 01902 884694

ICON AUDIO MB845, Hi-Fi World review 2009, L44 Mk1 pre amp. £3500. Tel: 0116 291 0415

WANTED: ROGUE valve power amplifiers. Any condition. Tel: 07765 217 280

WORLD AUDIO 2A3SE single ended triode amp. Well made. Very good condition. PTV capacitors. Spare valves. £550. Tel: Steve 07530 291 920 or Email: stillcett@tiscali.co.uk (Isle of Wight)

AUDIONOTE E SPE HE speakers. These are the later blue cone hemp version in high efficiency guise with silver wiring. Apple Vener and in fine condition. Includes original stands. £1500. Currently in Naim V5R system, can demonstrate - see review http://www.stereophile.com/floorloudspeakers/953/index.html Tel: 07747620856 (London)

TANNOY MONITOR Gold 3LZ speakers, little used, in original oak finish enclosures. £400 Tel: 01227 263568

SUNRISE MONITOR Gold 3LZ speakers, little used, in original oak finish enclosures. £400 Tel: 01227 263568

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Linn Unidisk SC Universal CD Player E/D (1Yr G/tee) ... (3145.00) £995.00
Linn Unidisk 1.1 Universal Player E/D (1Yr G/tee) ....... (470.00) £995.00
Linn Majik-i Integrated amplifier E/D (2Yr G/tee) ........ (1595.00) £945.00
Creek Destiny CD Player E/D (2Yr G/tee) ............... (1430.00) £950.00
Linn Linto Phono preamp Silver S/H (1Yr G/tee) ....... (1180.00) £549.00
Linn Akurate 2200 Power Amp Sil. E/D (2Yr G/tee) ... (3000.00) £1550.00
Linn C5100 5 Ch Chakra Power Amp S/H (1Yr G/tee) ... (2200.00) £950.00
Linn Artikulat 320 Speakers Dk Cherry E/D (2Yr G/tee) (8250.00) £2950.00
Quad 99 Preamplifier E/D (2Yr G/tee) .................... (795.00) £475.00
Quad 99 Power Amplifier E/D (2Yr G/tee) ............... (599.00) £349.00
EDISON TWELVE (HFA12) £1325 Kelvin Labs Class A integrated £295 Snell's £225 Well Tempered Classic Turntable £1395 Wanted Eikos FR1 or similar single drive unit speaker Tel: 0113 2559475

MUSICAL FIDELITY A370 power amp looks good sounds good wife hates it she says it looks like a microwave oven, it was taken in as a swap did not realize how big it was so it has to go, collect only (too big to post) £450.00 phone 0191 4171669 after 6pm.

NAIM AUDIO line interconnect. As new condition £165 in tin box etc. Excellent upgrade, £375. Tel 0779078653 Andy (Notts).

QED GENESIS speaker cable x3.5m pair £150 ono, Kimber kccg 0.5m interconnect £100 ono, missing link cryo 0.6m interconnect £125 ono phone neil on 0165218420 evening n. lincs

QUAD SYSTEM 67 CD Player, 66 Preampl with controller, 66 Fm tuner 606 power amp. Good condition and all boxed apart from the 606. Will split, £1,150 Tel: 01625 430130

PIONEER CS301 speakers, black, good condition £95. Bang & Olufsen P30 speakers, wood finish, good condition £75. All good working order. Telephone Adrian (01302) 772495

C.J. WALKER CSJ 58 turntable with Mission arm and A+R C77 cartridge (damaged stylos) for sale. Not used for some years. Sale £90 Tel: 02476 592 585 or Email: martin_mason@talk21.com

QUAD SYSTEM 99 pre, cd,909 amp, various ages plus 2905 speakers all very good condition, must be collected no boxes.will demo £3750 ono tel. 01773856828. derbys.

WANTED: TOP quality Hi Fi separates and complete systems, Naim, Linn, Cyrus, Meridian, Arcam etc, fast, friendly response and willing to travel/ pay cash Please call me on 0781 5892458

WANTED FAULTY or non working Quad 34 and 44 preamps, fm3 tuned, Quad 405 amplifiers. Contact Mike 01758 613790.

OFFERS INVITED for a Thorens TD160 MK2 turntable in mint condition. Telephone: 01922 644775

NAKAMICHICR4 Near Mint/Full History from 1986 (B&W) All@£300 Mr Griffiths Mobile: 0787 571 9136 (5 Wales)

LINN LP12 Beautiful Fluted Afrosomua Fully upgraded with Akito/GradoPlatinum cartridge Cikus Bearing/Trampoline2 All@£1500 Mr Griffiths Mobile: 0787 571 9136 (5 Wales)

FOR SALE Michel Iso Hera phono stage in good con, great sound £175. Tona zinc arm with orig. wood box exc. cond. £350. call richard. 01706841861 l. Man.

ATACAMA UROPA BSE 4 shelf hifi/av rack, 5 star Whathifi, cost £520.00p, sale £225.00p o.n.o. Tel: Medway 01634 842874 or e-mail pevans11@live.co.uk

SONY PSX600 Turntable fitted with Shure M9IED cartridge. £75. Tel: Steve 01987697524

MARTIN LOGAN Clarity Electrostatic Speakers in excellent condition, finish in black and silver, wonderful open sound £1250 Telephone 02380 224003 Southampton

TANNYO CHEVIOT HPD 315A twelve inch DC drive units. Good condition. Can be heard. £600 ono. Tel: 01843 835 734 (Kent)

BOWERS & WILKINS CM8 speakers black £895, B & W, PV-1 sub-woofer black £575 all mint as brand new, buyer collects Tel: 020 8951 3178

PROAC D15 two-way floor standing loudspeakers, satin cherry finish, Real wood veneer. Bi-wiring or bi-amping compatible, Smooth and dynamic sound. Good condition. Boxed. £850. Tel: Shaun 07798 838 110 (Bracknell, Berkshire)

KIMBER SELECT 3038 speaker cables 1.00m silver next gen spades, Siltech FTM45SG 1.00m, Kimber Select KS1136 XLR-XLR 1.00m, KS1036 Phono-Phono 0.75m. All approximately 50% of retail, all perfect boxed with little use. For more details contact Neil on 01295 656990 or npage@tadmur.com

BANG & OLUFSEN Beogram 6500 record deck, very good condition, £195. Kamichimi BXZ2 cassette deck, very good quality, £90. Thorens TD166 Mk2 record deck, £95. Marantz PM7001 amplifier, boxed, unused, £175. Tel: 01708 457 691

APOGEE CENTAURUS Ribbon speakers, excellent, £400.

Bolderhead Radia hybrid ribbon speakers, mint, £850. Tel: 07979 300 421

ROKSAN RADIUS 5 turntable for sale, with Origin Live RB600 arm with Goldring 1022 cartridge, £600 ono. Also Exposure 2010s CD player for sale. Excellent condition, £280 ono. Tel: Andy 01484 427 426

QUAD ES63s (late serial nos 32,000), black with unused George stands, fully serviced 2009, £1,350. Leak Stereo 60, some Mullard valves, serviced £9 01 £450 Superb sound, can demonstrate Cheltenham area. Inquiries to aasim_1@yahoo.co.uk

LARGE COLLECTION of Hi-Fi World and What Hi-Fi magazines for sale. Approx 15 years worth of copies available. Offers for the lot considered. Contact Mario on 07815926875 (evenings only) or for more details please Email mar@mcapaldi.freeserve.co.uk

FLUTTERBUSTER turntable power supply power supply £25.3 Isotek MTB-D motor thrust bearing for Phillips/ Impex/ Promotec motors, new, unused, £10.

Original instruction manual for Whatferdale Isodynamic headphoene. Tel: Alasdair 0113 262 3865

COPA CSX Stereo power amp (330watts @ 8 ohms). New NEVER played, balance of 5 yrs warranty, purchased in error. Genuine private sale, highly recommended in Hi Fi+ 2009 awards £2999 (RRP£5275) For more information. 02392-376247 jameshankin@btinternet.com

EBAY MY^{##} was kd88 int amp [£1350] £425. Meridian 206 CD player [£1000] £125 open to offers T. 079796 621529 Leeds up north

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JULY 2011 HI-FI WORLD

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**VISA - SWITCH • MASTER CARD AMEX - DINERS CLUB WELCOME.**
August's Hi-Fi World will put you in a holiday mood with its wide range of great new kit! Digital fans will be dazzled by Audiolab's superb new affordable 8200CDQ CD player/digital preamplifier, with its ground breaking John Westlake design, while we put the high end Bricasti M1 DAC against the best of the rest. Vinyl fans will enjoy the Inspire Quest turntable upgrade package, claimed to dramatically improve the venerable Rega Planar 3. We've the Tube Amp Company's sizzling value V60 valve integrated, and Storm Audio's excellent V35 solid-stater. Speaker fans look out for one of the weirdest boxes around in the shape of Eminent Technology's LFT-16 ribbon hybrid [pictured]! Here's just some of what we hope to bring you...

STORM AUDIO V35 VERTIGO INTEGRATED AMPLIFIER
MUSICAL FIDELITY V-DAC II DIGITAL CONVERTOR
AUDIOLAB 8200CDQ CD PLAYER/PREAMPLIFIER
EMINENT TECHNOLOGY LFT-16 LOUDSPEAKERS
TANNOY REVOLUTION DC6 LOUDSPEAKERS
MOWGAN AUDIO ETAIN LOUDSPEAKERS
TAC V60 VALVE INTEGRATED AMPLIFIER

INSPIRE QUEST TURNTABLE UPGRADE
AMR AM777 INTEGRATED AMPLIFIER
BRICASTI M1 DIGITAL CONVERTOR
PIONEER VSX-1021 AV RECEIVER
ICON AUDIO PS2 PHONO STAGE
ORIGIN LIVE ONYX TONEARM
ROTH OLI50 LOUDSPEAKERS

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Classic art is often 'classic' because, yes, it's good and from the soul of a true talent, but also because it has been given patronage; backing for materials, a stage for display or funds for distribution. For, if no-one knows about it, it cannot become popular and will not receive national or worldwide acclaim. Music, especially, gains and suffers from these factors and the sub-genres of punk and wave more than most. Because the DIY ethic provided artistic freedoms, those same freedoms meant that most artists of that ilk were left working without a net... or two pennies to rub together. So we were left working without a net... or tic freedoms, those same freedoms these factors and the sub-genres especially, gains and suffers from approach while the Off Band and set, Poison Dwarfs, with their brief distinct Clash flavour; Din A Testbild album's worth of tracks from each their lifetime. This set includes an of PVC, releasing two LPs during didn't release anything until 1982; despite being formed in 1977, UK punk band The Adverts who, punk and wave music. 

They include PVC, inspired by UK punk band The Adverts who, despite being formed in 1977, didn't release anything until 1982; White Russia included ex-members of PVC, releasing two LPs during their lifetime. This set includes an album's worth of tracks from each (eleven and twelve respectively); MDK, purveyors of post-punk with a distinct Clash flavour; Din A Testbild were a new wave, punk-electro outfit who moved into synth experiments as did another band in the box set, Poison Dwarfs, with their brief techno stabs. The Didaktische Einheit will be of interest to cold wave fans with their stripped, raw approach while the Off Band and No More explored the darker areas of post-punk. Other bands include the wonderful Funtastiklons which provided a unique instrumental electronics providing pastoral electro with elements of Kraftwerk and flavours of early UK outfits like early Human League, Die Wirklichkeit (check out the hypnotic minimalism of 'New Arrangements' in this boxset) and Die Gesunden who played unrefined melodies that were no less attractive for it.

Utilising a number of Kenwood, Yamaha, Aiwa and Sony decks as sources, label boss Frank Maier had a gamut of sources for this boxset including, "well preserved DATs and original tapes provided by artists and transferred digitally as WAV/AIF. Some artists provided CDs which they recorded from their original cassettes, tapes or quarter inch reels."

Trying to get the best sound from this hotchpotch of sources proved challenging, as the mastering engineer for this boxset, Anders Peterson from GS Mastering & Post, explained, "For any compilation, especially one as big as this, it's often tricky to get a homogenic sound. In this case, with recordings dating back twenty-five to thirty years, the recordings were quite different from each other; varying levels, varying instrumentation and overall sound, varying amounts of hiss and other elements of noise and audio artefacts. But that's what's so interesting, challenging and also inspiring about doing audio post on a project like this, being able to present these recordings in a new light, so to speak."

The result has been worthwhile though, because the box set preserves the raw nature of the music and conveys the essence of what the bands were trying to achieve. This was both the beginning and end of music as they knew it at that time. Everything was old, this was new, it was pioneering stuff, classics of the underground in fact, which this box set captures perfectly..."
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Since the beginning in 1973 Electrocompaniet has always focused on listening pleasure and our main goal is to reproduce music as it was meant to be. Now wonder a lot of studios around the world is using our equipment for editing and mastering — maybe your favourite music is made with Electrocompaniet equipment.

Our main ambition is to give you listening pleasure in your own home and your investment in Electrocompaniet will last for many years.

The vision that drove us in the early days has stayed: If music really matters ...