LEEMA TUCANA II & STELLO Ai500 amplifiers

CLEARAUDIO INNOVATION turntable

SUGDEN MYSTRO integrated amplifier

SYSTEM SUPERTEST
Onkyo/Wharfedale, Rega/Naim/Guru and AuraNote/AudioSmile systems tested

COMPETITION
WIN A ROTEL BCD-1520 CD PLAYER WORTH £695! (UK ONLY)

MERIDIAN SOOLOOS 2.0 & DSP5200
hard disk music system

> CONSONANCE T988 UNIPIVOT TONEARM
> ACOUSTIC ENERGY RADIANCE 3 LOUDSPEAKER
> PHILIPS FIRST GENERATION CD PLAYER FEATURES

13 PAGES OF LETTERS - THE BEST KEF IQ30 LOUDSPEAKER REVIEWS
Music is a universal pleasure that should not be denied to anybody. So, too, the beauty of music reproduced by valves. To make available to a wider audience the seductive, silky sound of the vacuum tube, PrimaLuna has developed a range of all-valve amplifiers with the construction, power and sonic performance of high-end electronics, but with one unique, inimitable feature: prices that can only be described as 'entry level!'

Since the arrival last year of PrimaLuna's first model, the ProLogue One, the audio community has been unable to contain its joy or reign in its praise, because PrimaLuna has revolutionized the whole concept of 'affordable audio.' Commencing with a pair of integrated amplifiers with prices more typical of mundane, solid-state products, PrimaLuna has shown other manufacturers that compromises in fit and finish, styling and facilities are unnecessary.

And PrimaLuna has shown the music lover that 'high end' performance and pride of ownership can be made available to aficionados on a budget. But don't take our word for it. Audition your preferred ProLogue or the newly-launched Dialogue models at the PISTOL Music dealer of your choice. And prepare your wallet for a pleasant surprise!
If there's one thing I've learned in my fifteen years writing about hi-fi, it's that whilst products are always reviewed in isolation, they're never used in the same way. Brilliant as your new award winning CD player may be in theory, in practice (in your system) it could sound precisely the reverse...

That's why this month's issue looks at a number of well matched systems, from the £16,49 Tesco MC-907 [p25] to the £13,740 Meridian Sooloos 2.0/DSPS200 [p10]!

While the former is a bit of fun, the latter is an innovative hard disk based music centre with a superb full size graphical touchscreen interface, and surely the shape of things to come?

Along the way, we've come up with three different affordable systems [p15], including a brilliant new Onkyo line-up of separates, including one of the first iPod docks to give direct digital output. The Rega P3 turntable based system featured is a return to eighties minimalism, and sounds all the better for it. And my own choice uses the lovely AuraNote Premier music centre as its heart, which performs as well as it looks. Importantly, all three match their ancillaries brilliantly, giving a sonic performance that's more than the sum of the parts.

Elsewhere, we run through a range of great new products, including the superb new Leema Tucana 2 high end integrated amplifier, which finds itself sharing a room with Stelo's Ai500 [p26]. Moving down the price range a little, it would be a shame not to be beguiled by Sugden's Mystro [p66], which is a superb new Class AB powerhouse.

Big speaker fans will love Acoustic Energy's chunky new Radiance 3 floorstanders [p32], but if that's not big enough then we remember the classic Klipschorn [p56]. Lovers of classic kit will also enjoy our brief sojourn back to the nineteen eighties, where we sample the very first ever Compact Disc player, the Philips CDI00, and this month too, via Clearaudio's superb new high end Innovation turntable [p100] and Consolance's great value T988 unipivot tonearm [p104].

All in all, November's another bumper issue, packed with great kit, new and old. Perfect as those long dark nights draw in – enjoy!

David Price, editor
Auralote's Premier music system is David Price's choice for the system supertest...

Sugden's new Class AB amp is a jewel, thinks David Price.

Tony Bolton puts Leema's Tucana 2 against rival Stello...

Meridian's latest Sooloos 2.0 music server delights David Price!

Gorgeous new Clearaudio Innovation wins over Adam Smith!

Acoustic Energy's new Radiance 3 floorstander impresses Noel Keywood.
**SYSTEMS**

**MERIDIAN SOOLOOS 2.0/DSP5200**
David Price tries out this superb new high end HDD based music server and digital loudspeaker combination.

**SYSTEM SUPERTEST**
This month, Patrick Cleasby, Adam Smith and David Price assemble three great affordable systems...

**ONKYO NS-D1/C-SSVL/A-SVL/WH.**
10.1
*Rega P3-24/Naim Nait 5i/Guru QM10*
Auranote Premiere/Audiosmile Kenai

**TESCO MC-907**
Adam Smith tries a complete mini system for the paltry sum of £20, or less!

**AMPLIFICATION**

**LEEMA TUCANA 2 & STELLO A1500**
Tony Bolton pits Wales against South Korea in this premium integrated amplifier face-off!

**ROTEL RC1580/RL1582**
Noel Keywood samples an affordable pre-power amplifier combination.

**SUGDEN MYSTRO**
David Price tries a super new Class AB integrated from Yorkshire.

**DIGITAL**

**PHILIPS BDP3000**
Noel Keywood reviews the latest budget Blu-ray wonder from Eindhoven.

**I4X4 PLAY**
Tim Jarman remembers the early days of fourteen bit Compact Disc.

**ROCKBOX**
Patrick Cleasby tries this alternative FLAC-enabled iPod operating system.

**LOUDSPEAKERS**

**ACOUSTIC ENERGY RADIANCE 3**
These big floorstanding speakers get the nod from Noel Keywood.

**FEATURES**

**OLDE WORLDE**
Haden Boardman remembers the mighty Klipschorn loudspeaker.

**WHITTLEBURY SHOW PREVIEW**
Noel Keywood previews this forthcoming hi-fi show.

**VINYL**

**VINYL NEWS**
Paul Rigby with all the latest black plastic releases.

**CLEARAUDIO INNOVATION**
Adam Smith tries a super new high end turntable.

**CONSONANCE T988**
This affordable unipivot tonearm from China gets a review from Adam Smith.

**SIMAUDIO MOON LP3**
Paul Rigby auditions a fine new affordable phono stage.

**MICHELL REFOCUSED**
David Price walks you through the rebuild of this classic tonearm.
ALL THIS TIME

After a not inconsiderable period of years, Naim Audio has finally launched a standalone digital-to-analogue convertor.

Somewhat self-effacingly named ‘DAC’, it is touted as “a true high-end product that can deliver an audiophile performance from virtually any digital source”. It’s an impressively flexible device, possessing Apple authentication which means it can connect digitally to any iPod or iPhone and take the output digitally of anything that would have been sent to the headphone output. This includes UPnP streaming of the thousands of internet radio stations available via apps on the iPhone or iPod Touch, and all the music stored on any iPod. It is claimed to have “zero S/PDIF jitter”, and is power supply upgradable and includes eight S/PDIF inputs (two 75Ω BNC, two RCA and four TOSLINK (EIAJ optical)). The Naim DAC also includes a USB (Type A socket) on the front and rear panels, giving USB memory stick playback and fully authenticated digital connection from an iPhone or iPod.

The DAC is designed in such a way that the master clock is not recovered from the S/PDIF signal as in most other DACs. Instead, the incoming audio data from S/PDIF is stored in solid-state memory and then clocked back out to the DAC chips using a fixed-frequency local master clock. This eliminates jitter caused by S/PDIF, Naim says. In essence the memory, master clock and DAC structure behaves in a similar manner to the CD, master clock and DAC structure of a CD player. The Naim DAC’s high-speed DSP (digital signal processor) front-end is electrically isolated from its high-resolution DAC and analogue circuits. The two sections are also run from separate power supplies, reducing the effect of RF noise from the S/PDIF circuitry on the DAC stage.

Naim’s buffer method of jitter removal relies on a simple concept: the audio data is clocked into the memory at the incoming inconsistently-timed rate, and is then clocked out of the memory and into the DAC chips using a precise clock. The rate at which the memory fills and empties is controlled by selecting the master clock that best matches the average incoming clock frequency. In this way, the data entering the DAC chips is completely isolated from the incoming jitter. This is handled by a powerful SHARC DSP chip running unique Naim authored code to create an ultra high precision 40bit floating point filter, which oversamples by 16 times on 44.1kHz data and provides stop-band attenuation of 156dB with virtually no pass band ripple, Naim says. Following the digital filter are the DAC’s two mono Burr-Brown PCM 1704 digital to analogue converters, as used in the CD555 CD player. Finally, the Naim DAC features a high performance fully discrete analogue output stage.

Hi-Fi World got a sneak peek of the Naim DAC in the company’s Salisbury headquarters in mid August, and can report very positive findings. It’s an extremely clean and detailed performer. Whilst not the most romantic sounding of devices, there’s very little sign of its digital nature. Everything is tidy and smooth, yet explicitly detailed and musically engaging too. We were particularly impressed with what it can do to an iPod; we heard playout from an iPhone, running a direct digital connection via the universal dock connector, and the Naim DAC made a fine musical fist of things. The DAC even has fascia-mounted ‘transport’ controls for the iPod, to make navigation easier.

For more information, click on www.naim-audio.com.

MORE FOR LESS

NAD’s CS52 turntable now comes with an Ortofon OM5E for just £275, representing an £85 saving over the previous price. It’s a decently built little thing with a non-resonant polystyrene dust cover, rigid plinth and specially designed isolation feet to filter out unwanted vibrations. The precision AC synchronous motor drives the platter via a synthetic rubber belt to isolate the record surface. The platter itself is made of a special non resonant MDF material, and comes located on a precision machined bearing utilising a steel shaft that sits upon a hardened steel ball at the bottom of a brass sleeve. The tonearm offers fine geometry; the statically balanced design also incorporates a linear magnetic anti-skate compensator for ideal tracking characteristics across the entire playing surface of the record. For more information, see http://nodelectronics.com.
REVO-LUTIONARY

Revo’s Ikon is described as “a multi-format digital radio that combines the benefits of a full colour 3.5” touchscreen, icon-driven user interface, multi-standard radio capabilities and iPod and iPhone docking”. It’s capable of receiving the full roster of digital radio standards including DAB, DAB+ and internet radio, as well as conventional FM radio with RDS. It will also wirelessly stream digital music files from any ‘connected’ PC or Apple Mac, displaying full colour album artwork and track information where available. Completing the hardware picture, Ikon is one of only a handful of digital radios that is Apple certified for use with iPod or iPhone, allowing IKON to double as a high quality iPod/iPhone sound system. In addition to its terrestrial and internet radio capabilities, it will also provide access to online music service Last.fm, it also sports N1XT’s patented ‘Balanced Mode Radiator’ (BMR) loudspeaker technology. BR drive units combine the performance attributes of an N1XT flat panel speaker with the pistonic movement of a conventional loudspeaker, resulting in a high performance compact drive unit that can cover a wider range of frequencies while providing room-filling sound. This is allied to 30 Watts of Class D power. Price is £279.95, and it’s on sale from October 2009; a pre-order service is available from www.revo.co.uk.

ELEMENTARY

Leema Acoustics have launched a new baby phonostage based on their flagship reference Agena. The circuitry inside the Elements Phono is very closely based on that within the Agena, causing Leema to describe its performance as “simply astonishing at this price point”. The Elements phono is switchable for use with both moving coil and moving magnet cartridges and includes a switchable low frequency filter. The low frequency filter only operates below 20 Hz to stop the by-product of warped records and turntable motor or bearing noise. The 110x48x100mm box costs £495. Watch out for a review of the flagship Agena in the next issue of Hi-Fi World. For more details, call +44 (0)1938 811900 or click on www.leema-acoustics.com.

DENON TWEAKS

Denon’s new PMA-710AE integrated amplifier and DCD-710AE Compact Disc player have been designed for pure, high quality audio playback and amplification, the company says. Both models benefit from an extensive European sound tuning, and feature special technologies “for the maximum audio experience in their class and beyond”. The PMA-710AE integrated stereo amplifier is equipped with an HC (High-CURRENT) Single Push-Pull Circuit that delivers delicate musical details, which are backed up by plenty of power. Faithful reproduction of the original recording is also made possible by a circuit board layout that can handle greater power from the amplifier section and appropriately respond to the output level and unique character of the signal, it is claimed. In addition, the internal construction of the PMA-710AE has been designed to prevent unwanted vibration adversely affecting the audio signal. The DCD-710AE CD player sports a USB port for digital input from an iPod or USB memory stick, Denon’s AL24 Processing analogue waveform recreation technology, plus “highly accurate D/A converters and DAC master clock design”. The PMA-710AE and DCD-710AE are available now in premium silver and black colour at a suggested retail price of £399.99 each. For more information, call +44(0)2890 279830 or click on www.denon.co.uk.
DEN MARQUE

Densen’s new flagship B-275 preamplifier is described as “the first Superleggera product from Densen”. The ‘super light weight’ design divides the preamp into two sections, allowing the audio circuit to be totally separated from the power supplies mechanically, resulting in a dramatic removal of the power supply vibrations which will smear the signals of a normal amplifier, the company says. In the B-275 the huge power supply has its own cabinet, while the delicate audio circuit is in the Superleggera cabinet, where everything possible has been done to reduce weight and vibrations. The power supply of the B-275 is placed in a cabinet named 2NRG. The 2NRG contains no less than 3 custom-made transformers, each with 2 separate windings. Each audio channel of the B-275 Superleggera has its own transformer and no less than 200,000uF and rectifying by the use of ultrafast and precise diodes. The third transformer supplies the microprocessor, display, input selectors and the advance relay driven volume attenuator. All in all the 2NRG has no less than 510,000uF in the form of 51 custom-made capacitors. The B-275 Superleggera itself contains further voltage regulation, allowing a complete removal of interference between each part of the amplifier. The result of all this care, says Densen, is that the B-275 can breathe freely.

Densen’s unique non-feedback single ended Class A topology is used, “for a transparent, dynamic, refined and musical sound”. An advanced ultra precise attenuator is used, implemented with Vishay 0.1% laser trimmed metal film resistors, a microprocessor takes care of the display, remote, input selector and DenLink multi-room system, as well as calibrating the attenuator to the listening level desired by the listener. Interestingly, there’s the option of an analogue surround board that expands the B-275 to a true 7.1 analogue preamp,” securing a precise and straight signal path for users who wants to upgrade the B-275 with a DVD or BluRay”. Audiophiles wanting to use the B-275 with a turntable can convert one of the line inputs to either a MM or MC RIAA input by the purchase of a dedicated phono stage. The circuit is implemented using surface mount device technology, and the parts are the best possible, resistors being Vishay metal film, the transistors being ultrafast and precise types, while the capacitors are conventional leaded capacitors but are Densen custom-made film capacitors for the critical parts of the circuit. For more information, click on www.densen.dk.

OPEN UP

Sennheiser’s HD238 Precision is described as “a hi-fi-oriented open back headphone design, that will extract the best from all sources, as long as it is used appropriately in a quiet environment. The new £70 Sennheisers are said to be “light and incredibly comfortable”, thanks to new compact soft flat earpads. The stylish design with a sleek black metallic finish folds flat for easy portability, and sports exchangeable earpads for durability. A carrying pouch included for storage and protection, and there’s a two year guarantee. Powerful neodymium magnets and patented Sennheiser Duofol low-resonance diaphragms give a claimed 16–23,000Hz, with a THD of 0.5% (1kHz/100dB), plus a sound pressure level of 114dB (1kHz/1Vrms). Impedance is 32 Ohms, total weight 286g and the cable length is 1.4m. For more details, call +44(0)1494 551 551 or click on www.sennheiser.co.uk.

LEATHER FUN

Teac’s SR-2DAB is described as “a good-looking table top high-fidelity radio offering iPod and iPhone dock replay and FM/DAB/RDS broadcast for around just £150”. Housed in an acoustically sound wooden cabinet, with a black leatherette finish and a large striking blue LCD display with 3-step dimmer and light-off, the SR-2DAB boasts a number of facilities not normally found in products at this price. There’s a preset station memory, wake to either iPod/iPhone or tuner, digital clock, calendar, dual-alarm, snooze, sleep timer and a preset equaliser for rock, pop, classical, jazz, bass or normal listening. Complete with headphone jack, independent speaker chambers with bass reflex-port, remote control and iPod Dock adapters, the SR-2DAB is said to “offer excellent value and outstanding performance in a smart table-top system”. For details, contact Teac on 0845 130 2511, or click on www.teac.co.uk.
WHITEHALL SUPER POWER
Whitehall-based MyAudioDesign has “invented a second-to-none handcrafted English Oak granite box” called Balanced Power Isolation Platform, which serves two functions. First, it is said to clean-up your mains electricity supply, and secondly it isolates your power amplification equipment from vibration and acoustic feedback. This device is co-developed by the Whitehall based MAD and “a world leading power laboratory in Cambridge”. Unlike inefficient Power Regeneration products, the BPIP runs at ninety-plus percent efficiency and only deals with whatever is necessary to correct the impurity of your mains. “The improvement is not obtained at the expense of dynamic transient attack; you should expect an almost palpable silence, a much quieter background”, the company claims. This Whitehall super power retails at £895, and comes with a thirty day money-back guarantee. For more information, click on www.madengland.com or call +44(0)7782137868.

ONE STOP STATION
The £1,295 Arcus Incatare Music Station is the entry level product in a new-to-the-UK range from a German two channel specialist of thirty years standing. Sporting a built-in hard disk for music storage, Ethernet connectivity and many more features, it is described as being ideal for “the large group of consumers who do not wish to use their computer for hi-fi, who don’t have home-based networking technology”. It does not require network access and therefore makes it extremely simple to rip CDs to hard disk, the company claims. It sports an inbuilt stereo amplifier, so just add loudspeakers and go! For more information, click on www.arcus-highend.de.

SOFT MACHINES
Linn has launched new DS software claimed to “take digital streaming to the next level”. It sports a brand new ‘drag and drop’ user interface, improved integration with iTunes music library, quick and easy access to new online listening sources, (e.g. BBC podcasts), and the new web-based configuration makes system set-up even simpler, says Linn. Linn Cara, a new family of software, “enriches the way Linn DS owners interact with their music collection, and lets them do more than ever before”, the company claims. The new user interface is called KinskyDesktop, said to provide a Linn control solution that lets Linn DS owners browse their music by Album Cover Art, save playlists on their individual computers for later use and listen to new content including iTunes music files (AAC and ALAC) and radio podcasts. A new plugin feature provides an easy method of browsing and downloading new sources of content online as they become available, such as BBC radio podcasts and internet radio. KinskyDesktop also lets owners play their music for as long as they like in a random order using the ‘shuffle’ function. Users can also preset their favourite songs, artists, genres or radio stations by specific numbers. Downloading the new Cara software could not be easier; Linn DS owners should visit www.linn.co.ukids_software. To find out more about the full range of Linn products, click on www.linn.co.uk or call 0500 888 909.

CLEAN EASY
Blue Horizon’s Clean-IT is said to be an advanced contact-enhancing solution that cleans, conditions, lubricates and preserves audio connections to improve sonic performance. The electrical contact-enhancing fluid is specially formulated for use with audio and AV equipment. Clean-IT features a fast acting deoxidising solution that cleans, conditions, lubricates and preserves, improving the conductivity of all metal connectors and contacts. It is suitable for use on all metals that are used to make electrical connections, including gold, silver, rhodium, copper and nickel. Price is £17.95 per bottle. For details, click on www.bluehorizonideas.com.

SHOWTIME
Manchester is the place to be in October, thanks to the forthcoming Sound and Vision Show, held on Saturday 17th and Sunday 18th, at the Renaissance Hotel, Deansgate, Manchester. Over fifty key brands are now booked (at the time of writing), and entrance fee is a mere £6. Said to be the biggest and best show held in the north of England, it is run by the newly expanded Audio-T group. For more information, click on www.manchestershow.co.uk.
Record Breaker

With its massive storage capacity, intelligent cataloging and powerful search facilities, there's not much that compares to Meridian's latest Sooloos 2.0 music system, here reviewed with their DSP5200 loudspeakers. David Price adjudicates...

"Plus ça change, plus c'est la même chose", as our friends across the water so eloquently put it. As the way we play our music has evolved from records formed from beetle resin to vinyl, then to smaller aluminised polycarbonate discs, computer hard drives and now bytes flying down telephone lines, the sole guiding principle has been convenience. Every time a new format has been introduced, it has got easier to use. Not necessarily 'better', but unarguably more practical. Whereas eighty years ago, we'd be cranking a handle and changing a needle before every side of a gramophone record, it's now merely a case of shaking a mouse and clicking the button.

Despite the rapid pace of technological change, there's always the expectation that things will get easier for us. Convenience is what human beings have always craved and always will, which is why I'm in no doubt that someday, (nearly) all hi-fi systems will be like this...

Right now, we're moving headlong into hard disk based music storage and computer-based playback, with a large number of systems now available. At its most simple, slotting your CDs into your computer and watching as iTunes or Windows Media Player does its job will let you turn your Mac or PC into a 'music jukebox'. For those wanting greater sophistication, you can stick with the same hardware and software, but play the signal out via your USB socket to a DAC like Cambridge Audio's DACMagic. This will certainly improve the sound, but you're still stuck with wires. For this reason, the fashion is now to 'network' your music, using your computer as the 'hub' (to store the music) and syncing it via Wi-Fi to a network music player such as Squeezebox. This works well, gives good sound (especially if attached to a DAC), but still many are left wanting more.

There are plenty of choices for such folk; Linn do great-sounding DS systems to play out the music off your computer, and devices such as Illustrate's RipNAS are super one box CD ripping and storage devices. Together, they're a powerful pair, but hang on, where's the convenience aspect of this? Wasn't the great scheme of things supposed to hold that every advance in audio improves the user experience? If you've tried fiddling with Twonky software on a clunky old PC in an effort to get your
Linn DS system up and running, you may want to wonder if computer-based audio is a retrograde step. It’s precisely here that Meridian’s Sooloos steps in...

Unlike the Linn DS platform, Sooloos is emphatically not an enthusiast’s product. Actually, I’ll rephrase that; it’s not a computer geek’s product, nor a hi-fi nut’s. But it most certainly is a music enthusiast’s dream. It’s a ‘one stop solution’ for storing masses of music in one place, and then providing hitherto undreamed of access to it. And by this I don’t just mean big pictures of an album’s cover art on your PC screen. Rather, Sooloos is designed to be easy to use for all human beings, and fiendishly clever too.

The thing is, practically every ‘computer audio’ device to date has suffered from the following problems. First, the user interface isn’t terribly intuitive; it usually entails scrolling through long lists of text, often via a mouse or the cursor keys on a computer keyboard. If you can bypass the computer, then it generally involves having to hook the system up to your television, or buying an additional gadget such as a Nokia media tablet (which, of course, you’ve then got to set up). Second, those long lists of songs are nothing more than a long list of files. Not cutting edge stuff, is it?

Sooloos was developed to solve both these problems, which means a bespoke touchscreen linked to a graphical user interface. It also means that, should you so wish, you can search by far more than artist and song titles. ‘The Sooloos difference’, as they’d call it if it were a nineteen seventies washing powder, is that it goes off and does some detective work in the background, while it’s ripping or playing your CDs, and comes up with a considerable amount of what geeks call ‘metadata’. This is information about the disc, that contains vast amounts of extra stuff. Every time you rip a CD, Sooloos goes and asks no less than five different databases, “exactly what disc is this, and precisely who was involved in its creation?”

The result is that, instead of just telling me I’ve inserted a copy of Prefab Sprout’s ‘Steve McQueen’ into its CD slot, giving me the song titles, the year (usually wrong) and the type of music (i.e. “alternative”), the Sooloos will tell me all this, plus that fact that the album is produced by Thomas Dolby, has Kevin Armstrong playing guitar and Matthew Seligman on bass. And sure enough these masters of their craft also appeared on Dolby’s ‘Flat Earth’ album he released a couple of years earlier, if it’s also found on its hard drive. So you suddenly have a sort of electronic ‘rock family tree’ that looks for connections between songs in your music collection.

The Sooloos stores massive amounts of metadata on every CD you feed it, without you having to ask it, and sources it from a range of online resources. You can then search the Sooloos for connections between artists, session men, producers, years and so on, better than any other system of this type I’ve tried. For example, the Sooloos I was lent had a number of albums preinstalled (2,653 to be precise), and as soon as I loaded my 4hero ‘Two Pages’ CD, I found a couple of other CDs the two main 4hero protagonists had been involved with, that I’d never heard of before. Suddenly I was deeply immersed in these, listening to music I’d never known existed, but absolutely adored.

In a nutshell then, Meridian’s Sooloos is a compact, single-package hard disk-based music system with unusually powerful search and playback facilities, yet it’s designed to run seamlessly and with minimal effort on the part of the user. It’s also designed to give excellent sound quality, and to interface with any DSP-series Meridian digital active loudspeaker system, and to be fully controllable via the Meridian system remote. It’s not ‘computer audio’ as such, nor is it trying to be hi-fi; rather it’s an ultra flexible music system that simply gets on with the job of playing music, and bringing you closer to it.

Now, knowing some of our readers, I can see how this might be a huge disappointment. Sorry if you’re left in despair by not having to download any drivers, or nonplussed by not needing to reboot your network router or fiddle endlessly with a NAS drive! If piffling considerations of who recorded what classic album with whom and when don’t quite hold the allure of fiddling with your interrupts and interrogating your IP address, then best turn the page now!

**BACK TO BASICS**

In its purest form, the package consists of control, storage and playback systems. Starting with the user interface, Meridian provides a very good quality high resolution 17” LCD touchscreen, encased in a beautiful bit of metalwork. It also sports a slot-loading CD drive, which is where you put your CDs. Known as ‘Control 10’, it costs £3,995. As well as offering the touchscreen, the system can also be accessed and/or controlled from any computer, iPhone, or iPod Touch too, should you so wish.

Next is the storage module, called Twinstore. In standard form it costs £1,995 and comprises a swish aluminium box which contains two 1TB hard disk drives, which store approximately 2,400 CDs and automatically back them up invisibly to the user. Additional units can be connected for collections larger than this, or a simple Network Attached Storage (NAS) device can be attached for a couple of hundred pounds.

The Control 10/Twinstore is therefore a complete control, display, storage and play out system, just as a CD transport would be in the olden days. As it only outputs a digital signal, if you don’t have a DAC you’ll need a Source One analogue output stage (£2,795) for stereo (2.0) users or Source Five (5.1) multichannel output (£3,495). The other alternative is of course a pair of Meridian digital loudspeakers, such as the new DSP5200s I elected to use (£6,750).

For Hi-Fi World’s purposes, aware that money’s too tight to mention these days, even for your typical yacht-owning potential Sooloos purchaser, we opted for the Ensemble. This is a simple Store operation unit with 1TB of storage (priced £2,995 and £146.81 respectively), the idea being that you can buy another separate 1TB HDD drive, and run it as a NAS for backup. This has the Source Five board, so it...
"the Sooloos crosses over from the niche market to the mainstream music lover who doesn't give a fig about FLAC and doesn't want to know about networking..."
Buy this or that CD from Fopp, next time I go into town! It's certainly the closest I've come to those old boozefuelled late teenage sessions I used to have with my friends in my student digs, running from my record box to my LP12, hand cueing a new track on a different LP every few minutes, whilst authoritatively announcing to my captive audience, 'and then Josef K recorded this, after hearing Edwyn Collins record this...! It's a dreamboat for music completists, anoraks and aspiring trivia merchants - who I suspect comprise a sizeable majority of Hi-Fi World readers.

**SOUND QUALITY**

Unique as the Sooloos's music management system may be, ultimately it's a hard disk based music player, the like of which can be purchased far less expensively from other sources. With this in mind, it needs to be able to deliver serious hi-fi sound as well as doing all its other tricks.

The first issue with the system is the cooling fan noise from the Ensemble unit. It is quiet, but it is there all the same. Also, every now and then, the Sooloos is prone to make clicking noises which issue forth from the hard drive heads. Again it's not often but I would have expected a quieter hard drive to be fitted; maybe this isn't possible with drives of such large capacity at the moment, but here's hoping Meridian will work towards an even quieter product. If my MacBook Pro can barely ever make a squeak, the same should go for the Sooloos.

Fortunately when this new Meridian finally gets a push of the play button, as it were, things get dramatically better. I started by running the Sooloos out to the coaxial digital input of a Stello DA100 Signature plugged into my normal reference system, and got great results. 808 State's 'Plan 9', a somewhat dense slice of electronica that can easily sound muddled, came over with spry clarity and surprising stage depth. Bass was full and fruity, whilst sounding very supple and atmospheric. I then moved to my old stalwart test track, 4hero's 'Escape That', but using the Sooloos, used as a transport, to be a very capable performer.

Moving to Meridian's DSP5200 active digital loudspeakers, and it was simply a matter of switching zones. Repeating the same fragile State track, and I was pleasantly surprised by the DSP5200s. Where I'd I respected the older, bigger DSP7000s more than I liked them, this newer, smaller speakers proved very amiable. They're far snappier than I remember the 7000s, bounding along with brio. Bass is impressively low for what are relatively compact floorstanders, there's oodles of detail across the midband with a wide soundstage. Treble is nicely carried too, if lacking the finesse and extension of my reference Yamahas. Most of all though, I just liked the Meridian speaker's naturally relaxed but engaging musicality; I have found some Meridian kit a little too 'cerebral' sounding for my tastes, but here's hoping Meridian will work towards an even quieter product. If my MacBook Pro can barely ever make a squeak, the same should go for the Sooloos.

**CONCLUSION**

There are of course other hard disk based music playback systems on the market, and some of them, such as the Linn DS and Naim HDX, sound quite superb indeed. Whilst unable to do direct comparisons, I'd say that on sonic grounds the Meridian Sooloos 2.0 certainly isn't a poor relation to either. Where it really distinguishes itself however, is what's so tediously called the 'user interface'. In the way the Sooloos presents itself to the user, it is currently head and shoulders above its rivals, and the clever use of metadata and intelligent searching is something you fast find you can't live without. More than any other system of its type, the Meridian Sooloos crosses over from the niche hi-fi market to the mainstream music lover who doesn't give a fig about FLAC and doesn't want to know about networking.

The Sooloos is not perfect however. I still think it's a little too noisy (it should be silent), and the touchscreen, although streets ahead of anything its rivals provide, still feels a little slow and unresponsive for anyone who's ever used an Apple iPod Touch or iPhone. The ability to scroll, not by touching little arrows, but by dragging your fingers across the screen, Apple trackpad-style, is also something on Meridian's 'to do' list. I would suggest, finally, I didn't like the way that the music library was no longer accessible whilst the Sooloos was importing CDs, even if you could still play music throughout.

A few minor gripes aside though, I must say I came to the Meridian Sooloos 2.0 a little sceptical, but ended up completely convinced by it. It offers excellent sound, a top-class user interface and wonderfully useful software searching that takes you closer to your music. The more CDs you feed it, seemingly the more effective it becomes. As such, I can see many people building this into their house's architecture as they would central heating or a mains supply. And just think of the space you'll save, not needing all those nasty CD jewel cases, enough for a walk-in wardrobe for your other half. Doh!
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Ask three different people to assemble a system, and lo and behold, three different systems are what you get! Patrick Cleasby, Adam Smith and David Price each got the chance to match some choice componentry together, with varying results. David Price is your guide...

Variety, as they say, is the spice of life. Whilst many areas of modern living are getting ever more homogenised, uniform and more standard, it's good to know that there's still a lot of choice available to the hi-fi buyer. Happily, the hi-fi world still has a very varied micro-climate. There's a massive amount of kit out there, and much of it is rather good. People have different tastes, different needs and different approaches, and there are products around for every occasion.

To reflect this, I thought I'd challenge Patrick Cleasby (“Captain Digital” to his friends) and “Analogue Adam” Smith to come up with their own personal affordable dream systems, and for good measure I joined in the fun too. The three systems we came up with are certainly diverse, reflect our own innermost prejudices (or some of them, at least) and all to a greater or lesser extent, are very fine to listen to despite their modest prices. So, if you want the hi-fi system equivalent of a car you can't find when you leave it in a car park, look elsewhere; these systems are nothing if not distinctive!
Patrick Cleasby assembles a superb entry level system from Onkyo and Wharfedale that plays SACD, CD and the direct digital output from Apple's iPod...

I've been pondering the concept of an audiophile iPod system for many years now. Apple's polycarbonate peril is a great portable device, so handy and wonderfully easy to integrate with a computer (which is where music is migrating to these days), so in theory such a system would be ideal. But until now I had yet to be fully convinced. No matter how clever the dock makers are at engineering the analogue circuits in their devices, they've always been impeded by the fact they were relying on the limits of the iPod's inbuilt DAC. Decent as it is, it's not really one of the aspects of iPod design likely to be augmented in these days of adding video cameras, et cetera. All of this costs, and a Christmas 2009 iPod Nano still has to fit to a certain pricepoint...

For many years, I've wanted to be able to bypass the iPod's inglorious DAC and weedy analogue output stage, but it wasn't until the introduction of Wadia's iTransport some eighteen months ago that this happened. It's a great product, but commensurately expensive, and so the news of the Onkyo NS-D1 costing just £150 made me sit up and listen. At last I could build a system around my prized Pod, but what of the DAC and disc player (I still have a massive number of SACDs)?

Well, the new A5-VL (£350) is Onkyo's latest entry level stereo integrated amplifier, and guess what? It has a built in DAC, so it can marry up to the NS-D1 perfectly. Likewise, they've a new C-SSVL silver disc spinner which is a stereo-only SACD player, hooking up to the A5-VL directly by HDMI!

It's an impressive combination of electronics, so I needed a fittingly capable entry-level loudspeaker. The Wharfedale Diamond 10.1 (£200) was duly enlisted, as it's not really one of the aspects of iPod design likely to be augmented in these days of adding video cameras, et cetera. All of this costs, and a Christmas 2009 iPod Nano still has to fit to a certain pricepoint...

Getting going

It may be just that it was a previously reviewed sample, but the NS-D1 as I received didn't include a manual, so I had to intuit my way around how the little iPod plug cover worked. Once slid back it revealed the usual dock arrangement, ready to take the various Apple-supplied adapters. It is DC powered using a slide-in/slide-out UK/European wall wart. The overall plinth is larger than the average dock, having the approximate dimensions of an Apple TV. But video hookups are much more limited; all the back of the NS-D1 allows is simple composite for rudimentary video iPod output. Who really cares about that?! Don't believe some of the pre-release puff about the NS-D1 still around on the internet, which claimed it didn't support the iPhone. It does, but for some reason only when it is in flight mode!

The other more unique aspect of the NS-D1, apart from the expected optical S/PDIF digital output, is the B type USB socket. This is to hook up the dock to the computer (if you happen to have one near your hi-fi; the lead supplied is not long), theoretically allowing synching of your iPod using the 'Sync now' button on the front. Phono analogue audio outputs are also supplied if necessary.

As is the way with a lot of these machines the remote that comes with the NS-D1 is of the disconcertingly cheap looking, 'whip out the battery strip and you're away' type.

But at least it does permit remote operation of the device. The brother/sister player/amp combo have slightly more posh looking remotes, but not by much. The SACD player comes with an RI cable as does the dock. For the A-5VL the presence of RI should mean that from the very first Onkyo RI iPod dock reviewed in these pages three years ago, you should be able to control it via the A-SVL's remote control even if you do not step up to the NS-D1. The amp's controller can also control the CD player, irrespective of whether it is RI connected. However the player's remote has more extensive and specific functions, particularly in the area of SACD usage.

Otherwise it is interconnects, IEC leads and manuals only in the box. In the hand, the finish on both SACD player and amplifier is flawless in that Japanese sort of way, and available in black as well as silver,
really showing up the admirable aluminium front panel in the latter. It has to be said that the plasticly gunmetal grey of the NS-D1 doesn’t really tone well with the main components, but hey ho...

The C-5SDL disc spinner is surprisingly light, but the A-5VL amp is packed to the screw tops and quite a weighty piece of kit. It delivers 40W into eight ohms and is fundamentally a very traditional-looking amplifier, with A and B speaker out, MM/MC phono stage, direct-defeatable tone controls, tape loop, record setting dial, with the simple addition of optical and coaxial S/PDIF inputs, capable of up to 24/96 resolution. There is also a useful digital clock lock associated with the two digital input channels.

The C-5SDL has a 24/192 Wolfson WM8742 DAC for those connecting to analogue amplification. Again optical and coaxial digital are both present, and that’s about it. Fairly standard MP3/WMA on a disc format support is provided, and there is the addition of a “Digital” (circuitry off) switch on the front fascia, as well as the expected CD/SACD format selection for hybrid discs. On both machines all the buttons feel very positive, and the dials reassuringly solid and clunky. Both devices have full size headphone jacks, with volume control on the player. Both also make use of Onkyo’s VLSC (Vector Linear Shaping Circuitry), designed to smooth out the analogue waveform produced by the D-to-A processing.

Interestingly, the disc player also has a small setup menu, basically on off toggles for a variety of choices of pre-DAC PCM and DSD filters, an invert phase option, and whether you actually want DSD to be the priority layer of an SACD. There is also a full system defaults reset ability. Finally, not having any bookshelves to hand, I set up the Diamond 10.1 ‘speakers on our usual reference stands. Nice to see biwiring now a possibility on there, and they had a nicely solid feel for their very modest retail price.

SOUND QUALITY
Please forgive me my recent repeated reference to the HDCD-containing capability of the RipNAS/dBpoweramp codec, but it provides the perfect solution for testing this system, as far as I’m concerned. And the name of my top test disc is Bryan Ferry’s Boys and Girls. Armed with a 24bit HDCD rip on the iPod, an original HDCD remaster in CD form and the later SACD version, I was able to compare a number of different playback permutations through the Onkyo system with this particular album. Similarly, and with equally imperfect methodology, I could compare the usual 24/48 Nine Inch Nails ‘The Download Spiral’ DVD-A rip, to the CD and DSD layers on the SACD...

Duly set up, the system sounded great. A lossless 16/44.1 file of ‘Little Sister’ from Ry Cooder was more detailed from the NS-D1 dock than expected. All that intricate guitar interplay was there, sounding absolutely beautifully considering the modest price of the hardware being used. Similarly, analogue recorded material like Joan Armatrading’s ‘Show Some Emotion’ was sprightly with a convincing way with a bassline.

But the Bryan Ferry test showed that the iPod digital transport route for 24/44.1 of ‘Slave to Love’ still had a fair way to go to beat the simple 16/44.1 digital data of the non-HDCD decoded disc, converted to analogue via Onkyo’s proprietary VLSC circuitry in the player. The CD version was simply more enveloping and more present, with the iPod version seeming flach in comparison. The SACD version of the same was not hugely differentiated from the CD, only revealing itself in marginally more precise and detailed rendering of that intricate percussion.

The experience was enough to make me dig out more SACD material, and ‘My Old Friend The Blues’ from Steve Earle’s Guitar Town’ was a lifelike stunner; if slightly let down by a bright top end. I was still rooted to my chair until the end of the album though. Finally it was impossible to resist a quick rip through ‘Bootylicious’, less impressive, but still pалпably an improvement over CD quality.

In order of preference then, I’d rate the SACD via the C-5VL HDMI out as the best source (obviously), but it wasn’t quite as profoundly better than CD than expected. Perhaps this is because the Onkyo silver disc spinner does very well with ye olde CD. Last and least was via the NS-D1 digitally, which was way better than your average iPod dock. But not as great as I’d hoped. This, I suspect, tells us that the iPod itself isn’t quite the match of a decent optical disc transport. Is that really such a surprise; should we expect it to be?

CONCLUSION
Although I’m not convinced Onkyo have quite got iPod sound up to ye olde Compact Disc quality via the digital link, I have to say it’s an advance on your common or garden iPod dock, and there’s loads of potential there. Surely, later generations of iPods with flash memory that’s not so electrically noisy as the current HDD based Classic machines should give much better sound! Still, the Onkyo NS-D1 gives you a great start into the big wide world of audiophile digital, and the matching A-5VL amplifier seals the deal.

It’s only a budget product of course, but my goodness it does a lot for the money. Onkyo’s affordable amplifiers are very musical, decently powerful yet unexpectedly civilised, making many price rivals simply sound coarse. So it was that the A-5VL proved a fine companion for the new Wharfedale Diamond 10.1s. These speakers are so accessible, and so naturally musical, that they’re always a pleasure to use. They do like good sources, it must be said, so lucky then that the C-5SVL was just such a thing. It comes as some surprise that at a budget price point, Onkyo see fit to support SACD (which, in the UK at least, is a dead format, sadly), but this machine makes disc spinning still feel like a worthwhile pursuit.

It’s great to see the iPod as digital transport’ idea finally come to fruition in the NS-D1. Love them or hate them, a lot of us use iPods, and while many have raised eyebrows at me uneconomically packing them with lossless files, whether ALAC or FLAC, finally we have justification for so doing. Now all I need is multi-terabyte iPod Touch!
If Patrick Cleasby's system was a characteristically digital contrivance, then it's no surprise that Adam Smith's is vinyl based. Indeed, Hi-Fi World's resident analogue addict has put together a classic 'old school' Flat Earth system, comprising Rega, Naim and Guru components...

When editor DP contacted me with regard to this system test I was delighted: after all I seem to recall that the last time we had one of these sound-offs, I romped home victorious, and so clearly have a reputation to maintain! Even better, I was absolutely elated when informed what the opposition would be, as this helped me to fix the ethos of the system I would choose; this was going to be a pushover! You see, faced with opposition that appears to consist on the one hand of some weird boxes that apparently do something impressive with some strange computer files on a mobile phone thingy, and a shiny, blingy chrome lifestyley gadget that doesn't even have the decency to wear a 'Bang & Olufsen' badge on the other, I realised that it was up to me to do things properly.

As it happened, the commencement of proceedings coincided with a chat I had been having with fellow Hi-Fi World contributor Tim Jarman about eighties music and this clicked in my brain after I had finished chuckling over the competition, whereupon I realised that it was up to me to 'keep things real' and go back to basics; back to a time when the earth was flat, hi-fi came in proper black boxes, and snappy musical companion and I wanted my feet tapping without any effort at all [you didn't want much, then - Ed.]. My starting point was easy, and encompassed a name that has been around since those days of nineteen eighties 'flat earth' systems. Naim Audio have always been the kings of 'Pace, Rhythm, and Timing' and, although their amplifiers encompass so much more than that famous epithet these days, as far as I'm concerned they're still the number one choice when a stiff power supply punching out a fair few Watts is required. Consequently a Nait 5i went straight onto the shopping list, along with a matching Stageline phono stage and its i-Supply. The Stageline has sat quietly back in the wings for a couple of years now, but time has most certainly not diminished its abilities, nor custom withered its infinite variety [hang on, didn't someone else write that last bit? Ed.].

OUT OF THE BOX
The vinyl front end required a little thinking out of the box, though. Naturally, a Technics SL-1210 was an obvious candidate but it seemed a little low budget in the context of this system and, despite its eminent and well documented upgradeability, I wanted something that would work off the (shop) shelf, rather than requiring a host of modifications. The fact that the latest version of the Rega P3 has finally wormed its way into my affections was not lost on me either and so this, I decided, was the way to go, along with its optional TT-PSU upgrade. Naturally one of my favourite cartridges happens to be something of a rhythm king as well, and so bolted into the RB301 would be an Audio Technica AT-OC9MLII.

So, pretty easy so far, but then I came to loudspeakers and this required rather more thought. This is possibly the area in which choice is greatest. The possibilities of floorstanding versus standmount, plus the whole gamut of differing drive unit technologies makes the choice quite daunting. However, I had a good idea of what I wanted. Top priority was obviously going to be a loudspeaker that had punch, precision and the sort of timing that starts and stops on a sixpence. The problem is that, on occasion the search for transparency and the resolution of the very finest filigree details has on occasion pushed this to the side somewhat! Fortunately, my traipsing the corridors of many a hi-fi show has led to more than a few items that have imprinted themselves on my memory for one reason or another and one that kept leaping up in my head, gesticulating at me, turned out to be the very thing I was looking for. The Guru QM10s are slightly unusual little items, bucking the current trend for narrow baffles and a slim, wife-friendly appearance for a shape that is definitely more squat and heavy. Under the skin the Gurus have plenty of high-tech though, combining a 4in (102mm) plastic-covered paper
Jackson's classic album, 'Thriller', and within one to two metres of a wall.

more advanced than that under the QM10’s skin! The Gurus have a single pair of connection terminals at the rear for 4mm plugs only, and are recommended for use close to, or within one to two metres of a wall.

SOUND QUALITY

So then, connect up, leave stewing for a few days, pop The League Unlimited Orchestra’s ‘Don’t You Want Me?’ on to the platter and evaluate. Result? Big grin and tapping feet; excellent, job done! I am delighted to report that this system does exactly what I aimed for, in that it takes rhythms, captures them and then issues them forth with an almost effortless job done! I am delighted to report a pair of connection terminals at the QM10’s skin! The Gurus have a single pair of connection terminals at the rear for 4mm plugs only, and are recommended for use close to, or within one to two metres of a wall.

The aforementioned League Unlimited Orchestra track is underpinned by a host of delicious eighties synthesisers and the Gurus sounded them out with a snap, punch and impact that utterly belied their compact dimensions. Each note started in an instant and stopped on the proverbial sixpence, but these ends encompassed a deliciously fruity sound ever so slightly processed, and horns lacked their customary feel and were more rounded in tonality, more expansive in timbral terms and offering a better sense of depth than the more flat-sounding modern devices, and the Rega/Naim/Guru setup did the trick perfectly. There was a warmth and sense of space to the performance and yet that impressive timing and poise remained firmly in place at all times making things a compelling listen. As so often happens with a good ‘un, I had only intended to listen to the first track and was mildly surprised when I heard the Offbeat ‘tick-tick’ of stylus hitting runout groove! So then, the perfect system for all occasions with nary a downside to be seen? Well, truthfully, not quite – a wander through some different genres showed that the Rega/Naim Guru setup was certainly capable across the board, it seemed less comfortable in some areas. Hard rocking guitars held no fear, as did more recent new-fangled dance music, with the system’s strengths of timing and integration making the most of the source material in this respect. Also, very gentle and soft classical came through very well, as the system as a whole has very impressive low level resolution abilities. As an example, the introduction to Ravel’s ‘Bolero’ is incredibly quiet and can often be completely lost until it reaches a sensible level, but the Rega, Naim and Gurus were right in with the action from the beginning. Where things seemed less confident was when more insightful acoustic recordings, or more forthright classical material went under the stylus.

In these situations, strings and horns lacked their customary feel and rasp, the system actually making them sound ever so slightly processed, and gently strummed acoustic guitars like those found backing the likes of Norah Jones or Katie Melua sounded a little plastic. A spot of substitution led me to point my finger at the loudspeakers here – I have found the Gurus to be a little lacking in tonal colour in the past and this setup did tend to reveal this. I have no doubt the issue could be eliminated by appropriate source and amplification matching (I suggest some valves might be a wise move) but, whilst an issue to note, I found it of little concern here, as the Gurus were chosen for a particular reason, and in this area, they absolutely shone.

CONCLUSION

I have to say that I am very happy with this system, as it set out to do exactly what I wanted it to: it punches, grips and simply entertains like few others I have experienced at the price. Yes, there is a slight trade-off in terms of ultimate timbre and insight into the likes of more detailed and atmospheric acoustic music but, even then, they are still far from being completely disastrous with material like this. Give them some rock, electronics or dance, though, and the whole system absolutely leaps into life to captivate and entertain like few others. Most importantly of all though, I’m willing to stake my Audio Technica Sound Burger on the fact that Captain Digital’s collection of comptuter boxes and editor DP’s shiny living room adornment can’t even hold a candle to the Rega/Naim/Guru setup in terms of sheer fun, grin factor and musicality. Now, if you’ll excuse me, I’m off to start writing my first-place prize acceptance speech...

www.hi-fiworld.co.uk NOVEMBER 2009 HI-FI WORLD
David Price assembles an immaculately styled, super sounding style system based around Aura Note’s striking Premier music centre and AudioSmile’s excellent Kensai mini monitor loudspeakers...

Few hi-fi systems are designed from the ground up by a gifted industrial designer. That’s why I was so interested to try the new Aura Note Premier, penned by the great Kenneth Grange. A founding partner in Pentagram, a famous design consultancy, his CV is impressive. Many of his designs are everyday household items, such as Kenwood food mixers, Wilkinson Sword razors, Kodak cameras and Anglepoise lamps. A couple of my favourites of his are the Parker 75 fountain pen and Ronson Quadrille cigarette lighter, both expressions of aesthetic modernism as pure as Concorde or the Lotus Esprit ever were for this seventies schoolboy!

Grange’s designs have won ten Design Council Awards, and he won the Gold Medal of the Chartered Society of Designers, and he’s a member of the Royal Society of Arts’ elite Faculty of ‘Royal Designers for Industry’.

Whilst this is a most impressive career, the Aura Note Premier would never have been the basis of my system if it wasn’t well engineered from a hi-fi point of view. Let’s be honest here, both Patrick and Adam’s systems are no sonic slouches. The good news is that the other parent loading CD player (complete with push-pull output stage with discrete CS4398 24bit, I92kHz DAC) and a 50W volume control IC and respected Semiconductors CD3310 digital signal path, such as the Crystal and selected components in the custom made toroidal transformer, Aura Note comes with a sizeable extremely capable. As such, the Aura Note system if it wasn’t well engineered and a long throw (9mm) coil. Paired to this is another rare treat, an isoplanar ribbon tweeter that boasts an effective area of two and a half times that of standard 25mm dome tweeters. This runs down to 2.2kHz, whereupon the mid/bass driver takes over: the crossover is hard-wired and uses poly film capacitors, low resistance inductors, and is covered with butyl rubber compound to reduce the effects of vibration.

The port is an aperiodically damped slot resonator, notable for magnetic puck and sliding glass cover), an amplifier featuring two analogue line level and one digital optical input, an iPod input (via a supplied cable attaching to the iPod’s dock connector) and two USB inputs (the first for playing MP3 files from flash memory sticks, the second for attaching to PCs to play out music digitally) and plus a built-in (non RDS) FM/AM tuner. There’s a preamp output for a subwoofer or external power amplifier, plus a 3.5mm mini-jack headphone output.

The chrome finish of the casing is flawless, the chromed buttons feel great and the ‘old school’, seventies style red LED display is a joy.

Selecting partnering loudspeakers didn’t require too much thought. Earlier testing had told me that it sports a very solid 50W per channel, which is just about enough for the excellent AudioSmile Kensai mini monitors. These £1,499 designs come in a tiny 150x250x200mm box, the hand-assembled cabinets made in the UK. The business end of the speaker is a small 12cm diameter surface treated magnesium cone bass/midrange unit, with solid copper phase plug, Faraday rings and a long throw (9mm) coil. Paired to this is another rare treat, an isoplanar ribbon tweeter that boasts an effective area of two and a half times that of standard 25mm dome tweeters. This runs down to 2.2kHz, whereupon the mid/bass driver takes over; the crossover is hard-wired and uses poly film capacitors, low resistance inductors, and is covered with butyl rubber compound to reduce the effects of vibration.

The port is an aperiodically damped slot resonator, notable for furnishing the Kensai with a bass that goes exceptionally low for the cabinet size.

SOUND QUALITY

It’s a fine thing to have a superb sounding hi-fi, but the experience can be somewhat diluted when it takes over your living room and you have to step over yards of cabling and assorted power amplifiers and loudspeakers. Switch to a system like this, which does everything from a box little bigger than an old telephone answering machine, and you get a different kind of satisfaction, and that’s before you even switch on! Maybe I am getting old, but there’s something very agreeable about a small but beautiful looking hi-fi that doesn’t just give you your room back but sounds far better than it’s got a right to, too!

The usual lengthy running in process took place, and I also opted to use a Clearer Audio Copper Line Power Cable (£75 for 1m) for good measure, finding immediate benefits to the sound in terms of clarity and smoothness. The Aura Note also found itself sitting on a set of four Milty Foculpods (£19.95), which brought about a fuller bass and a more relaxed musical sound. Finally, Black Rhodium Tango loudspeaker cable (£15 per metre) did the honours feeding the AudioSmiles; I still think this cable is great value and cleaner and smoother than many I’ve heard at five times the price.

Firstly, a quick listen to the Aura Note Premier through my reference...
Yamaha NS1000M loudspeakers; highly revealing and yet not famously kind to power amplifier output stages, they would immediately give me the measure of the Aura Note. Through a line input, it was obvious the amplifier section was of good quality. There’s a decent amount of power, with a lively, tuneful bass, a wide and expansive midrange and a shiny, detailed treble. In a way, the sound reminded me of the Sugden Mystro [see p6] albeit on an obviously smaller scale. It was boxy, musical and a lot of fun to listen to; dynamic contrasts were surprisingly vivid for such a modest machine, and the Aura Note just bounded along with the song like a puppy just set off the lead. Boz Scaggs’ “Lido Shuffle” from LP was rollickingly good fun.

More impressive still was the unit’s own CD player, which worked with the amplifier section most synergistically. Fun Lovin’ Criminals’ ‘Up on the Hill’ was a treat, the system coming over as a very confident and punchy performer. It was particularly solid rhythmically too, having a sense of metronomic precision that I remember from testing the Stello CD-T1000 CD transport. The song’s baseline was firm and confidently articulated, the rhythmic delivery of the lyrics clear as day and the song’s busy but subtle mix carried with alacrity. There was a lot of detail coming through, but it wasn’t shouted at the listener. Indeed that’s how I’d characterise the Aura Note. It’s a powerful yet discreet performer, one that never forces itself on you but still has a tiger in its tank, so to speak.

Tонаlly it’s richest and warmest on its CD source; FM radio was good, but not outstanding considering what the format is capable of. Spoken voices on Radio 4 were clean and nuanced without a trace of nasal coloration, but I found its bass a little light on Glen Campbell’s ‘Witchita Lineman’ on Radio 2. Still, the tuner did give a very quiet, noise-free account of itself even with the supplied ‘wet-string’ aerial where many ‘real hi-fi’ tuners I’ve tried in the same way couldn’t. AM radio wasn’t bad, but I’ve yet to be impressed with any modern tuner package on this waveband. I wholeheartedly approved of the Stello’s DAC section; via optical in from an old Sony CDP-911E (£300 machine in 1993), it provided a useful boost for this venerable machine. There was better definition to the sound, with more warmth and a softer and more silky treble. By contrast the Sony’s own DAC sounded colder and more steely, as well as being far more musically constrained. Thumbs up then for the digital input; it’s a great feature and adds real flexibility.

Together with the Audiosmiles, the Aura Note made great music. Despite the diminutive proportions of the speakers, and their less than generous sensitivity, the system filled my largish listening room with relative ease. Even the floor-rattling ‘Ready for the Weekend’ by Calvin Harris didn’t phase it, the Kensais showing little signs of compression (or indeed distress of any kind) at high levels, while the Aura Note just romped along with the song’s squelchy baseline and rousing classic House-style choruses.

Those superb Isoplanar ribbon tweeters provided a great sense of space to better recorded source material, such as 4hero’s ‘Look Inside’, along with a wonderfully smooth yet tonally accurate rendition of the song’s superb violin accompaniment. Compared to my Yamaha NS1000M tweeters, I found there was still a slight lack of detail, but they more than made up for this with a creamy smoothness which really suited the Aura Note’s crisp high frequency sound. I also loved the rhythmic integrity of the Kensais; unburdened with large cabinets to keep a grip on, the speakers disappear immediately into the room, whereupon they issue music into the ether with a wonderfully natural sense of timing. You find yourself tuning in to a song’s vocal phrasing, enjoying the tremendous immediacy the Kensais afford.

Tонаlly the Kensais are very neutral, and the Aura Note is just a touch on the warm side, so the result is very pleasing. There’s never a moment’s harshness, yet the sound balance isn’t so smooth that it’s soporific. The loudspeakers’ magnesium cones have a flavour of their own, but it suits the Isoplanar ribbon tweeters brilliantly, and the result is a very delicate, detailed, fast and open sound. In fact, the integration between the two drive units is superb, making them very easy to listen to for long periods, and a synergistic pairing with the Aura Note makes life even sweeter. Obviously, you shouldn’t expect massive, wall shaking bass from this system, but conversely it’s not as lightweight as you might think; I found this combo more than able to fill a largish (by UK standards at least) listening room with highish levels of sound. Going back to my NS1000Ms (which have a larger midrange dome than the Kensais’s mid/bass unit), and another octave or two of bass arrived, but I still found the Kensais hardly any less enjoyable a listen, which is high praise indeed.

CONCLUSION
If I could only have one hi-fi system in the world, the Aura Note Premier might well be it. I adore its simplicity of design, its superb ergonomics, fuss-free operation and fine sound quality. Taken in isolation, it’s not the world’s best sounding bit of kit, but as a package it is brilliant at the price. Together with the equally diminutive and ultra-capable Audiosmiles, and it’s, ermmm, little audio dynamite!

An odd couple, admittedly, but like all great partnerships the strengths of one complement, not expose, the weaknesses of the other. Actually, neither the Aura Note Premier or the AudioSmile Kensais have anything much to be embarrassed about, but still they seem to flatter the other. In absolute terms the AudioSmile speakers are the better sounding devices, but they’re so even-handed and devoid of distortion that they’ll still sing with less able ancillaries. The Aura Note has nothing to apologise for sonically; it’s a serious...
Superb build and finish allied to an effortlessly musical sound, makes the Inspire Eclipse a highly impressive debut.

"At all times, the Eclipse excelled at simply laying out the performance in a way that made me feel I was hearing the band exactly as they intended. All this comes about as a result of the Inspire's fine sense of uniformity and eveness across the midrange and treble. This flows together so well that overall effect is to imbue music with a lush expanse of detail and ebullient warmth, but with a delicious sprinkling of light top end and delicacy as a garnish. Acoustic instruments stand out as natural and full-bodied, whilst the Eclipse also captures the grittier style of electronic instruments and never leaves you in any doubt as to what is playing."

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Demonstration now available. Call us on 01246 568770.
Buying hi-fi is a highly personal thing, and this group test shows why. Give three different people the chance to put together a low-to-mid price system and you get three very different outcomes...

Naturally, no one here at Hi-Fi World raised an eyebrow when Patrick Cleasby came up with the Onkyo system, with the A-5VL amplifier at its heart. It's the latest in a long line of Class D integrators from the Japanese company, all of which sound rather better than you might expect. The A-5VL might be a cheap product, but is exceptionally well made at the price. The addition of a built-in DAC and HDMI connectivity in this latest model means that it will input Direct Stream Digital (DSD) directly in from the C-5SVL SACD player, which is a great facility to have if you're an SACD fan.

The star attraction of the system is surely the Onkyo NS-D1 though, which takes the direct digital datastream of the iPod straight out to the A-5VL amplifier, bypassing the iPod's own unlovely internal DAC and analogue output stage. As anyone who's tried to use an iPod for hi-fi duties knows all too well, this can only be a good thing. It's a welcome newcomer to the market, the main disappointment being that it's a little more plasticky than we'd hoped. Coupled to the special Rockbox software (see p81) which lets the iPod run FLAC files (Apple only permit Apple Lossless on the iPod), this new iPod dock gives you the ability to pipe FLAC files straight off your iPod. This will really chime with many computer audiophiles, for whom FLAC is their favourite format.

Even with stock 16/44.1 via the C-5VL CD/SACD player, the Onkyo system is a very pleasant thing to listen to. It suits the lively, crisp nature of the Wharfedale Diamond 10.1 loudspeakers, giving a fast, punchy sound that's surprisingly large in scale. There's oodles of detail bursting out of the Wharfedales, although they can be a tad brightly lit so it's worth spending some time getting the matching interconnects and speaker cables right. Properly fettled, there's not much that can come close to this system at the price.

Just as PC was always going to end up immersed in hi res digital, iPods, HDMI cables and the like, so it was a foregone conclusion that Adam Smith was going to submit a vinyl-based system. Actually the Rega P3-24/AT-OC9, StageLine/Nait Si and Guru QMI Os are all products we've reviewed before in this magazine, but never in this combination...

Here we have the doyen of the nineteen eighties British belt drive scene, the classic Rega Planar 3 (sorry, 'P3'). I'd venture that a good many readers of this magazine 'cut their hi-fi teeth' with this very turntable (myself included). The most recent incarnation, the P3-24, with offboard power supply, ramps the price up a bit but really pushes it forward. Most pleasing is the Rega's easy musicality; never one to smash you in the face, it has a lovely smooth warm tonality, but this is deceptive as it actually pulls out a huge amount of information from the groove. The arm is excellent, easily good enough to track the Audio Technica AT-OC9MII moving coil cartridge, and the latter's spicy musical nature perp up the Rega, making for a synergistic combination.

Speaking of which, the Naim Nait Si is a cracking partner to the Guru QM10s. The two go on famously, giving a wonderfully fast and vivid sound that's brimming with rhythm and bristling with detail. The Naim is an excellent integrated at the price; it covers its tracks brilliantly as you never get the feeling you're listening to a cost-cut budget amp. It has a lot of charm, and is beautifully built. You could certainly say the former about the Guru QM10 loudspeakers; they're characterful in the way the eighties-tastic Epos ES14s were, or the Monitor Audio R352s. They're unashamedly about making the music fun, focusing in on the emotion of a piece of music, but they don't pay too much attention to tonal or timbral accuracy. I've heard hundreds of speakers which are very neutral but dull as ditch water to listen to and to live with. The Gurus are a riot, kind of like a little sports car you just want to jump into and drive for the hell of it. On the end of Adam's system they're dynamite. I have to say, grudgingly, this was by far the most musical of the three systems here, so Mr Smith, take a bow!

All is not lost for yours truly however, because the little AuraNote Premier turned in a performance that belied my expectations. Don't judge a book by its cover, or the sound of this little unit by its gorgeous exterior; it's obviously a 'style system', but it's beauty doesn't come at the expense of the quality of the electronics within. Rather like classic Bang and Olufsen's high end products of the nineteen sixties, seventies and eighties, it is designed to be effortless to use and yet there is real 'engineering depth' beneath the skin.

The AudioSmile Kansai loudspeakers continue to amaze me; speakers are a very personal thing but these completely float my boat. The brilliance of that isoplanar ribbon tweeter (and it's not just great because it's a ribbon, it is also a great ribbon as ribbon tweeters go), marries up beautifully to a very fast, grippy and yet smooth sounding mid/bass. For me personally, I'd rather have one of the best tweeters in the business in my speaker and forsake an octave (or two) of bass, than have a powerful bass response and a cloudy midband and treble.

Together, the AuraNote and AudioSmiles turn in a totally believable sound; music is fast, open and entertaining yet seriously subtle and sophisticated. I was not expecting the system to be as effortlessly loud as it turned out to be, as it was able to fill up my very decent sized listening room with sweet, smooth, spacious sound. In fact, thanks to those superb ribbons, the sound was almost ethereal.

Overall, each one of these systems has an awful lot going for it. The Onkyo is punchy and fun yet decently smooth, the Rega/Naim/Guru is riotously rousing in musical terms and the AuraNote/AudioSmile is sweet yet sophisticated. They're all so different, yet share a common bond of well matched systems made of high quality separates. Each one is a winner...

"they're all so different, yet share a common bond of being well matched systems made of high quality separates. Each one is a winner..."
AND THERE WAS CHA'AM

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Syndicate Room 33
Simply The Best?

Adam Smith checks out "Britain's best hi-fi", Tesco's Value MC-907...

Well, I'm sure many of you thought you would never see it, but here it finally is! Yes, that's right, "Britain's best hi-fi" no less, as voted by owners and collated by Revoo.com. Apparently its "old fashioned knobs, simple AM/FM radio and CD player won over thousands of consumers with its ease of use and big sound". Well, we at Hi-Fi World are always game for a laugh, so I was duly entrusted to the task of grabbing one of these bastions of the bargain basement for a listen...

The task wasn't as plain sailing as I had hoped, however. Not only was my local store sold out for two months but when I finally did grab my prize, the price had risen by a staggering seventeen percent, to a lofty £19.97, although it still appears to be £16.49 on the internet. Frankly however, it's difficult to get nasty about this when you unpack the MC-907, as it does indeed have an AM/FM radio with good old manual tuning and built in aerial, a simple CD player with basic programming facilities and two single drive unit loudspeakers.

"I cannot talk about its bass impact, or its treble crispness, as it doesn't have any..."

SOUND QUALITY

An item like this requires something of a readjustment of values for a reviewer. For instance I cannot talk about its bass impact, or its treble crispness, as it has neither, and pondering on the intricacies of instrument and vocalist placement in the soundstage would also be futile as it doesn't really have one. Frankly, and I have to be honest here, it really isn't very nice. About the best thing I can say is that vocals come across quite well, undoubtedly due to the fact that the frequency range extremities are so rolled off, the midrange cannot help but stand out! However, drums sounded like cardboard boxes, cymbals like rusty dustbin lids and a brief blast of some hard rocking guitars revealed a noise that I last heard when I mangled a gearchange in my old Vauxhall Cavalier. On the plus side, the MC-907 did pull in radio stations well and, surprisingly, a good radio signal gave the sound a bit more body and form than the CD player.

I was even a little stumped when it came to offering some sort of comparison to a known standard. The only thing I have similar is a Yamaha AST-C11 system from around ten years ago but not only did this cost me half as much as the MC-907 again when I bought it last year, but it originally retailed for over £900 when new, so not really a fair match. In the end, I chose a family heirloom in the form of my late grandfather's Fidelity `Rad 15' portable radio! Whilst the Fidelity couldn't quite match the MC-907 for stereo effect (well, it is mono after all) it certainly made things much more listenable, adding a sense of scale and warmth to announcers. Through the MC-907, Radio 2's Chris Evans seemed to be covering his mouth and speaking from the distant corner of a bathroom, whereas through the Fidelity he was definitely hiding under a blanket in the spare room. Mind you, the MC-907 did claw another point back later, as I was unable to work out where to load a CD into my grandfather's pride and joy...

CONCLUSION

If you want some seriously bargain sounds, the Tesco Value MC-907 is difficult to resist. It's neat, easy to use, costs less than I spend on a single vinyl LP, and is quite endearing in its own little way. "Britain's best hi-fi" does exactly what it says on the tin, apart from the "hi-fi" and "best" bits, obviously...

VERDICT • £
Cheap, cute and loveable. Just don't switch it on!

TESCO VALUE MC-907 £19.97
Tesco Direct (C) +44(0)845 6004411
www.tesco.com

FOR
- it plays CDs
- it picks up radio stations
- it costs under £20
- it's rather sweet

AGAINST
- everything else.
Poles Apart

One comes from South Korea, the other from North Wales, so April Music's Stello Ai500 and Leema Acoustics' Tucana II couldn't be culturally more dissimilar, but these two 'super integrateds' prove to have fascinating parallels, Tony Bolton finds...

Ah, the 'super integrated' amplifier! It's a concept that's newer than some might think. In the old days, as recently as the nineteen seventies, if you were to drop the equivalent of £3,500 in today's money on an amplifier, the chances are it would come in two boxes (or more), rather than just in one. The integrated amplifier was always the poor relation of the pre-power, and never as sexy. But by the mid-eighties, companies such as Naim, Exposure and NVA were making premium priced one box designs, claimed to offer all the allure of your old twin boxer in half the space.

These days, the average chunk of change expended on an integrated amplifier is rarely more than £1,500 (if Hi-Fi World's letters pages are to be believed), but still manufacturers keep coming back with lavishly priced, expensively built one boxers. Just like household utility bills, no matter how much you ignore them, they just don't go away!

In the UK, Leema Acoustics has made a name for itself largely off the back of the Tucana, which was an excellent integrated that's neatly filled a niche in this country. A kind of hi-fi 'one stop shop', it had power, facilities and polish in equal measure, and now it's just been replaced by the new mark II version, more of which in a moment...

Some ten thousand miles or more away, a company called April Music has been making high quality, affordably priced audiophile gear for over a decade now. We've dipped in and out of the April Music portfolio over the years, and never failed to be impressed. Designed and built in Seoul, South Korea, they're a tantalising taste of what we used to call 'Japanese high end', inasmuch as they share the same values. Build quality is superlative, and the sound isn't so dissimilar. You could even say the Stello brand is almost the Far Eastern equivalent of Leema...

As such, we thought we'd put the two tribes up against one another, and appropriately enough, bring in Hi-Fi World's stalwart reference, the Sugden IA4. Normally resident in DP's system, he grudgingly delivered it to my door for the purposes of putting these two new pretenders to its throne through their paces. It's...
a striking sounding bit of kit, its full Class A circuitry doing things that rivals simply can’t. To my ears it’s not all good though, but for shining an unflattering light on price rivals it is surely superb.

Moving to the Britisher first, and the new Leema Acoustics Tucana II maintains the swish, stylised looks of the original, but adds a flourish on the front panel. Opinion’s divided on the styling; DP wasn’t so keen on it compared to the old model, but I like the new ‘un. The volume control remains on the left surrounded by blue LEDs, but the source selection is now by button rather than knob, on the right hand side, and in the centre are a row of four more buttons for gain, balance, mute and the tape loop. Located on the far left are mini-jack sockets for MP3 input and headphones output.

At the back are the relevant sockets for balanced input (XLR) and rows of gold plated phono sockets for the six analogue line level inputs and the tape loop. Speaker binding posts are at each end of the back panel, and mains input is in the centre. The casework measures 440x110x320mm, weighs in at 18kg and is available in either black, or the silver finish on the review sample.

Mallory Nicholls, co-founder of Leema, informed me that in the preamp section the circuitry remained the same as that in the original Tucana but the software functions had been taken from the Pyxis preamp, which forms part of Leema’s Reference range (the Tucana coming from the middle ranking Constellation series).

The power amp section features new Thermal Tracking Output racks. It weighs 16kg. The facia is populated by a red display, which shows the source selected and the current volume level (on a scale of 0 to 99) set by a Cirrus Logic CS3310 digital volume control, actioned by a large knob on the right hand side.

"Both are fine sounding amplifiers that wouldn’t disappoint users of premium pre-power amplifier combinations..."

Devices which feature five pins instead of the three normally found on transistors. These extra two pins feed a close coupled thermal tracking element which measures, and reacts to, the temperature of the device in real time. This enables the amp to be configured with a lower output impedance which improves bottom end control, Leema says. Power for all of this comes from three large toroidal transformers, one for each channel and one for the preamp.

Hailing from South Korea, April Music are now in their eleventh year. The Stello A500 is the company’s new flagship product. The gentle curves of the sides of the amplifier disguise its substantial 460x86x400mm footprint. It is a very deep unit and with access for the cabling may be a tight fit on some running across the centre are push buttons for source selection for the four unbalanced and one balanced connection, as well as the four digital inputs to the DAC. These comprise S/PDIF, coaxial, USB and iPod USB.

All the appropriate sockets are on the back panel along with the mains input and speaker terminals. Internally, there are separate power supplies for the preamp and DAC circuits, while juice for the power amplifier comes from a 800VA toroidal transformer and a 90,000 microFarad capacitor bank. The output stage employs matched Hitachi MOSFET power transistors. The casework seems to act as a heatsink, becoming noticeably warm in use, but the manual advises that this is normal. The remote control is as weighty as it is comprehensive.
A search of all-inclusive, unique perfection. Every minute detail has been meticulously thought out using the finest materials, selected with greatest care to blend beauty and technology. A fundamental and passionate process devised by a team of men and women who strive to achieve their sole ambition, that of providing the future owner of such rare equipment the enjoyment of a perfect instant, so fugitive yet so everlasting.
containing separate sections for CD player, iPod and amplifier control. It proved somewhat fussy about aim and sometimes took a couple of presses before the amp responded.

**SOUND QUALITY**

Regular readers will know that I use a Leema Tucana as one of my reference amplifiers, so you can imagine the zeal with which I unboxed the Tucana II. Anyone used to the original would instantly recognise the company sound. Fast and quite richly toned, my attention was immediately drawn to the bass where I found a whole new degree of speed and accuracy, as well as depth, compared to the oldie. I was impressed by the separation of detail and the speed at which sounds stopped and started. By comparison the bass from my early model Tucana sounded a bit soft and wallowy. Moving up the frequency scale and I found greater space around sounds and a more defined shape to them.

Digging into my jazz collection, I put on Chris barber’s Bandbox Vol.3. This 1960 mono Columbia recording was made as the British Trad Jazz movement was beginning to fade away. Barber was one of the driving forces of the music from its roots in late 1940s Soho, and this LP showcases re-recordings of some of his classic tracks with vocals provided, as ever, by Ottilie Patterson. The Tucana II relayed the sound in a very engaging and energising manner, producing a sonic image that occupied about three quarters of the space between the speakers. Stage depth was aided by the feeling that the sound extended forwards as well as behind the speakers.

Rhythm driven music seemed to suit the Tucana II’s somewhat vivacious nature. Moving to stereo with “Latin Jazz Dance Classics Vol. 2”, and I found Cal Tjader’s track “Manuel Deeghit” slinking out of the speakers with all of the hip-swinging groove that you would expect from a master of South American sounds. It was elegant, poised and seductive.

Later in the evening I had slowed things down a little and was listening to Rubenstein playing Chopin Nocturnes. Here the Tucana II displayed a more considered and slowed things down a little and more defined shape to them. Moving up the frequency scale and I found a whole new degree of space around sounds... and with Kodak. The former gives a slightly cooler, bluer tint to things (the Stello), where as the Kodak version shows off the vividness of gold, reds and yellows (the Tucana II).

**CONCLUSION**

In a sense, I found this a difficult review to write, because both the Leema Tucana II and Stello Ai500 integrateds are very persuasive in their own respective ways. They present music very well, and in a lot of aspects such as power and grip, they are very well matched. Ultimately the choice comes down to nuances of presentation. In the same way these two amps made music. Apart from the more upright timing of the Stello, they both seemed pretty impervious to musical genre, but displayed the sound slightly differently. If you can imagine the subtle hue differences between the same picture taken with Agfa film and with Kodak. The former gives a slightly cooler, bluer tint to things (the Stello), where as the Kodak version shows off the vividness of gold, reds and yellows (the Tucana II).
The best loudspeaker is one that you can’t hear. Sounds odd, doesn’t it? But it should be all about the music; you don’t want to have this disturbed by the distortions and reflections a traditional speaker enclosure presents.

The B1 features our own patented drivers coupled to tapered tube absorbers. This technology eradicates the rear firing information from our drive units leaving just the pure sound that makes the speaker disappear.

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Beauty isn’t just about looks.

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way that Beethoven's music is equally valid when conducted in a considered manner by Otto Klemperer, or in the more impassioned style of Toscanini, so both the Leema and Stello have equally valid viewpoints. I could live with either happily, although my personal preference would be the Tucana II. I usually reach for the Toscanini/Beethoven set because I love the temperament and fire that he conjures up, and I find the Klemperer style a little too cerebral.

Both amplifiers are not the best at the price, but arguably the best all rounders around. The reference Sugden had an obviously superior sound in respect of the breadth of the recorded acoustic, and the clarity was superb. But it wasn’t faultless in the bass, and certainly wasn’t as forgiving as the Leema and Stello in their own different ways. You could say that the Leema offers things up in a lovely, exuberant way, whereas the Stello steps back slightly and gets a tad more accurate in so doing, whilst the Sugden lays things bare, and can be variously magnificent or stark and even hard.

There are of course other considerations, such as the digital connectivity of the Stello which will appeal to some, but still the Tucana II has a greater number of analogue inputs which will be more convenient to others. The Leema remote is less comprehensive but very responsive, and I preferred the feel of the facia mounted controls. In terms of finish, I think the Stello won the day convincingly, and that’s really something because the Leema was already superbly well put together. The reference Sugden I am afraid to say wasn’t quite a match for either in this respect.

So, as ever, the best advice is to listen for yourself, but be prepared for some serious headscratching with this pairing. Both are extremely fine sounding amplifiers that wouldn’t disappoint even users of premium pre-power amplifier combinations. They’re both well built and finished, sporting friendly user interfaces to make ownership a pleasure. Both come from companies with established pedigrees, and as I said before both have a very convincing way of playing the music. Which way is your way, I leave to you...

---

**MEASURED PERFORMANCE**

**TUCANA II**

The Tucana II delivers 162 Watts into 8 Ohms, measurement shows, rising to 272 Watts into 4 Ohms, very high levels of power. Leema warn it has no output protection circuits so a short will cause damage. The advantage of this, they suggest, is that current limiting does not exist to degrade sound quality. With a high damping factor of 74 the Tucana II will exert strong electrical damping and help tighten loudspeakers that are acoustically under-damped and waffly.

Bandwidth was wide, stretching from 3Hz to 102kHz, the upper limit matching that of 192kHz sample rate sources. Input sensitivity measured a normal 300mV through both the normal phono socket CD input (unbalanced) and the balanced XLR CD inputs. Measured performance through XLR was similar to that via the phono sockets.

Distortion levels were low right across the audio band, measuring just 0.001% at 1kHz and 0.005% at 10kHz, both at 1 Watt. Our analysis shows a progressively reducing harmonic structure with second harmonic dominant and this pattern was maintained as power increased, so the Tucana II has a dynamically stable transfer characteristic and should sound easy on the ear as a result.

The Tucana II is a high power amplifier that provides fine sound quality. NK

---

**STELLO AI500**

The AI500 delivers 153 Watts into 8 Ohms under measurement, rising to 240 Watts into 4 Ohms, so there is no shortage of power. The AI500 has an unusually high damping factor of 126 so it will exert very strong electrical damping and will sound 'tight' in its bass quality, especially with loudspeakers that are acoustically under-damped and boomy, where it will apply useful control.

Distortion levels were very low right across the audio band, measuring just 0.002% at 1kHz and 0.006% at 10kHz, both at 1 Watt. Our analysis shows second harmonic dominates and this was the case right across the audio band, at all power outputs. The AI500 has certainly been carefully engineered to achieve this unusual property and it does make for an easy and natural sound.

Measuring 320mV in for full output, the balanced XLR socket CD inputs have half the input sensitivity of the normal phono sockets, but both figures are good. Measured performance was otherwise similar through both inputs.

---

**REFERENCE SYSTEM:**

Clearaudio Master Solution/Satisfy/Ortoton Kp. a turntable
Hoff Batt213aa phono stage
Whest PS30R phono stage
Sugden I4A integrated amplifier
Charlo Orsa Major loudspeakers

---

**VERDICT**

Wonderfully sweet and natural sounding integrated with a musical heart. Fine styling and build complete a great package.

---

**LEEMA ACOUSTICS**

**TUCANA II** £3,495

Leema Electro Acoustics Ltd.
(1) 44 (0)1389 811000
www.leema-audio.com

---

**APRIL MUSIC STELLO**

**AI500** £3,000

April Music Inc.
(1) 82 2 3464 5561
www.aprilmusic.com

---

**FOR**

- power
- natural timing
- imaging precision
- rugged build

---

**AGAINST**

- over rich tonality

---

**VERDICT**

Highly focused and super clean sounding integrated with detailed, expensive sound. Brilliant build and highly feature set. too.

---

**LEEMA ACUSTICS**

**VERDICT**

FOR

- power
- expansive soundstaging
- fine onboard DAC
- immaculate finish

AGAINST

- cool tonality

---

**ND Z3156789 MI**

192kHz sample rate sources. Input sensitivity has linear D/A convertors.

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**DISTORTION - TUCANA II**

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<td>Noise</td>
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**DISTORTION - STELLO AI500**

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<th>Power</th>
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</tr>
<tr>
<td>Frequency response</td>
<td>85dB</td>
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<tr>
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</tr>
<tr>
<td>Noise</td>
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</tr>
<tr>
<td>Sensitivity</td>
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**THD - FREQUENCY RESPONSE**

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<tr>
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<tr>
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<td>0.006%</td>
</tr>
<tr>
<td>12kHz</td>
<td>0.001%</td>
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**MEASURED PERFORMANCE**

**POWER**

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<td>1kHz</td>
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<td>6kHz</td>
<td>153</td>
</tr>
<tr>
<td>12kHz</td>
<td>153</td>
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**Sensitivity**

<table>
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<th>Sensitivity (mV)</th>
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</thead>
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<tr>
<td>1kHz</td>
<td>100mV</td>
</tr>
<tr>
<td>6kHz</td>
<td>100mV</td>
</tr>
<tr>
<td>12kHz</td>
<td>100mV</td>
</tr>
</tbody>
</table>
Noel Keywood finds Acoustic Energy's brand new Radiance 3 floorstanding loudspeakers to be most musically illuminating...

Funny things, floorstanders. There are dizzying quantities of them on the market these days, and with computer design doing much of the donkey work in sorting out all the basics of operation, they all work quite well. And yet they also follow fashion and so although variety is wide, choice is narrow. Entering this market is Acoustic Energy's Radiance series and the range topping Radiance 3 floorstander reviewed here. Not overly expensive, but hardly cheap either at £1,500, the Radiance 3s are a compact floorstander that aim to give the fast AE sound from a loudspeaker big enough to reach low but not so big as to take over the lounge. I know Acoustic Energy engineer their loudspeakers well, so would the Radiance 3 be any type of mould breaker, I wondered?

Into a cabinet standing 920mm high Acoustic Energy place two bass units, each loaded with its own rear ported enclosure. The enclosures are identical our measurements showed and each drive unit has an aluminium cone and voice coil former. The idea behind the common twin driver arrangement is to retain good bass unit cone area together with a narrow cabinet baffle. Twin voice coils also share amplifier power, increasing power handling. There are other tricks twin bass chambers make possible, including stagger tuning, I am told by Acoustic Energy's first designer, Phil Jones, but it looks like the Radiance 3 doesn't utilise this technique because the ports behaved identically.

I was surprised to see a plug at the bottom of the cabinet giving access to a small sand chamber. The idea is to fill the chamber with dry builder's Silver Sand, to add weight, stability and damping to the cabinet. I have used it in the past with Mission loudspeakers and it is very effective, with surprising influence upon image steadiness and general solidity, upon bass quality and general tidying of presentation. Unfortunately, the downside is the loudspeaker can become immovably heavy and the sand is difficult to extract, so we do not sand fill for reviewing. It is worth doing, though.

Adding to stability with the Radiance 3s are outrigger feet that must be screwed on with an Allen key, not an especially easy or convenient process I thought. Worse, our loudspeakers were loosely packed, screws had escaped from open bags and two were missing so we had to use substitutes, but no big deal. Spikes protrude downward from the...
outriggers and can be adjusted, as usual, to cope with uneven flooring.

Cabinet stability does improve midrange and treble, making the sound more concise, for want of a better description. So the aluminium coned midrange unit sitting above the bass units benefits from Acoustic Energy's efforts at providing a steady platform. An 130mm aluminium midrange cone must be good if the characteristic zing of aluminium is to be avoided, but you can expect good speech and vocal projection from such a unit and our measurements showed there's a small amount of midband emphasis to subtly enhance this effect. The midrange sits in its own chamber with a rear port.

Above the midrange is an interesting ring radiator tweeter.

"a good all-rounder, a little different in its presentation but very enjoyable all the same..."
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The sense of richness and slight warmth I heard at the start of ‘Rockferry’ was repeated with Jackie Leven’s ‘Boy Trapped in a Man’. Jackie sounded full in voice centre stage and was as clearly and firmly described as other vocalists. I sensed a small amount of boxiness and some softness, but otherwise a lovely ease of presentation that allowed me to focus on the lyrics.

As Jackie lowers his voice for the slowly sung ‘Desolation Blues’ the Radiance 3s sounded full bodied and rich. Spoken and gently sung word at centre stage was intensely wrought and vibrant in nature. There were times that the sense of balance the Radiances enjoy, their dark clean treble and centre stage intensity would make other loudspeakers shudder for their very existence. ‘Extremely Violent Man’, a fittingly frightening track, had me locked in rapt attention because the Radiances gave Jackie Leven’s voice a weight accompanied by a cutting edge to lyric that intensified the emotional content of the track. Again, although with small blemishes, the Radiances can be expressive and able to hold a listener’s attention.

**CONCLUSION**

The Radiance 3s are an unusually characterful loudspeaker - and I don’t mean that as deprecatory euphemism! A bit like loudspeakers of yore they have great strengths, moderated by a few small weaknesses. For intense imaging, especially with centre stage vocals, good overall balance and superb treble they impressed me greatly. In most rooms I believe their bass will be in fine balance and it plays well. The small sting to strings and emphasis of sibilance gives the loudspeaker a bit of zest that may or may not acceptable, according to taste. The Radiance 3 is a good all-rounder though a little different in its presentation but very enjoyable all the same, and well worth hearing. It is an interesting step out of the mainstream.

**VERDICT

A nicely balanced, fast yet intense delivery with beautifully smooth treble makes the Radiance 3 unusual and attractive.**

**ACOUSTIC ENERGY RADIANCE 3 £1500**

**FOR**

- intense vocal delivery
- smooth, uncoloured treble
- tonally balanced

**AGAINST**

- mediocre finish
- emphasised sibilance
- screw on feet

**REVIEW**

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The Radiance 3s are an unusually characterful loudspeaker - and I don’t mean that as deprecatory euphemism! A bit like loudspeaker
Yamaha began its quest for sound superiority over 100 years ago - rather earlier than most of our hi-fi competitors. Since 1887 we've turned our attentions to all manner of musical instruments and professional audio equipment, but never lost sight of our original driving force - the creation and delivery of beautiful, natural sound.

You'll hear the difference when you choose Yamaha for your home. Discover more at hifi.yamaha-europe.com

A century of making music distilled into our ultimate Hi-Fi: it could only be Yamaha.
TANGENT UNO £89.95
A simple looking AM/FM analogue table radio, although small the Tangent cannot really be called a portable as there is no handle, and it works from mains power only, something that allows greater freedom for the designer as they are then not obliged to consider battery economy as a constraint. The cabinet has a wooden shell with plastic panels covering the front and back. A 3" loudspeaker with foam roll edges is fitted into the top, leaving space on the front panel for an oversize tuning knob and what would have been known in the nineteen thirties as an 'aeroplane tuning dial'. The cabinet is ported at the rear to augment bass, but is otherwise well sealed, so some thought has clearly gone into this area of the design.

Although in its basic form the Uno is a mono set, it does include a stereo amplifier rated at 5 Watts per channel. An output at the rear is provided for a second passive loudspeaker, ideally of the same type and housed in the same manner as that in the radio itself, although whether Tangent is able to supply such a loudspeaker is not made clear in the instruction manual. Other connections include one for stereo headphones, a stereo recording output for a cassette or MD recorder, a mono output for an active subwoofer and the inevitable line input for a Walkman or MP3 player. A 3.5mm to 3.5mm stereo lead is provided for this so it can be used right away.

Inside the Uno, I found things unexpectedly complex, the circuit having amongst its elements no less than ten operational amplifier stages, many of which are coupled together with signal-grade Mylar capacitors. This is the sort of thing that one would expect to see in a high grade DAC or phono stage, not a small table radio. The cabinet is braced inside too, another good sign. In fact the whole thing looks like the degree project of an ambitious electronics student rather than a commercial product - refreshing indeed! Also encouraging is that the supplied mains adaptor is a linear design with a proper mains transformer rather than the cheap switch-mode type that comes with some sets, which can cause enough interference to blot weak broadcasts out completely.

The sound of the Uno is characterised by an exaggerated bass lift and a sucked out midrange. This initially gives the impression of warmth but the one-note nature of the bass soon becomes frustrating. Such a tonal balance impresses the novice but is predictable for the more experienced listener; speaking personally a little less bass and a sweeter midrange would have pleased more. Without a separate tweeter, the treble performance is clean enough. It's both soft and slightly edgy, a common trait in products of this type.

There is plenty of volume available and neither the amplifier nor the loudspeaker appears strained at higher levels, but despite the efforts to make the cabinet rigid the back is rather thin and one can hear (and feel) this singing along when the set is playing loudly. The main sound characteristics are clearly applied electronically in the power amplifier as both the headphone and the tape outputs are impressively clean and neutral sounding, even when receiving a stereo broadcast through the built-in rod antenna.

The FM tuner clearly has AFC (automatic frequency control) that eliminates drift and eases the tuning of strong stations. The only trouble with this system is that the when one tries to tune into a weak, distant station the set tries to pull onto adjacent, stronger ones and often succeeds. An extra 'FM-AFC' position on the wave change switch would be welcome.

The AM section works well too, although the strong noise between stations suggests that there is a little too much gain which the AGC (automatic gain control) then has to retard when a station is on tune. The AM receiver operated like a properly engineered circuit rather than the begrudgingly tacked-on afterthought that it is on so many sets. Tangent are to be congratulated for securing good performance from an often overlooked but still reliable and entertaining medium.

Using the Uno as an amplifier revealed a similar character to the one it has as an FM receiver. The character of the sound is well suited to covering up the shortcomings of MP3, and while it won't ever replace your main system it is certainly good enough for short term utility or background entertainment use.

The Tangent Uno is an honest and competent product with a fashionable look and sound, and is obviously well engineered. It enters a crowded marketplace however up against the likes of Tivoli and Roberts and I would advise a brief audition first so you can ensure that the somewhat coloured sound is to your taste. TJ

[Contact: www.tangent-audio.com, +44 9641 1500]
As competition in the Blu-ray market hots up, so the prices come down. Noel Keywood tries the brand new bargain-basement Philips BDP3000 for size...

Philips recent BDP3000 aims to mix it with Sharp and Samsung players in the budget Blu-ray player market. It starts out well: quoted as costing £169 by Philips you can find this player priced right down to £135 or so in the shops. What it offers at this price is remarkable in some ways, if flawed I found.

The BDP3000 is light at 2.5kgs and compact too, measuring 435mm wide, about the same width as the Marantz SR8002 receiver I used it with. However, at 227mm deep and 58mm high it’s a cinch to put into place and connect up. Life is made easier here by the absence of multichannel analogue audio outputs to confuse things, but this does mean anyone wanting to use analogue audio for surround-sound will have to look elsewhere. The S/PDIF digital audio output is labelled ‘coaxial’, an unusual description, and there is an HDMI output socket of course, an RJ45 ethernet socket for internet connection and a USB socket. Although light, the BDP3000 is nicely made and finished, and a little less clanky in its casework than a Samsung.

Philips point out repeatedly that the USB socket is for memory only, to store BD Live download data. It isn't possible to replay music or video files from it. The internet connection also allows firmware upgrades. Or it does if you can get it. The BDP3000 would not connect to my Netgear router, used successfully by Samsung players and Onkyo receivers. It polled the network, was seen by the router as MTK8520 (?) and given an address, but dropped it. Assigning a static address and direct route did not help, so I was unable to access BD Live to download bonus material. This means nothing to me and does not affect the player’s basic functionality. However, it does frustrate software updates, and these are more valuable.

SOUND QUALITY
In addition to the main HDMI output that carries both digital video and sound, and the ‘coaxial’ digital audio (only) output, there are analogue stereo outputs, so the BDP3000 can be hooked up as a basic CD player.

Tests showed [see MEASURED PERFORMANCE] these sockets deliver a decent result but of course you cannot expect real audiophile player sound quality. It makes much more sense to use a player like this as a CD transport, hooking up its S/PDIF ‘coaxial’ output either to a quality external DAC or to the digital input of a receiver. Why? Well, like the Samsung players this one has very low jitter and therefore high quality digital output our measurements showed. It isn't quite up to the...
Samsung BD-P1600's extraordinary performance but it is comparable to most CD transports.

Most people will, however, just use an HDMI cable which carries both audio and video digitally. I spent a few bemused hours comparing CD digital via S/PDIF and HDMI and felt S/PDIF was just a little tidier and cleaner of the two. As there's no video signal when playing CD, there was no jitter from this source via HDMI and I had Pure Direct selected as always, because Ken Ishiwata and, therefore, Marantz insist video RF degrades audio. Differences really play only the CD layer of an SACD, so plonk an SACD in and it will play, but you get stereo.

It will also play a DVD-Audio disc, but not the high resolution code, so when I popped in Toy Matinee I got DTS 5.1 surround-sound, but could not select the Meridian Lossless Packed 24/96 PCM track. I didn't burst into tears though; sound quality was very good and thoroughly enjoyable, if not as hard edged and visceral as the uncompressed track.

And now we come to Blu-ray video sound track, and disappointment. Amazingly, our "In some ways this is a breathtakingly good machine considering its price point..."

weren't great, but I felt S/PDIF was faster, sharper and sweeter than HDMI, when listening to CD.

But so much for CD. This is a Blu-ray player and good ones can guzzle formats, an Oppo BDP83 being able to play every silver Frisbee invented. The little BDP3000 is one quarter its price and a bit more limited. Staying with audio, the Philips BDP3000 would not play PCM (basic digital code) surround-sound. Listening to Andrea Bocelli's 'Live in Tuscany' which offers 24/48 code in stereo or 5.1 surround-sound format (no Dolby or DTS options) I got only stereo, with the player set to Auto or Bitstream output. The 5.1 track was missing channels, as switching to 2ch brought up level and the density of instruments.

The Chris Botti concert was similarly affected: 24/96 PCM 5.1 surround-sound was two channel, but the Dolby stereo and surround-sound versions played correctly, although I noticed that my receiver saw a Dolby encoded signal with either Bitstream and Auto set on the player, when it should have registered PCM from Auto mode. This suggests the player was not decoding TrueHD to PCM.

An Opus Arte Blu-ray sampler with every performance offered in 2ch PCM, 5.1 PCM, DTS-HD Master Audio and Dolby TrueHD played all versions properly except 5.1 PCM, which my SR8002 receiver registered consistently as 2 channel - how sad!

But I must say the swans in 'Swan Lake' have never looked so good; this player gives a fabulous picture.

Philips claim to fit Dolby TrueHD decode, but not DTS-HD Master Audio decode. But whilst the player registered TrueHD and Master Audio on its display, my receiver showed it was doing the decoding, not the player, with Auto or Bitstream set.

When I popped in a 24/192kHz sample rate Audio Blu-ray from 2L of Norway the situation changed a little. The BDP3000 processed both 5.1 PCM and Dolby TrueHD to
Borrowing heavily from developments pioneered in the staggering Leema Reference Series Altair IV amplifier, the Tucana II is an even more accomplished performer than its multi-award winning predecessor. Improved dynamic range, resolution of fine detail, and remarkable clarity help the Tucana II present music with life-like verve into even the most fussy of today's audiophile speakers. This highly refined amplifier can deliver over fifty amps to each channel with a vice-like grip and precise control of the loudspeakers.

New features on the Tucana II include an MP3 input, balanced input, headphone output, direct input selection, adjustable input gain, and a balance control.

The Tucana II helps even the most complex music make complete sense.

Leema Acoustics: Award winning hi-fi
stereo, in Auto and Bitstream modes. What an irony that it leaves DTS-HD Master Audio well alone, sends it out native and the receiver then turns it into glorious surround-sound! With this disc it did turn Dolby to PCM binary noise suppression, which is why it gives silky smooth colour, and it also has amazing detail resolution too. I saw just one problem...

With the Tiger Moth sitting stationary its rotating prop was a blur with the Samsung BD-P1600, much as you'd expect. The Philips player couldn't handle this motion and produced a peculiar ghost image instead. Noise reduction algorithms are often compromised by movement and this was the case with Philips processing scheme. However, this was the only time it failed; as the aircraft moved off to taxi, moving verticals in the stringers were perfectly crisp and wing edges left no trail or blur. It was a lovely picture and I was quite taken aback at how much better the Philips looked than any other player I have reviewed to date. The depth of the scene was made more apparent, colour was rich (well okay, oversaturated by the HV-30 and the Philips added something here) but detail superb. It was a transfixing picture and nothing other than very impressive.

VIDEO

With normal Hollywood output on Blu-ray the BDP3000's picture looked very good immediately. All the usuals like 'Iron Man', 'Spider Man' and 'U-571' had silky smooth colour, meaning noise was low, and plenty of detail too. Pictures looked sumptuous and I was very impressed. How a cheapy player could look so good was a bit baffling, but there are some 'U-571' had silky smooth colour, meaning noise was low, and plenty of detail too. Pictures looked sumptuous and I was very impressed. How a cheapy player could look so good was a bit baffling, but there are some

Our HQV Blu-ray test disc showed clearly the Philips player handles 24p film superbly even in motion scans and suffers no jaggies on the edges of moving objects. It outclassed Samsung players here and was almost shockingly good. However, these discs have limitations. My own footage from a Canon HV-30, burnt to Blu-ray disc via the TMPG MPEG2 codec in BD-V format revealed what the Philips could and could not do. Watching a Tiger Moth biplane stationary at Duxford airdrome revealed astonishing detail in grass and trees; those old favourites of resolution! Whilst the Tiger Moth, people and lettering on construction equipment looked good on a Samsung BD-P1600, the Philips machine showed the Boeing was blurred with grass and trees. I thought this was a limitation of the HV-30, but it was not. The BDP3000 showed astonishing ability to suppress noise and reveal detail; I was more than impressed here. I was quite astonished that the blurring of distant grass on an airfield was not attributable to my consumer camcorder, but to the Blu-ray player. So the BDP3000 does have extrac-

VERDICT

Pleasant to use, and with great picture quality, but the lack of PCM surround-sound rules it out audio-wise.

PHILIPS BDP3000 £169
Philips
(C) +44(0)800 3316016
www.philips.co.uk

FOR
- great picture quality
- fast loading
- easy to use

AGAINST
- no PCM surround-sound
- erratic with 24/192
- no Draw Open button
for £700. Our price including a 5-year warranty is £695.

One sold on eBay a couple of weeks ago.

Costing the best part of £3000 when new, this Amplifier is only months old. Unmarked, boxed, manuals. As new condition.

One owner from new, unmarked condition. Boxed, manual. 5-year warranty for the new owner. A bargain. (£3500) £1695

Mcintosh MC2201 SACD player. One owner from new in outstanding condition with original bootpack.

Great reviews. Built in pre-amp, so can be used directly into a power amplifier. (£3495) £1695

Audio Analogue Maestro Sattana Integrated Amplifier. Wonderful condition, with all original Boxes, Packing, Manuals and Brass Remote Control.

As always, we have updated the Display to current performance. (£1980) £995

Plinius PE Power Amplifier. boxed in excellent condition. One owner from new, to front cable. One owner from new, great reviews. (£3800) £1995

MBL 7005 Integrated Amplifier. One owner, boxed, manuals. As new condition. Brilliant reviews. (£5050) £4078

ATC SCM40 Loudspeakers. One owner from new, absolutely mint condition. One sold on eBay a couple of weeks ago for £700. Our price including a 5-year warranty is £695

Wadia 301 CD player. One owner from new in silver, boxed, packing, excellent condition. Comes with the upgrade metal remote (these normally have a plastic one). Can be run directly into a power amplifier using the digital volume control (£4000) £1695

Digital Analogue Preamplifiers

Naim CD5I-2 CD player. This is the newest version (static-I) version. Only months old, absolutely mint condition. One sold on eBay a couple of weeks ago for £700. Our price including a 5-year warranty is £695

Naim NAP 150 and NAC 112 pre/power combination. One owner, unmarked condition and a 5-year warranty for the new owner. Cost now as a pair in the region of £1600, so incredible value for money at only £795 for both units together.

Audio Analogue Maestro Sattana Integrated Amplifier. Wonderful condition, with all original Boxes, Packing, Manuals and Brass Remote Control. As always, we have updated the Display to current specification. incredible transparency and dynamics, make the Maestro a favourite with reviewers and buyers alike. (£2500 Now) £995

Plinius PE Power Amplifier. boxed in excellent condition. One owner from new, to front cable. One owner from new, great reviews. (£3800) £1995

Quad 909 Power Amplifier. One owner from new, Four months old. Unmarked, boxed, manuals. (£995) £525

Loudspeakers

Audio Physics Scorpion III. In almost as new condition, having had one extremely careful owner from new. Original boxes and packing. Stunning in cherry. (£14500) £1995

Living Voice OBX-2 speakers. One owner with outboard crossovers. Unmarked condition finished in Maple. Latest specification and come complete with £1000 of bracket cable. Cost new over £5000 (including cables) a bargain at £2395

As Audio Orsa Loudspeakers. One Owner from new. Finished in Hi-Gloss Cherry. Ribbon tweeter and adjustable crossover - amazing value for money. (Under £5000) £1995

Martin Logan Aeon Electrostatic Loudspeakers. One owner from new. Quite exceptional condition. Finished in Light Oak and come with immaculate boxes, packing, accessories and paperwork. (£2995) £1495

ATC SCM19 in Cherry, one owner, as new. (£1525) £1095

ATC SCM20 loudspeakers. One owner from new. Finished in High Gloss White. Light Oak and come with immaculate boxes, packing, accessories and paperwork. (£2475) £1495

ANALOGUE

Naim NAP 150 and NAC 112 pre/power combination. One owner, unmarked condition and a 5-year warranty for the new owner. Cost now as a pair in the region of £1600, so incredible value for money. (£1980) £995

Mains Conditioning

QED Qoundt MDH6 mains block, 5-way mains filtration and protection hub. Unmarked condition, a bargain at this price. (£2235) £119

Vertex AG Taga - 6-way distribution mains filter. Great reviews. One owner from new, unmarked. (£688) £595

Vertex AG Jaya, boxed with manual, some very slight marks, one owner. (£302) £225

IsoTek Premium Mains Cable, boxed as new - 1.5m. Three Core Annealed Oxygen Free Copper for better signal transmission. (£75) £49

Cables

Vertex AG HiRez Solfonn XLX interconnect. 1.5m, 8 months old. Original Technology demonstrator. (£966) £595

HMS Seslletto Mk2 XLR Digital Cable. Wonderful digital audio cable with original box and packing. (£75) £49

Digital Analogue Preamplifiers

We have the very latest Integrated. One owner from new, unmarked condition with original box/packing. (£1500) £795

Sugden Maestro Amplifier. 5 Months old and is new condition. One owner. This Class A/B amplifier with Class A Output offers astonishing performance for this price point. 50W (8 ohms) and 7WV (4 ohms) 3 Line Inputs, 1 Phono Input for MM Cartridge. Cost new £1300 our price £795

Eastern Electric M520 Integrated Amplifier. Ex-demo unit in fantastic condition. This amplifier has been reviewed to very high acclaim, and has a quite exceptional presentation with the EL34 valve as its basic and pure Class A Output. It is complete with the aluminium for function remote control, packing and manual. We have been astonishec at the sonic performance of this amplifier, humbling many a unit at all higher price points. (Cost new £1995) £795

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Visit our website at www.hi-fiworld.co.uk or send your emails to letters@hi-fiworld.co.uk. Letter of the month wins a pair of KEF iQ30 loudspeakers and one year’s FREE subscription to Hi-Fi World.

A pair of KEF iQ30 loudspeakers is on their way to DAVE DICK, Letter of the Month winner in our OCTOBER 2009 issue.

Letter of the Month

ON THE ROOF

I thought I might tell you about my exploits with FM aerials. Having spent the last four weekends up at roof level mounting and remounting TV and FM aerials on larger and taller poles, and adding even DAB aerials (yes really!) I came across signal level problems on my Quad 66 FM tuner which hadn’t been used on my main system for a while. This turned out to be due to corrosion in the aerial connecting boxes, and on good quality Antiference aerials up for fifteen or twenty years or more. Not being content with a replacement aerial I overhauled my six-element unit and my single dipole (but not my relatively new circular dipole), hacksawing off the rusted bolts, sanding off corrosion of each element and of course cleaning the connecting boxes. A couple of hours or so brought me a refurbished six-element, but remounting it up on the chimney was not so good, the wind speed having increased dramatically, and now dropped off the upper end of the Beaufort Scale!

On powering up the tuner, the signal level shot up near the top of the scale on the Quad, which never has been so high, but the real surprise was my Denon TU 1800DAB, on another simple dipole, which has the most fantastic stereo separation on FM. So I have bought a DAB tuner for digital radio a year ago, hardly used it because it sounds DAB-ish (you know what I mean), and through my Harbeth speakers too clinical, but on FM it sings! Okay, I could have bought replacement aerials, saved myself a load of time and less risk of sliding down the roof into the tomato plants, but I have recycled my aerials to make them almost as good as new. I reckon my six element has another twenty years life, even if FM has a quarter of that. I could always turn the rods into pickup arms, about 900mm long with a Denon DL103 on the end, but what a unique record deck that would be.

Lastly, I think Steven Green and Noel Keywood should be made joint Prime Minister for their articles in your September magazine on the curse of DAB and the potential demise of FM. I wonder if Gordon wants his aerial refurbished?

Ron Koorm

Yes, it’s a hard life sitting on top of a roof in the wind and rain, and I’ve had to hacksaw off a few rusty parts in my time after they were ravaged by the elements. Things deteriorate pretty quickly and an FM tuner needs quite a strong signal if it is to give its all sound quality wise. If you do manage 1mV or more from the aerial, then listening to live Radio 4 talk and such like is like sitting in the studio; it is both atmospheric and involving - and a lovely evening experience.

If you are a real aerial ‘saddo’ like me (!) you will enjoy a peep at this site, one of the web’s wackiest http://tx.mborne.co.uk/gallery. Here you will see some glorious pictures of aerials - mostly of transmitters - with moons, sunsets and all manner of scenery behind. You can actually see what your local transmitter looks like (woo hoo hoo!), and see how they did it closer to Marconi’s time. The wallpaper section shows far off hills in windy places and why you wouldn’t want to be a
MAIL

Hi Andy, if you have the standard arm then change it for a Jelco SA250ST (that's the straight one, not the swans neck) or a Rega RB301. The impecunious could fit a Rega RB250, second hand perhaps. Arm plates and bits are available from Sound Hi-Fi (see www.sl-1200-mk2.com). Obviously, the Goldring 1006 is a budget 'starter' model and with this in a Technics arm I think it is asking a bit much to compare it with a Rega Apollo; this really is comparing cheap chalk with expensive cheese. A decent moving coil cartridge with valve preamp will show clearly the deficiencies of CD, whilst a good, modern MM cartridge in a decent arm, should be more than entertaining.

NK

Hi Andy, I've actually done two Technics SL1200 'tweak' articles so far, first in September 2007 when I fitted an Audio Origami RB250, Isonoe isolation feet, SDS Isoplatmat. This little lot cost me about £1,000, including the £150 SL1200 I got off eBay. My second feature in August 2009 involved me fitting an SME Series V tonearm and Koetsu Red K Signature moving coil cartridge, the aforementioned Isoneo feet and SDS Isoplatmat, plus a Timestep PSU. This cost upwards of £5,000.

To summarise, in my view, the biggest weakness of the SL1200 is the standard S-shaped arm which is too resonant to give a detailed, neutral sound. As I write, I've learnt that you can now get a Funk Firm mod which involves the fitting of a new (non-resonant carbon fibre) armtube, but at the time of my first feature this wasn't available. That's why I opted to rip the stock arm out and fit a Rega RB250 (expertly rebuilt and rewired by Audio Origami).

The new arm had a dramatic effect, but tells you that the platter is as resonant as a church bell, and the isolation is lacking. I solved the first problem with the SDS mat, which gives the platter a dull thunk instead of a 'ding' when you hit it. It also adds a bit (but not too much) mass, which seems to damp the 'edgy' quartz lock servo. Many recommend other mats (and I've tried most), but to me the SDS is the best for this particular application.

The deck has less than ideal isolation, although it's lots better than any price rival. Technics have had a go at damping it - there's a strong alloy top plate, resin damping and a rubberised plastic base, so it's better than a sheet of MDF or Perspex. But it's still a weak point. The Isoneo feet I fitted to my Project decks basically float the whole shebang on small rubber 'O' rings. It works well, but they're expensive. I added an Audiophile Base 01 isolation platform too; this really helped as a belt and braces measure.

Before the first stage of mods, I found the SL1200 to be a punchy, balsy performer but crude across the midband and hard in the upper mid, and dynamically compressed with a veiled treble. After, it became a punchy, balsy performer with a surprisingly open midband with great focus, and a wide, expansive sound, and lovely filigree detailing in the
treble. Surprisingly good dynamics, too.

The second, most recent article that you've obviously seen is me fitting a Timestep PSU, among other things. I found this aftermarket power supply takes away another layer of mush, exposing the fundamental platform as being incredibly detailed and open - it's there with an SME 10 or suchlike, no less! Also, it calms down the direct drive servo system a little, so it's a touch more fluid sounding, whilst retaining the sledgehammer bass of the original. The result is a truly lovely thing to listen to. DP

IN THE BAY

In the last couple of years I have discovered eBay and been on a nostalgia trip. I have bought linear tracking turntables (including an amazing sounding Sony PSFL99), ancient audio magazines including Hi-Fi World with Mr. Noel Keywood looking much younger magazines including Hi-Fi World with Mr. Noel Keywood looking much younger and open - it's there with an SME supply takes away another layer of things. I found this aftermarket power going for more than I paid for my challenged (no offence meant as Mr. Noel Keywood looking much younger)

In my younger days I wanted to buy a brand new Samsung Blu-ray player! In particular I saw a Rotel RA965BX CD players fetching unbelievable prices. I preferred the ancient Rotel. It seems to give a rose tinted view of the music that was just captivating - it was just more musical. My hat off to those Rotel engineers who got it just right so many years ago! However, the Rotel seems very sensitive to dirty/scratched CDs; it coughs and splutters over discs that the Pioneer has absolutely no problem with. Does this mean the Rotel is about to die?

It was truly unfortunate that SACD failed. Subjectively, CD player sound quality has not improved that much since the early nineties, though the measurements may have (from your own figures the Pioneer has about half the distortion at -60dB). This may have something to do with the fact that you can only do so much with 16bit/44kHz data - i.e you cannot make a silk purse out of a sow's ear.

Ah, the vexed issue of CD sound! I think it's hard to be definitive about it, as there have been so many different iterations, and even with the same chipset, differences can be

Rotel RA965BX CD player

It was very interesting to compare my Pioneer D6 to the geriatric Rotel. With SACD it was simply no contest; the Pioneer was miles ahead. But I only own twelve SACDs and that is not for the lack of trying (I was so frustrated by the lack of SACDs I even purchased the 'Top Gun' soundtrack - a sign of a truly desperate man).

On well recorded CDs (unfortunately very few of them around as I mainly listen to rock/pop oldies), the Pioneer came slightly ahead with better treble detail and better bass. But to my utter surprise on a majority of CDs I preferred the ancient Rotel. It seems to give a rose tinted view of the music that was just captivating - it was just more musical. My hat off to those Rotel engineers who got it just right so many years ago! However, the Rotel seems very sensitive to dirty/scratched CDs; it coughs and splutters over discs that the Pioneer has absolutely no problem with. Does this mean the Rotel is about to die?

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Icon Audio PS1.2 valve phono stage.

something to do with the fact that you can only do so much with 16bit/44kHz data - i.e you cannot make a silk purse out of a sow's ear.

A majority of rock and pop recordings sound awful and do not even exploit the full capacity of the CD format and so many consumers don't seem to give a damn either. Hence a CD player that gives a rose tinted view of the music maybe preferred to one that is just accurate.

best regards

K. Fonseka

If your old Rotel is stuttering then it may just need to have the laser lens cleaned. It may have spent years of its life sitting in a smoky lounge and have a grungy yellow coat of nicotine over the lens; who knows? While you are at it, try giving mechanical connectors a good clean with Kontak 60, or Gold 2000 perhaps (Canford Audio stock these, see www.canford.co.uk) or similar.

It is a pity about SACD. Of all the high resolution formats it is the one that sounds most natural, whilst at the same time making CD sound a little bland and mechanical by way of contrast. I marginally prefer the DSD track on 2L Blu-rays, where 24/192 PCM is also available (and both Dolby TrueHD and DTS-HD Master Audio). However, differences are not vast and PCM may come to approach what DSD can do, opening up the possibility of decent sounding Blu-ray discs. Unfortunately, the music business is in such disarray, with major studios like Air and Olympic closing down, that sound quality is absolutely not an issue, so I wonder if a high quality audio disc format like SACD will ever exist again.

It may be that others will follow 2L of Norway who aim to launch a prodigious range of Blu-ray music discs, mainly classical but also jazz, pop and folk they say, in future. You can see their 2010 disc release plan on the Home Page at www.2l.no. Their surround-sound discs have stereo versions I should add, so you can hear 24/192 digital via a high quality stereo system, but you do need both a Blu-ray player and a TV connected to it for menu navigation.

NK
disconcertingly great. For example, in this month's feature on classic fourteen bit, four times oversampling Philips machines, Tim Jarman and I did direct comparisons in my own reference system between the CD100, CD303 and CD104. One was the first ever CD player, the next a slightly higher end version of it, and the next was a slight development of the first. Still the differences were surprisingly present, as Tim outlines in his feature. CD players sound different for a number of reasons, and DACs/digital filters aren't the only ones. Things as basic as the PCB layout and noise suppression/vibration isolation can make the same circuit sound quite different.

If it is possible to generalise, then you can say that whilst CD has become technically better, thanks to the use of superior DACs and filtering, it hasn't necessarily become audibly more palatable. A typical modern CD spinner has a considerably clearer, cleaner sound with superior low level focus, compared to the likes of the original Philips CD100. And yet it doesn't necessarily sound any 'nicer' to listen to, and indeed the modern machine will make today's horrid peak-compressed 'in your face' pop discs sound even less tolerable.

Still, there are a number of machines around that are more euphonic than you'd expect. The AstinTrew AT3500 is the obvious one; this has become the default choice for those who'd, given the chance, rather not have to listen to CD. It injects a goodly dose of syrup into an otherwise slightly bitter pill. The now-discontinued Chord DAC64 DAC was another; it was unexpectedly full sounding with a lovely musical gait - its modern replacement, the QBD76, is altogether more forensic, detailed and revealing, if slightly less balmy to listen to. Finally, the dCS Paganini is a fascinating DAC; using their superb Ring DAC circuitry, it gives an unusually fluid and musical sound. You couldn't quite call the tonality 'rose tinted', but it errs more on this side of things than almost any other high end CD spinner I've heard. DP

SOOLOOSING IT!

Question. The Meridian Soolos music server sounds a wonderful bit of kit and a peek at what more is coming our way in the future from different companies to satisfy the market. I was wondering if I ripped my CDs and SACDs with the Meridian Soolos music server whether the playback will be as good as playback back through my CD player and/or SACD player? Do CDs and SACDs sound as good through this system? Is the quality still there and can you tell the difference? If it does sound as good then perfect, if not does anyone know how far away we are until it is please?

Rob McIntyre

As our review on p10 shows, the Soolos rips CDs in very high quality. It's one of the best systems to do this, and of course has the added benefit of that superb, largely graphical, user interface. It won't, of course, rip SACDs in DSD, it will only rip the CD layers of these. The playback depends on which Soolos package you buy; I used it mostly as (effectively) a digital transport; hooked up to a Stello DA100 Signature it made a very fine noise, as good as almost any sub-£1,500 CD player running as a transport. If you're not into multiroom and don't want to hook it up to Meridian's own DSP-series digital active speakers, then this is how I'd use it.

MAN OF HARLECH

I have had my current Meridian system (506 CD player, 501/555 pre/power amp, Castle Harlech speakers) for a number of years now and am thinking about a change. In particular, I have hundreds of old LPs that I would like to play again and have been considering purchasing the ReGa P3-24 after reading your recent review of it. As the 501 has a built-in phono stage, I could live with this for a while, but should I think about a separate phono stage and if so, which one?

After this, I would love to change over to valves, so would the Harlechs be worth keeping and changing just the amps?

Mike Robinson

A ReGa P3-24 is a great way to step back into vinyl playing, simply because it is a very strong package, helped by the superb RB301 arm of course. I'd suggest you use an Eastern Electric Man of Harlech, "off the pace" David says and worth upgrading.

Minimax or Icon Audio PS1.2 and then, ultimately, think of stepping up to a good moving coil (MC) cartridge if you find your old vinyl and perhaps any new purchase, to be your fancy. I'd urge you to buy at least a few modern 200gm discs pressed on Quiek vinyl, for LPs really are of superb quality nowadays. NK

The Harlechs are nice old speakers, but (to use my well worn and much loathed phrase) well 'off the pace' by today's standards. Basically your loudspeaker choice depends on your amplifier choice, as it's the marriage of the two that will make or break your system's sound. Pro tem, I would suggest you keep your Meridian pre (with its built-in phono stage), and get a pair of Icon Audio MB845 monoblock valve power amps. Use your Castles until you can afford a modern replacement, such as Yamaha's Scavo 1.1 Piano, and then buy a decent valve phono stage such as the ones Noel suggests. Then it's finally time to get a new preamp; MF Audio's Passive would be my choice.

DAC ATTACK

My question is fairly simple and follows on from your interesting and very timely review of DACs. Current system is a Linn Genki that replaced a loved but loathed, Microsonic Stage 6. I have a peek at what more is coming our way in the future from different companies to satisfy the market. I was wondering if I ripped my CDs and SACDs with the Meridian Soolos music server whether the playback will be as good as playback back through my CD player and SACD player? Do CDs and SACDs sound as good through this system? Is the quality still there and can you tell the difference? If it does sound as good then perfect, if not does anyone know how far away we are until it is please?

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DP

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My question is fairly simple and follows on from your interesting and very timely review of DACs. Current system is a Linn Genki that replaced a loved but very troublesome Microsonic Stage 6, connected via Clearer Audio Copper Line cables to a wonderful Copland CTA 501 through Nordost cables to Castle Howard 2 loudspeakers. The Genki is now nine years old and you keep reviewing tempting £1,500 to £2,000 players but I keep coming back to rather liking what I've got. And then I hanker again! So could the V-DAC be the cunning alternative I wonder? And I hope you can help — it is going to be better than the Genki's internal DAC, or should I carry on before. Or, finally is a new CD player calling me?

Ben Richardson
Hi Ben. Hmmm...! Not quite sure why you think a £150 DAC is going to be better than that in your CD player costing over ten times the price, just a few years ago? It may be different, there may well be a fractionally warmer tone, but it's not going to be like the difference between AM and FM radio. If you want an upgrade, rather than a 'sidegrade' (or even a 'downgrade'), you're going to have to get serious. Sell the Genki; buy a Cyrus CD Xtc SE transport and hook it up to a Chord QBD76. The difference will be profound, striking even, with masses more information, grip and focus. If you can't afford the new Chord, look around for a used DAC64 for under £1,000. Either way, you'll not be wanting to upgrade your CD again, ever! DP

CON-FUSED
I thoroughly enjoyed reading Adam Smith's piece on electrical safety viz hi-fi equipment and DIY adjustments/repairs. I "shake hands with the National Grid" daily as I work on the 400kV system supplying London. I too have regularly grimaced at wires twisted together and have unwrapped several weeks of poorly-applied insulation tape to find a multitude of sins. I wholeheartedly agree with Adam's advice about the dangers of removing fuses. We all want the best possible sound from our kit but we also want to live to listen another day. I would imagine that a 13 amp fuse is too big for all but the most power hungry amplifiers. Any good electrical shop will sell a BS 1362 cartridge fuse in ratings of 1, 3, 5, 7, 10 and 13 amp. Most of my appliances are protected by a 3 amp fuse. One should aim for the closest protection possible so that you grate with the rest of the system. The fusing factor on these cartridge fuses is normally at least 2.1 so a 13 amp fuse will not even begin to operate until it passes 26 amps or more. In fact for a 13 amp fuse to blow in the relatively slow time of 1 second (our circuit breakers on the supergrid operate in 45ms), it requires no less than 60 amps to flow through it. I feel it is my duty as an engineer to point out one minor mistake in Adam's otherwise perfect article - 30 milliamps is actually 30 thousands of 1 amp (from the Latin mille passum meaning one thousand paces and our derivation of the mile as a unit of distance) whereas 30 millionths of 1 amp would be 30 microamps. Adam is quite correct that 30mA is sufficient to knock the average human heart into fibrillation at 50Hz.

Having helped you with things that I know something about perhaps you could help me with things that you guys know a thing or two about? My present system is a Michell Orbe SE with SME VIM150 Litze wiring and Ortofon 2M Black. This is connected via a custom-mode Audio Origami/ Van Damme tonarm cable to the (don't laugh) MM input of a Rotel RA-03 Integrated Amp. This drives a pair of Kef iQ5s via QED Silver Anniversary cable. I also have a Yamaha CD/HDD recorder and Denon tuner but I mainly listen to vinyl. I would like to know what the big fuss is about phono stages? Can you outline the merits and added value of a preamp/power-amp combo and explain when one requires an additional phono stage over my present arrangement? I realise my amp is pretty low budget but I like the warm sound it gives and I have never found it noisy. I like a lot of music produced in the nineteen-eighties and have many LPs from The Human League, Depeche Mode, Duran Duran, Thompson Twins, Fine Young Cannibals, Erasure, Eurythmics, etc., (you get the idea) and the Rotel seems to deliver the synths very well indeed. In short I wonder if I am missing out on something? With such a fabulous front end, am I doing it justice with the rest of the set-up?

Stay safe,
James Watson
Protection Engineer
National Grid

Thanks for that James. It's always nice to hear from a power engineer, those that deal with megavolts instead of millivolts (well, OK, kilovolts then, but it doesn't sound as good). Poor Adam made a slip of the proverbial pen, which got many readers very excited, but I can assure everyone that he does know his 10exp-3 from his 10exp-6 and laboured explanations are unnecessary.

Your system, James, is a little amazing in its own way. A tricked up SMEV with Ortofon 2M Black MM cartridge is pretty unusual, but the fact that you are prepared to go so far to listen to the black stuff is always comforting. Funnily, the SMEV and 2M Black is very much an engineering solution: each is as perfect as it currently gets in engineering terms, but that is not to say or even suggest they lack emotion, as did, say, the old Ortofon M25FL moving coil.

But it is slightly peculiar to be asked about the importance of a phono stage with this lot up front. Bit like buying a Ferrari and asking why it needs decent tyres. The 2M Black and SMEV are works of art sonically as well as technically (I love them both). To appreciate such items you really do need to resolve their ability to deliver extraordinary dynamics, micro-fine detail, a reasonably deep sound stage and a good sense of atmosphere in recordings that defies lesser equipment - especially if it specialises in twiddling with digits.

Putting the signal through a mediocore amplifier will reveal how good your front end is, but not how great it is. As always, I recommend you listen to a valve phono stage and an Icon Audio PS 1.5 or, better, PS3 will show why. Connect either to a line input of your amplifier. The improvement will lead you on to consider how much better it could all sound through a suitable amplifier and whether you should move up to moving coil cartridges at a later date perhaps. Then you'll enjoy 2x10exp-6 volts at home after facing 4x10exp5 volts at work! NK

James, you are indeed quite right and my profuse apologies for misleading everyone. I think I got a bit carried away in mid-rant and I did actually realise my mistake a week or so later but by then the magazine was heading to print and it was too late to make a change. I did run a quick bet with editor DP as to just how many readers would spot my faux pas, so we'll need to compare numbers and check who will be buying whom a beer at the Whittlebury Hall Hi-Fi Show! As you say - 30mA equals thirty thousandths of an amp and is still a figure that is very definitely best left well alone.

As to phono stages, it is a sadly common fact that the devices...
For real power consider using Electrocompaniet’s Nemo amplifiers.

When considering a new cartridge, as Noel rightly says, the Icon is a brilliant piece of kit and would be an excellent place to start. AS

ONE MILLIONTH AND ONE ANSWER

Sorry to bother you, as I am sure you are busy and have answered this question a million times, so hopefully it won’t take you long to answer.

With a budget of £1,000 I was wondering what amplifier you might recommend for Yamaha NS1000 speakers? I am prepared to buy new as well as 2nd hand, but auditioning is an issue for me as I live in deepest, darkest west of Ireland. I have heard Quad 606 (smooth sound but clips too easily when volume is a little high), Classe Dr10 (probably the best I have heard that I can afford), Electrocompaniet ECI-3 (again a nice smooth sound and fine for low level listening, but not that tight in the bass and not much of it). I have also tried the WAD KIT88 (not sure that the valves were any good in this, as it sounded very under powered), Pass Labs x.250 (marvellous, throughout a massive sound stage and loads of drive, but price is the issue here), Musical Fidelity A308cr (again loads of drive, bass and soundstage, but too bright). I am not a rocker and don’t need to drive to huge volumes. The 70W of the Electrocompaniet was more than adequate, and am wondering if a 30 Watt valve amp would be best. However, I am not too experienced with valves and don’t want to miss out on quality bass (i.e. not loads necessarily, but well defined). I was wondering if something like the PureSound A30, PrimaLuna Prologue or other amps could be recommended?

I have also wondered about the NVA kit, perhaps you have tried this at some point. Or perhaps you have heard something better, I know you rate the Sugden gear for example. Just to add, I don’t mind looking at vintage kit such as Woodside or Radford!

Jonathan Bliss

Hmmm... You say you do not want power, but claim to have clipped a Quad 606 that delivers 140 Watts per channel! Meshinks you do need power for occasional forays into high volume, and you do want a “tight” sound too, which may well be transistor type tightness. An unusual combination that I found worked well was a Naim NAP250 power amplifier with a valve preamp. This gives the open and organic sound valves have, plus a sense of stage depth, or you could go one better by using an Electrocompaniet Nemo amplifier. For an all-valve set-up the least you need is a Quad Il-eighty or Icon Audio MB845.

Tricky, because you’ve not told me your front end, or your music tastes, both of which are immensely important when matching the NS1000Ms to anything successfully. Actually, given your budget, if you want to buy new then the Sugden Mystro reviewed in this issue would be a great start point; I love the full Class A Sugdens but they don’t half sound brightly lit via Yams, especially with CD. The Mystro is a cracking amp; I adore it, for slightly different reasons to the A21a et al.; it has a fuller, richer, ballsier sound and really drives the Yams well, yet doesn’t sound hard, surprisingly. If you’re looking for classic kit, the Quad 909 makes a good fist of it with NS1000Ms, for around £700 or less used. If cost is no object, it’s got to be those Icon Audio MB845s, for my money.

ENJOY THE MUSIC

Music has always been an essential part of my upbringing - an interest that I am now passing on to my children. And with fondness of music comes fondness of audio equipment...

Over the years I have put together my present system consisting of a Sim Devices SqueezeBox v3, Harmony Design DAC9, Linn Kolektor preamp, Exposure Super XVIII power amp and Celestion AVF302 speakers. Interconnects are Audio Synthesis SilverBlue SQ (terminated with WBT NextGen RCA), digital cable is the Audio Synthesis SilverBlue Triax and loudspeaker cables are BCD P.1.C.P.O. (terminated with Furutech FP-2008). I am quite happy with my system and the way it is capable of projecting the verve and presence of the music. I find the music enjoyable, engaging and foot-tapping. And so are my children - they enjoy the music immensely.

But I am in desperate need of some advice. Though the Celestions (I think these speakers have been underrated since their launch) have given me years of good service I feel now that it is time to let go and invest in a new pair of speakers. Is this observation agreeable or would you point your fingers at something else in my set-up that needs to be addressed?

Having had this hobby since the late eighties (paused a few years due to children) I have auditioned and owned a wide range of audio equipment in a wide range of price categories. But with a market now flooded with stand-mounted two-way designed loudspeakers (which I am looking for due to the size of my living-room) I am lost as where to begin my search. I was thinking of auditioning speakers from Spendor, Proac, Dynaudio, Tannoy, Monitor Audio, Audiosmile etc. Do you have other suggestions of makers and models?

I like my music (electroacousticambient, jazz, classical) presented in an enjoyable and musical fashion with focus on a coherent soundstage. I have up to £1,500 to spend on speakers without stands (I still have my Atacama SE24 laying around), but would not mind spending less. I would be very grateful for any advice.

Morton B

Norway

Hi Morton - having heard most, I personally am a big fan of two particular designs at this price point. First, the Spendor SA1 (£1.295) is a very bubbly sounding standmounter, almost un-Spender-like in its exuberant character. It romps along like a terrier taking after a blackbird, with all the enthusiasm thereof. It’s also very coughy, as you’d expect Spendors to be, with an open, expansive, detailed sound. They would fit well on your fine Atacama SE24 stands. The other obvious candidate is the AudioSmile Kensai; I am listening to them as I write this and can honestly state that this is what I’d have if I didn’t have room for my big Yams. That tweeter is superb, and it integrates so well with the mid/bass
unit. They're - if anything - just a tad on the analytical side, which means you need a great source, and don't expect to get a lot of bass; it's low but not exactly overpowering. The Spendor's are more robust in the bass, with a more bouncy sound, whereas the AudioSmiles have a more technically correct sound, with stunning, to-die-for, treble and tremendously atmospheric soundstaging. Both loudspeakers are superb; just choose the one that suits your taste. DP

**SIGNATURE UPGRADE**

I want to upgrade my CD player which just happens to be a Marantz CD63-KI Signature. What would you say was a good upgrade from this? Am I better off getting new or upgrading the CD63 itself? My system comprises a NAD 3020 (hoping to upgrade to a MIF X-150), CD63 KI, Goldberg G99 with RB300 arm sat in a 1” thick slate bed on 2” oak, mounted to a wall on oak Hangman brackets, Musical Fidelity XLP5V3, Leak stereofonic tuner and Jamo Classic 6 loudspeakers (hoping to upgrade to Monitor Audio RS8’s).

Doug.

Hi Doug - the '63 KI Sig is a lovely player in its way, but there's better to be had if you've got the cash. If I were you, I'd buy a Stelio D1A100 Signature DAC, using the Marantz as a transport until it dies, whereupon you should buy a Cyrus CD Xe SE transport. This done you'll have a very potent silver disc spinning tool with far more scale, clarity and detail than your current Marantz. DP

**BOXING CLEVER?**

Why are many loudspeakers so expensive? A few years ago I bought a pair of metal cased floorstanders from a major hi-fi chain. These were on offer at £1,300 - a saving of £900. They were the speakers used in a certain hi-fi comic's "reference system". You've probably guessed by now what they were. They were listed at £2,200 in the 1995 editions. Their smaller standmount brothers with identical drive units were listed at £900. A difference of £1,300 for an extra two feet of veneered MDF. You could get four three-piece suites for that cost difference!

I have to admit that when I first got the speakers home, being me, I had to have a peak inside. I remember being quite disappointed at seeing how little I had in fact got for my money, and I felt a bit foolish for buying them. They did however sound good.

Fast forward to the present, and you can still pay £2,000 or so for a pair of twin drive unit floorstanders. For me this shows what an outrageous rip-off my cases for more expensively finished. And certainly in the case of the conventional piano, the internals are far more complex and extensive than half a dozen crossover components. I know there are R&D costs in loudspeaker development, but this also applies to electronic pianos.

Go and look in a decent musical instrument shop and you will see exactly what I'm talking about. I believe that vast profits are still being made on pianos. I would be interested in your opinion, and any speaker manufacturers - should they like to stick their head above the parapet!

Bill Parish

Peter Comeau says:

'Yes, I'll stick my head above the parapet on behalf of Wharfedale, Mission, QUAD and Castle! But I'm going to approach the subject from the other direction.

When I first started designing speakers in the nineteen eighties, one of my first, and possibly best known designs, the Heybrook HB1, sold for £120. Today, at Wharfedale, we are still designing speakers that sell for that same amount. Of course we can only do this because a) IAG make everything in one factory and b) we manufacture, like a lot of other well known brands, in China where costs are low.

However, if I cost high quality speaker parts and cabinets in the UK then a similar mass-produced speaker to the HB1 would, today, sell for around £900.

But what happens when we start to use more advanced technology in both cabinet and drive units and crossover? The Mission Pilastro, which uses very sophisticated components and methods of manufacture and was made in the UK with European sourced parts, was launched seven years ago to sell for £2,000. I was asked, at the time, why it was that this speaker cost as much as a Mercedes A Class. I countered by pointing out that a Martin D-50 Acoustic guitar cost twice as much (£50,000!)

In any manufacturing process you have to weigh up the cost of R&D, technology and materials and workmanship and offset that against the quantities sold. The pianos your reader saw are produced in millions per year, so the cost of manufacture is low. The same is true of, say, the Wharfedale Diamond 10.1 which is a far more sophisticated speaker than the Heybrook HB1 but sells for below £200. Compare that to the sales of a 'speaker of the class of Pilastro, around 80 per year, and the fact that it takes 15 days to make each speaker, and you'll get an idea of why the selling price is so high.

So there is no easy answer to the question of why any product is priced the way it is, whether you are looking

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Tom O'Gorman
Mission Pilastro was very expensive to build.

merits and, if its performance and build quality is such that it reaches a high level of desirability, then you can expect that it will cost a lot too.

PETER COMEAU
DIRECTOR OF ACOUSTIC DESIGN,
IAG GROUP LTD.

Bill, never buy an electrostatic loudspeaker. You can see right through them for heaven's sake! And they cost thousands of pounds. NK

AND DAT?

Having read your piece on the Sony NWZ-X1060, I am compelled to e-mail you my comments. I enjoyed this particular article whilst still remiscing about a previous month's piece on the Sony Tape Walkmans. The predecessors are very good comparisons and I have listened to tape players and CD players from Sony. However, one format is missing and that is the DAT portable.

All generations are great sounding, if not the best format. I have recorded from a decent LP source via Sony's SBM adaptor (ADC) into both D8 & M1 (@48kHz) with great results. I feel that DAT has been overlooked in your article and would like to hear your comments.

David Hung

Hi David - well, your comments are duly noted. Funnily enough, Tim Jarman (our Walkman expert and author of the NWZ-X1060) is penning a piece about DAT at this very moment. Unlike DCC, and even MD, DAT really did have a profound effect on the market, although it was the 'pro' market more than the domestic one. For much of the nineties, the 16bit, 48kHz digital tape was the mastering standard for many smaller recording studios. It's capable of very good sound; it's surprising how that extra 4kHz added to the sampling frequency improves the sound of digital PCM. DP

SAMPLE THEORY

Recently I took delivery of a new record deck, a Project Debut III, closely followed the same day by two new albums, 'Back to Black' by Amy Winehouse, and Rickie Lee Jones's eponymous LP from I think 1979.

In the September issue, Keith Gooden asks, how can a music loving teenager with shallow pockets even dream of a Rega deck at £500? Well, if someone wants something badly enough they'll usually find a way of paying for it. But I can recommend the Project, which is a more affordable £200 - though a phono stage needs to be added or present in the amp. The coloured bases were £35 more, and I wish I'd bought red now instead of the basic black. I know in hi-fi terms it's regarded as being entry level, but that's why it may appeal to Keith Gooden's music loving teenager.

As for the sound, wow! I like it a lot. It made me want to listen to several albums, having satisfied myself I'd set it up properly. Yes, once it's set up. The instructions leave a lot to be desired and the anti-skate instructions are contradictory too. I managed to complete the task by finding a helpful forum on the net. (It's obvious I'm not the only one who can't make head or tail of them), plus compare notes with the set up instructions from a previous deck. Even then I realised the importance of having the tonearm lever's vertical adjustment just right.

I think you have an archive article on the net about setting up turntables, but that's a general one. How about running an article on setting up the Project Debut III, with clear instructions and photographs? I think this would be helpful to beginners, and as a reference guide in the future. In fact, why not a series of articles for beginners covering several 'entry level' decks?

As for those new albums, I didn't get on with Amy at first. Then I had a second listen but this time I never read the words. Fared a bit better. At a second listen but this time I never read the words. Fared a bit better. At a second listen but this time I never read the words. Fared a bit better. At a second listen but this time I never read the words.

The Rickie Lee Jones one I like. The LP cover shows her smoking a cigarette, yet her voice is far from Marianne Faithful. Lyrics are the length of Knopfler/Dylan's, blank verse mainly and need a bit of listening. It varies from being quite jazzy to end-of-the-evening cocktail bar feeling. I can picture the singer sat reflective at the piano. Quite enjoyable.

Early evening, as I sat reading the magazine, supping tea, and listening to Classic FM (on FM) I looked up to see five out of five lights up for the signal strength. A first! I usually manage three, or four maybe after a good warm up. Maybe the heavy rain cleared the air or something. Only annoying thing about the Classics is Six spot is the ubiquitous advert telling me my FM radio is out of date, and I should buy a DAB radio. I've signed up to Hi-Fi World's Switch Off DAB campaign, and I didn't need much persuading. The strange thing about the advert is it's trying to sell the concept. It's not as though it's a manufacturer telling me why their radio is better than somebody else's. No, it's just Buy DAB. It smacks of desperation.

I've been reading about DAB and internet streaming rates. If my school mathematics is right, as the sampling rate goes higher, the more the signal becomes closer to analogue. Area under a curve and all that. So Digital is turning into Analogue. Discuss.

It seems sampling rate is proportionally related to frequency range. Is that right? And if I get a stereo (2-channel) signal on DAB at 160kps does it have the same frequency response as a mono (1-channel) signal at 80kps?

Please enlighten me.

Melvyn Dover.

It is DAB that is out of date. It is an old technology, a non-extensible system, rooted back in the early 1980s, believe it or not. It uses a military transmission technology resistant to jamming (Cold War and all that), with a simple music modulation system plonked on top to keep us punters happy. Adjacent transmitters do not interfere with each other (providing they are time delayed), so you don't have to retune when driving along a motorway, a small benefit. However, being non-extensible means it could not be updated. This is fine whilst you believe, as the gullible in the EBU did in the 1980s, that digital always was 'perfect' and would not therefore need improving, but the world has moved on since then whilst DAB has not, and cannot. It is locked into technological antiquity and the world is sailing blithely past as the EBU issues calls to 'perform a comprehensive set of objective and subjective evaluations of the new DAB audio coding system AAC (see EBU Technical section, http://tech.ebu.ch/groups/ddaha). In other words, in 2008 they are trying to assess its sound quality!

With this laughable situation in the background they are still trying to tell us that DAB is somehow better and we should change over to it. Amazing chutzpah!

VHF/FM has a 'bit rate' equivalent...
to 1Mbps, five times more than the 192kbps of BBC Radio 3 on DAB. So Radio 3 on VHF carries five times more musical information than Radio 3 on DAB, we can say. You are right to say that as sampling rate goes up the signal better approaches an approximation of the original analogue signal. And as sampling rate goes up so does bandwidth. But you have forgotten bit depth. The data rate of CD is simply calculated as bit depth x sample rate x number of channels. For CD this is 16 x 44100 x 2 = 1.4Mbps. My VHF figure was derived from 16 x 32000 x 2 and some may argue that it does not have a 16 bit depth (96dB dynamic range) but a 14 bit depth at most (84dB dynamic range) but as VHF is far more linear than a 16bit digital system it has more usable dynamic range - and that is what matters (and why arguments about sound quality based on the sort of figures I am using are specious!).

Anyway, all this apart, internet radio looks to be the future as it already offers far greater variety than DAB and better quality too, so my practical suggestion is get an internet radio and avoid the poor audio quality and reception problems of DAB.

**WIRELESS WORLD**

Found this on my late night trawl through the BBC Website. It's a brilliant idea and will probably sell well but, given the problems I have experienced with my WAD 5881 amp and Quad 57's, from DECT telephones and wi-fi Routers, I am wondering what the probability is of this technology also interfering with peoples enjoyment of their expensive music systems.

I bought a Leak Troughline 2 (with DNA Stereo Decoder) from Classicque Sounds last year and had to send it back, as the interference was horrendous. I have had to stop using wi-fi through this beam seems a little worrying, but we are told electromagnetic waves at these power levels are harmless to biological matter. The transmitter coil must set up a field, but it will be unmodulated i.e. carry no signal. I can't help feeling however, that even if this is at a low frequency it will still have the potential to induce a signal into a coil of wire, perhaps a coiled up loudspeaker cable, whereupon your woofer might light up - then blow up! And what about the house wiring, where a loop may be accidentally tuned to the right frequency? Transmit and receive signalling before current flows would overcome this I imagine. I would still worry about a nearby Leak Troughline tuner though. It is a slightly worrying idea, isn’t it?

**WOULD YOU ADAM AND EVE IT?**

I have read Hi-Fi World since 1997 and now I would like some advice. I have a Goldring Lenco GL75 record deck (with cheap Audio Technica cartridge) and would like to tweak it and carry out some upgrades. I prefer the sound of the Goldring compared to my Pro-ject RPM4, it seems to have a more solid, deeper sound. I would like to know if it is possible to change the tonearm and if so what are the options, and what other upgrades could I try? I could sell the Pro-ject and have some money available to improve the Goldring. I know Adam could offer advice as he is a record deck expert.

David.

David, you've found yourself a good deck there, as a glance at the Lenco Heaven online forum will show you - there are plenty of people out there modifying these decks and obtaining some pretty impressive results from them. Before you dig your screwdrivers out though, it's worth pointing out that the standard arm can actually be made to work quite well if you treat it to a new set of 'V-block' bearings and change the headshell for the lighter, drilled type from the GL78 deck. However, it is still a high mass design and so your range of optimally matched cartridges will tend to be limited.

Consequently, an arm upgrade is a fine idea but do beware that some drilling is highly likely to be involved as the standard L75 arm has a 227mm effective length, and a 210mm spindle to pivot mounting distance, which does not marry up with most of the obvious modern options like Regas (237mm/222mm) and Pro-Jects (230mm/212mm). However, as luck would have it, the Jelco SA-2505T has an effective length of 228mm and a mounting distance of 210mm, so in theory it should drop right in. You will have to drill three holes for its mounting collar but as this is a 30mm diameter device going into the L75's 40mm holes, there is also some leeway here for alignment. The Jelco is around £350 so is not cheap but it would be my choice and the GL75 motor unit will certainly do it justice. However if this is a bit steep for you and you don't mind a bit of
metalwork, then I'd go for a Rega RB301 - it's worth the extra over the RB251 in my opinion. AS

**DAB - THE COMEBACK**

Thanks for printing my letters, and the resulting correspondence, regarding DAB radio and the proposed switch off of FM. Following my letter to the BBC Trust, published in last month's magazine, I wrote to the Government's Department of Culture, Media and Sport. Today I received the attached reply (below). Just what sort of people work for the government these days? Are they all sucker uppers, or what, or do they come from the planet Venus? 

Cliff Millward

"Dear Mr Millwood [sic],

Thank you for your email of 12 August on Digital Radio. I have been asked to reply.

The final Digital Britain White Paper sets out the Government's vision for a radio industry in a digital world and the mechanisms needed to deliver it. It is because we recognise that radio is so enormously popular in the UK - more than 90% of the population consume in excess of 1 billion listening hours a week - that we believe radio must be able to effectively compete in a digital world.

Evidence suggests that the digitisation of radio has already begun. Around 20% of all radio listening is currently via a digital platform and this is expected to exceed 50% within the next five years. We believe the challenge for government and broadcasters is to ensure that any transition to digital is delivered in a coordinated way which best reflects the needs and expectations of listeners.

With this in mind the Digital Britain White Paper set out our intention to deliver a Digital Radio Upgrade programme by the end of 2015, when we would expect all services carried on the national and local DAB multiplexes to cease broadcasting on analogue. The Digital Radio Upgrade will be implemented on a single date, which will be announced at least two years in advance. At that time, ultra-local radio, consisting of small local commercial stations and community stations, will occupy the vacated FM spectrum.

The Digital Radio Upgrade programme will require new investment in building out and improving DAB coverage and reception. To this end we will be working with the BBC and commercial operators to ensure coverage of DAB is comparable to FM by the end of 2014. We have also stated our intention to work with the car manufacturers, with the aim that vehicles sold with a radio are digitally enabled by 2013.

DAB receivers are already portable, easy to use and affordable with the cheapest sets available for about £25. The White Paper welcomes manufacturers' commitment for sub-£20 sets in the next two years and urges manufacturers to look closely at the market opportunities for a 'set-top box' solution for analogue radio which would allow existing analogue radio sets to receive DAB.

I recognise that there are a range of opinions about the quality of DAB. These often depend on any one given area. I am convinced that with the investment in building out and improving DAB coverage and reception, that the average consumer will benefit from the Digital radio upgrade programme.

The White Paper was clear in setting out the Government's intentions for a broadcast specific platform to allow the UK radio industry to compete against increasing numbers of internet radio stations. The report backed DAB because it is already establishing itself in the UK, and there is an urgent need to provide direction so that the sector can have the confidence to make the necessary decisions to make digital radio a success. I should add that until now, the radio industry has backed DAB over other technologies.

We now have in the UK over 9 million DAB sets sold, and those listeners who have purchased a DAB receiver have the right to expect that their sets will continue to work in the future. The Government therefore believes that DAB is the most appropriate platform for delivering digital radio at this time. The benefits of adopting a newer variant are outweighed by the uncertainty any change would create in the already fragile radio market. It may be that DAB+, DRM, or DRM+ provide future options, or can complement DAB.

Yours Sincerely,

**JAMES VENUS**

**MEDIA DESK OFFICER**

**DEPARTMENT FOR CULTURE, MEDIA AND SPORT**

Hi Cliff - firstly I'd like to thank you, on behalf of many readers I'm sure, for your diligent letter writing campaign. What a shame then that it results in replies like this. I think it speaks for itself, but suffice to say that there's very little of substance in it apart from them spelling your name incorrectly! I do like the term "Digital Radio upgrade programme"; it's not surprising considering that (as I write this) Peter Mandelson has just said on the Radio 4 'Today' programme that Gordon Brown never pretended that the government wouldn't be cutting public expenditure after the next election, despite the Prime Minister's repeated insistence to the contrary at Prime Minister's Questions, earlier this year, plain as the nose on your face in Hansard! Oh well, I suppose Sir Humphrey would approve....

So what we have here is a government that says white is black, black is white, and Digital Radio is an "upgrade", despite the fact that it sounds worse than FM and you can't receive it in half the country, seemingly. They are completely in denial, or simply in blissful ignorance of the effect (and cost) of yet another one of their misconceived initiatives. Incidentally, my petition to 'Switch off DAB' was taken off the Number 10 website after one month, despite me requesting it to last six months. I suppose you've got to laugh or else you'll cry! DP

**CABLE TALK**

Because it is always fun to share one's experiences in hi-fi, especially with the experienced staff of Hi-Fi World and most of their readers, I cannot refrain from sending you another letter. I just acquired a new hi-fi set for my new, smallish (3.2 x 3.2 square metre), listening room. As my wife wanted to keep the existing hi-fi set in the living room I was allowed to buy a totally new set. Because she knows I take my hobbies seriously and also because she loves me, she did not impose any limits on what I was about to spend (no she is not for sale, guys)!

So I went off with a budget of about 10,000 Euros without cables. Listening at three different hi-fi shops taught me that I was after a transparent, natural, detailed sound, with a wide soundstage. I started with Marantz Premium I I products and Bowers & Wilkins 804 or 803 loudspeakers, but I finally fell in love (earwise, that is) with the natural sound of a Tim de Paravicini design which is the EAR Yoshiro BLS integrated. I partnered this beauty with a set of high end modified Phonar Veritas P5 loudspeakers supplemented with a decent sub of the same brand. This sub is used only to fill up the very low frequencies in my small room and it does so properly.

My CD spinner is the U.S. Music Hall CD25.2 that feeds into a DAC of the same brand. This DAC features a tube output and a Burr Brown Ti
for about fifty hours before I started to
sounds surprisingly analogue.
PCM I 796 24bit, I 92kHz converter. It
alarm clocks in my bedroom.
hi-fi chain is the only equipment on the
Rhodium wall plug. Very fortunately my
the standard wall plug by a Furutech
upgrade the cable work. I commenced
me that I had to avoid
Experimenting showed
move actually degraded the sound.
was amazed to experience that this
with lsotek shielded power cables. I
renowned Isotek Sigma power filter
in my power supply.
activity ( even passive)
absolutely all filtering
mentioned I Amp at 220V but in reality
fuse value because the
sound.A note of caution
clarifying effect on my
which had a further
Furutech Rhodium

Next, I replaced all fuses with Padis
Furutech Rhodium
which had a further
silver plated Phonosophie,
results with the silver
I obtained the best
in my power supply.

So, I get a bit angry with all these
technicians, who denominate themselves
experts, who keep on telling us that
the importance of cable quality is
overrated, that burning in is nonsense
and that it all comes down to 'psycho-
audacious'. They claim that 'one simply
cannot measure these so called 'audible
differences'. For crying out loud, I am
a solid state physicist myself and as a
scientist I know very well how to conduct
an experiment, how to compare setups
and finally, how to be careful about
not drawing conclusions from what
has not been measured in the test.
The fact is that no measuring device
actually measures what the ear-brain
combination hears'. William A Yost
of the Parmly Hearing Institute said

All this shows the enormous
influence of choosing the right cables.
Each step I took in the cable upgrade of
my set was well audible and worth every
dime ( or eurocent) spent. I noticed that
it matters terribly what cable you use,
that it also matters greatly what digital
interlink one uses (an often ridiculed
argument). I also found out by accident
how it is that some cables have a
preferred direction when I connected my
NO Frey interlinks the other way around.
I have no explanation why this is so,
it but simply is. I also obtained a pretty
good idea about typical burn in times.
Loudspeakers: 50hrs, tube amplifier and

Keep up the good work at Hi-Fi
World. I will keep subscribing for my
monthly dose of high end next year
too. Somehow I feel that you guys will
finally convince me to go fully analog
and re-acquire a good old turntable. Any
suggestions what I should dream of?
Rudy Debleck
Oppiabekk (Belgium)

You put your finger on the nub of
the problem when you say "the
fact is that no measuring device
actually measures what the ear-brain
combination hears". William A Yost
of the Parmly Hearing Institute said

much the same and really wasn't
very impressed with the typical
electrical engineering measurements
commonly used (including by us)
to assess hi-fi products. The lack
of understanding here is huge, but it
isn't easy to address without much
time and effort in the sort of psycho-
audacious experiments outlined in
Fundamentals of Hearing, and even
those would not be sufficient in
themselves. Add in the influence of
preconditioning (experience, or lack
thereof) and you start to get into
impenetrable difficulties. Cables are
a sub-set of this general problem,
seeming to have their own intrinsic
sound, as well as an interaction with
the products they connect. It all
makes for a very interesting situation,
one with so many variables that it is
effectively an art, not a science.

You could dream of many
turntables, an affliction Adam Smith
suffers. The magnetically suspended
Clearaudio Innovation we review this
month is quite an amazing machine
I thought, or you might want to pop
into an SME stockist and run your
fingers over a piece of engineered
loveliness. I would suggest you fit it
with one of Ortofon's better MC
cartridges and run it into a valve

preamp tubes 50hrs, power cables 1hr,
interlinks 1hr, loudspeaker cables 10 hrs.
...
A World Design loudspeaker designed by Peter Comeau. DIY is a great way to get the sound you want.

Phono stage like the Emille Labs KPE-2AS. Just ask a dealer to demo LP to you, using a good turntable, and bear in mind also that modern audiophile LPs on quality vinyl can sound significantly better than normal commercial releases from the past. NK

DOING IT YOURSELF

I have been an avid reader of your magazine for many years now and Hi-Fi World always did take some effort in highlighting DIY audio. Of course there are the World Audio Design kits and Peter Comeau has written many articles regarding building and designing loudspeakers lately. However, I still feel the DIY audio subject has never really entered the spotlight. Let’s take for instance DIY loudspeakers as they are relatively easy to construct.

Commercial speaker designs have always been thoroughly reviewed in your magazine. Designs and make have been compared to each other, but there have never been, as far as I know, reviews of DIY speakers or a comparison of a DIY speaker to a similarly priced commercial design. Loudspeaker DIY may be limited to the enthusiast who can handle a soldering iron and has some woodworking skills, but there are many people out there enjoying this line of the hobby and it is therefore a very real part of the hi-fi world.

Many serious designs are readily available from driver manufacturers or speaker shops and many more serious enthusiast designs are available on the web. In Germany specific magazines exist on this subject. Many designs could be called proven or are innovative and in my view deserve to be considered from independent reviewers such as yourselves.

The choice of drivers and construction principles seems much larger for a given price segment than is the case for commercial designs. If it is horns, transmission lines, open baffles or bass reflexes; domes, cones or ribbons; aluminium, titanium, Kevlar, coated paper or carbon fibre designs are available. Also the crossover filters show high quality items even for low cost designs.

I recently compared my 1406€ commercial Dynaudio 122s to a 300€ DIY kit I’ve recently built (design from a German magazine) on my main system which is Linn Axis/Akito/Goldring 2500, Pure Sound P10, Arcam A90, Arcam CD192. I dare say the 300€ kit was playing in the same league as the Dynaudios. Imagine what would happen if one spent 1,400€ on a DIY kit! Not to mention the knowledge you gain and the fun of creating something.

Bart (Belgium)

Hi Bart - that’s fair enough, but do remember this. We are a mainstream hi-fi magazine with fingers in many pies, so to speak. We try to devote a very decent amount of coverage to DIY, and many of the staff and contributors are enthusiastic DIYers, or at least inveterate tinkerers such as myself. However, a sizeable majority of our readers have neither the time or the inclination to build their own kit, they just want to buy something to get them closer to their beloved music. That’s why we don’t major on DIY in the magazine, much as we love it!

When considering DIY loudspeakers versus commercial designs, you’re not comparing like with like. I could (in my dreams at least), make a car able to deliver similar standing quarter mile times to a Ferrari Enzo at one twentieth of the price (Cobra chassis, supercharged Jaguar V12 engine), but it’s not really a fair comparison, is it? DIY speakers, built well from top quality drivers, can be superb and far better than equivalently priced commercial designs, but it’s certainly not fair to make direct comparisons which talk in terms of value for money, as you’re not comparing apples with apples.

Manufacturers wouldn’t be keen to supply us with review samples if they thought their latest pride and joy was going to be compared to a hot rodded kitchen table special with drive units five times as expensive as their own. This is turn would mean that all our readers would be deprived of the chance to read about some really great commercial designs...

So you do need a sense of balance; DIY is brilliant fun, and an immensely good thing for those wanting maximum sound per pound and able to build things properly. But it’s not a universal panacea, and shouldn’t be set up as a sort of rival to commercial designs. Each unto their own, say it DP

DIY is the ultimate solution and as you may know we have been strong on it in the past. But as David says, it is a highly specific idiom that conflicts with much else. I don’t mean just commercially, but physically a lot of woodworking and metalworking as well as soldering, is necessary. Also, looking at many DIY designs I am not sure they are derived from any firm engineering appreciation; some are very left field (amateur!). All of Hi-Fi World’s own designs have come from top designers like Andy Grove (valve amps) and Peter Comeau (loudspeakers). Some of the DIY kits we have seen have been “eccentric” to say the least and may be more entertaining to build and tweak than truly accomplished in what they achieve sonically. NK

PHASE FREE?

Absolute phase is an interesting concept. Many audiophiles will be familiar with aligning phase component by component against a common reference point, for example the main amplifiers; due to the propensity for some components to invert phase at the outputs. Finally the amplifier and speaker interface may be similarly checked for absolute phase and, with everything properly aligned, an end to end phase coherent chain will result in the most solid and consistent imaging available from the system in question.

Those with sensitive ears will readily notice phase anomalies in reproduced sound and it is interesting to note how often this is the case, even in public demonstrations. We are not speaking here of the blatant out of phase effect which results when the polarity of a single speaker is reversed, but the more subtle effects of a lack of absolute phase coherence. I was reminded of this recently when experimenting with mains filters/conditioners and noticed that there was a readily discernible difference in phase and associated imaging when a particular combination was tried (irrespective of the effect upon the noise floor), the sound reducing in perceived depth while artificially enhancing width.

This was quite a curious observation, demonstrating how even the supply of mains power can affect the perceived sound stage and even the overall timbre of instruments within that sound stage. It seems to me that
we used to focus more upon phase coherence and associated distortions, both within individual components and within systems as a whole than we do today. Yet surely, if we are seeking the last nth degree of realistic sound reproduction, this is an important factor? Of course, once the sound has left the speaker cone, there are a plethora of boundary interactions and potential phase muddling, but that is another story...

Douglas Marc

Linn Dependent’s Say

I have read with interest your Linn article in the October Hi-Fi World and, having heard the product at my dealer, confirm everything which you say, and confirm that it all applies to classical music, particular to older recordings. But, confirm that it all applies to classical music, particular to older recordings. But, you listened as fitted with Ekos tone arms. The Ekos SE sounds far better. (1) You describe the turntables which you listened as fitted with Ekos tone arms. The Ekos SE sounds far better. [1]

You fail to mention the Urika modification, which itself produces a notable improvement in sound quality (and costs £2,200). (2) You correctly state that the Radikal is produced in two versions, standard (wide) casing, at £2,500 and machined aluminium at £4,500, but fail to state which version you listened to.

Bearing in mind Linn’s statements there that there is absolutely no difference in sound quality between the two, you probably felt it unnecessary to specify. But I have, and can say that there is an obvious difference, perhaps more noticeable with classical music. The standard case version sounds marvellous, the solid case version notably better. Readers interested in achieving the absolute maximum improvement may rest assured that the solid case version is worthy of every penny of the difference in price: the solid casing is much more than just a pretty case!

Richard Smith

Hi Richard, actually the tonearms were Ekos SEs; apologies for the confusion. I deliberately “failed to mention” the Urika, as that’s another kettle of fish; my intention was to hear the traditional AC Sondek against the DC motor version. I listened to the machined alloy version primarily; to my ears, I didn’t think there was any significant difference between the two sonically, but I’m sure LP12 owning readers will take on board your comments with interest. DP

Cottoning On

I have what I think is a top tip for the eternal problem of missing the opening bars of most vinyl albums when rushing back to your seat before the needle hits the groove! Get some of that stretchy stuff, usually holding cover CDs on magazines and a suitable length of cotton. Wrap one end of the cotton around the arm lift and squeeze some of the sticky stuff to seal it. Don’t use glue for obvious reasons. Trail the rest to your arm seat, making sure you are sat more or less opposite your deck with no obstructions. Cue up the arm properly and go sit down. Gently tug the cotton until said arm falls into the lead groove and... bliss... no more missed opening bars! Sounds crazy, but it works and doesn’t cost ‘owt. Of course, don’t leave the cotton trailing afterwards or disaster will surely happen!

Moving on, after reading about surround sound for some time and Noel’s various reviews of surround receivers for music, I think I have a truly budget path to the first steps of surround nirvana, if you have an HD TV and a PS3 lurking under it. Get a refurbished Onkyo TX-SR605 from eBay (£275 inc P&P; it comes with a year’s warranty from the various sellers). Get a second-hand Pioneer DV-565A multi format player (well reviewed by yourselves at the time) for approximately £50. Get two pairs of those cheap Eltax or Acoustic Solutions floorstander speakers from wherever, at £25 per pair. Get 20 metres of speaker wire and two pairs of cheap phono leads approx £20. Go to www. thatcable.com and get three of their £5 HDMI leads. Then go to www. DTSEntertainment.com and order some cheap DVD-A and SACDs, approx £35 for 3 or 4 or use that copy of ‘Dark Side OfThe Moon’ everyone owns with SACD on it. Find a couple of Blu Ray concert discs to your taste approx £20 each...

Next, after the initial despair of having to nail it all together, make a cuppa and a sarnee and get to work. In the Onkyo set-up, ghost the centre and subwoofer channels (thanks to Noel for his advice on this one), cable up the Pioneer analogue outputs, plug in the HDMIIs for routing your PS3. Don’t forget to output LPCM, not Bitstream from the PS3 though. Cut plenty, not all, of speaker wire for the surround. Slip a disc, moving the Onky into

to afford kit that will tell me that, so my ignorance is truly bliss.

I hope this is useful advice to those who want to dip a toe into surround sound and haven’t so far. Those who have will knock more holes in this set-up than Swiss cheese, but it is truly budget and a very effective start, I think. Also, it sounds contradictory to what I said in my previous letter re: CD and vinyl, but hi-res digital sound is way better than standard CD, to the point it is quite good and, more importantly, enjoyable, even on such cheap kit and I love putting on my records for their unique sound quality.

Paul Clewlow

I think you take Heath Robinson too seriously Paul, but I am suitably amused. Live concerts on Blu-ray have their own attraction and surround-sound pops up most movies too. Your budget starter system is ingenious. As for 24/192, give it time. It is worth hearing all the same.

Thank you Paul, I do hope that you’re happy and well, but I am a little worried that you’re not continuing with ‘the treatment’. Best of luck old boy! DP
A side from Beyer DT-48 headphones and the Ortofon SPU cartridge, I can think of no other component that has enjoyed such a remarkable time in production as the Klipschorn. Still in production at the Klipsch factory in Hope, Arkansas, some sixty odd years after the original models rolled off the production line, it does in fact hold the record for the longest continuous production run of any loudspeaker.

The famous designer who gave the speaker its name was of course one Paul Wilbur Klipsch. Born in Elkhart, Indiana on the 9th of March 1904, he was a prolific inventor and engineer with over twenty patents to his name. Paul lived until the age of 98, and was still very much active in loudspeaker design, even at this time.

Introduced after the end of World War II (Klipsch actually filed his patent on the 3rd of October 1942, a design for a "loudspeaker of small dimensions") the Klipschorn was the first truly serious folded horn loudspeaker. The overall dimensions are 130 centimetres tall, by 80cm wide by 76cm deep in the corner; small it is not!

A three way, all horn speaker design, the upper spectrum is handled by the K55 4" midrange and the K77 1" treble horns and are based around a highly efficient pressure (compression) unit design, current productions versions using a fibreglass based horn material and a 'phenolic' (plasticised) diaphragm material. These are crossed over at 450Hz and 4500Hz respectively. The speakers featured in the review are an early nineteen eighties set, and feature metal horns, but retain the phenolic diaphragms.

The clever bit from Paul Klipsch was the mathematics he put into the folded exponential bass horn. A 15" bass unit is located at the heart of the cabinet. This fires forward into the horn throat, and through a series of very carefully worked out ducts, no less than six foot long. Sound disperses from the rear of the cabinet and into the corner of the listening room. It is, and remains the most efficient low frequency bass system ever made, at 105dB for one single Watt from a single bass unit. And that is a real rating, as one single Watt of power into these speakers is seriously loud! Under normal conditions, the system is capable of displacing more than 121dB from a good 50 Watt amplifier, which in anyone's British front room would take your head clean off!

One of the great difficulties with the K-horn is that it must go in a corner. Your room is part of the design, and part of the acoustics. The bass horn simply will not work away from this locale, and even if you do lose the lower bass notes), Combine this with the midrange and treble horns, which while they do a good job at dispersing the sound, do sound best square-on firing directly at you, and you can see that unless your room lends itself to this design and pattern, sadly, it will not perform as well as it could.

A little later than this, the stunning La Scala was introduced in 1963. You could call this speaker 'Klipschorn Lite' as it shares the same midrange and treble horn design, crossover and the same 15" woofers, but a compromised folded bass horn, albeit an incredibly simple, yet incredibly effective exponential system.

La Scala has the advantage of physically having a square footprint, and, on paper at least, not requiring a corner for proper operation, (although there can always be bass gains in locating any bass horn speaker in a corner). It has, in the main, been sold as a 'pro' speaker, and supplied unveneered.

SOUND QUALITY
Both these illustrious loudspeakers need a big room. Frankly, the bigger the better, by UK standards. Like any pressure unit based system, I feel that by current standards I feel the mid and treble horn are positioned a bit too high; or perhaps it is just my sofa is a tad too low?

If anything, in my room the speakers could do with being a tad further apart; but clearly in late 1950s America the problem was the other way, with the corners too far apart for good stereo! Of course when Paul Klipsch designed the speaker, stereo simply was not about or in his mind. His 1958 solution was to introduce a centre channel concept to fill in the missing area, using the little Heresey speaker system.

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good space is needed between the speaker system and the listener, and with three separate horns firing at you, the sound does need to converge.

Klipschorns can be summed up very easily in one word: dynamic. Amplifier wise, with such massive sensitivity you really do have to be careful what you put these guys with. A lot of valve stuff can be far too noisy; and it's a crime to use transistors with them! One good thing is the speakers are an incredibly easy resistive load.

Although I have used these speakers on and off for about the past eight years (La Scala another eight years before that) this was the first time they had been seriously set up in the main front room with the attention and detail they deserve. Rest of the system was Audiocom clocked Marantz CD80 as a transport/DA12 DAC and Sowter based transformer pre amp. Normally a passive preamp would not have enough output to drive the Quad II monoblocks to sensible levels (Quad IIs need 2V, ideally 5V), but on this occasion... Jacques Loussier's original 'Plays Bach' on Decca was absolutely splendid. Not what you may think of a dynamic recording, a late 1950s stereo, but talk about having a real world sound on this system! The simple bass-drums-piano interplay was incredible. Jumping forward to the nineteen sixties and Dinah Washington's, 'Mad About the Boy', and the way these horn speakers projected vocals was amazing.

With the dynamics available from Ms Washington, the power of her voice, the way the air just moved was real motive force. My Jimmy Smith Hammond torture tracks again had vitality and energy; every last key pop, every last edge. What was so impressive is the way they handle any material; they are so clean from light classical, opera, rock, pop, jazz and anything with serious bass. Talk about a drum'n'bass fan's dream!

A few vinyl twelve inchers of some fairly left-of-centre dance stuff didn't half shake the chandelier. Trouble is, it was next door's chandelier shaking! With such clean dynamic range, you simply cannot help but crank it up. It just does not seem to be that loud!

However, these speakers do not take prisoners; feed them a rough recording and they will not just sound rough, they will attempt to stuff it down your ears as punishment. A selection of fairly mediocre CDs was actually quite hard to listen to! These speakers demand the best in ancillaries and source material. Having also run La Scala, the differences between the two are more demonstrable than you may think. With the shorter, simpler bass horn, the La Scala can seem nimbler on its feet at times, almost sweeter in the upper bass. This seems to have a knock-on effect into the midrange, and combine this with the speaker being a little easier to position, it can possibly give a better performance. It cannot hit the bass notes like the big K-horn can, however; the weight and authority generated by this speaker is awesome. But still it comes as no surprise to hear of people preferring the smaller speaker...

The only tiny thing that lets both speakers down for me is a very slight lack of emotional spark; that kind of low level intimate details that I get from the small full range Fostex recording and they simply cannot help but naught. But when looking second-hand for these things, do bear this in mind.

There are not many used Klipschorns knocking about. The "Klipschorns can be summed up very easily in one word. Dynamic."

The other vintage models in the Klipsch Heritage line up are the little Heresey, so named as it was the first speaker not to use a folded bass horn, and the Cornwall. Both are conventional infinite baffle designed cabinets with horn tweeters and horn mid unit on the Cornwall. There was a Belle Klipsch, a kind of slightly smaller slightly squarer Klipschorn, but I have never seen or heard a set.

The set used for review are finished in a rather tasty white paint finish. Common to a lot of Klipsch speakers sold over in Europe, these speakers started life unveeneered. Despite my best efforts, plans to get the poor things veneered have come to naught. But when looking second-hand for these things, do bear this in mind.

CONCLUSION
If you have the corner space and the right room, very few speakers out there can match what the Klipschorns can do. If you don't have a corner, have a go with the La Scala. They both move air in such a clean, palatable way it is hard not to be impressed. Micro power amps are all that is needed, then the loudspeaker liberates the music, being one of the very few designs that can physically punch you in the chest. It has been a great experience using the big Klipschorns again. For the moment, they can stay in the corners!
Rotel's new RC-1580/RB-1582 pre-power amplifier combination promises serious amounts of Watts allied to a wide range of facilities. Noel Keywood listens in...

Amplifier sound quality is one of hi-fi's more contentious subjects, only beaten into second place by cable quality. And it raises its head here because as interesting and capable as the Rotel RC-1580 preamplifier and RB-1582 power amplifier were under measurement, I was less than impressed by sound quality. In fact, there seemed to be little connection between the two, a slightly distressing experience for me, one I encountered long ago with the world's first 'perfect' amplifier, the Hitachi HMA-7500. But more of this a little later; let me get the Rotels into context.

Together these units cost around £2,000 and for that you get a stereo power amplifier able to deliver a thumping 420 Watts into a 4 Ohm loudspeaker. So whether you feel you need the power or just want an amplifier with audible grunt to its sound, the RB-1582 looks a fair proposition. However, power comes cheap nowadays and even the £500 Onkyo TX-SR607 receiver I reviewed last month managed 180 Watts per channel into 4 Ohms, meaning 1kW from seven channels! More directly comparable would be an NAD C275 power amplifier of course, at £900.

The RC-1580 preamplifier has both MM and MC phono preamps, tone controls and a front panel media player analogue input. However, at £995 it isn't cheap yet it lacks modern accoutrements such as a digital input or balanced inputs or outputs. In fact, lack of balanced connections make this combo look a bit old fashioned. The world is moving on...
Like all Rotel products these items are well made and nicely finished. The power amplifier comes on with a small clunk from its protection relays and an intense blue light circles the power switch, forming an escutcheon (to use an old steam radio term). The RC-1580 preamplifier has a similar illuminated power switch and a massive volume control in the centre of its front panel.

The RB-1582 power amplifier has twin paralleled output terminals that accept bare wires, American style spades or 4mm banana plugs. Twin terminals enable bi-wiring to be used, and because the preamp has paralleled outputs bi-amping is possible if you buy a second RB-1582. There is an RJ45 'ethernet' computer input, but only to accept custom control codes from a computer, not to connect to the internet to update software, firmware or what have you.

Both units can be remote switched using a 12V trigger signal and the preamplifier has both a 3.5mm headphone output and 3.5mm media player input. Plugging in headphones does not mute the preamp output so for late night listening the power amp must be switched off.

**SOUND QUALITY**

Transistor amps are funny things and a little difficult to review. Whilst they have a base sound that acts as a fundamental signature, they also react differently to loudspeaker loads, the most likely explanation being the way the feedback loops copes with loudspeaker back emfs from its motional impedance element and general energy transfer from reactance in the midband. This isn't spurious theorising. I find a low feedback valve amps, like the powerful Icon Audio MB845s have a consistency with loudspeakers that transistor amps lack, one reason I use them for loudspeaker reviews.

After being tested and run in by being left on for many days the Rotel was initially used to run the Acoustic Energy Radiance 3s I review in this issue, to see how those loudspeakers fared with solid-state. Bear in mind that although I feel valves are technically superior to transistors and you can hear this (there are plenty of dedicated audio valves; there are practically no dedicated audio transistors but, having said that we will be reviewing some next month)!

I actually use and work with transistor amplifiers as a reviewer so I know what to expect from them. Well, switching from the MB845s to the Rotel RB-1582 power amplifier (with Creek OBH-22 preamp and Stello CD-T100/DA100 CD player) was a marked contrast. Far from sounding open and powerful, the Rotels sounded dynamically quite flat, weak in bass output and lacking sparkle. I recalled Hitachi's much vaunted HMA-7500 MOSFET amplifier that I used at length some thirty years ago; even though this behemoth measured perfectly it wasn't endearing to listen to.
Synergistic Research
"Your cable for life"

"Technically unique and with exceptional sound, this takes the science of cables to a new level."
Tesla Accelerator speaker cable review - Hi-Fi World, August 2009

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Swapping from the Rotel to Leema’s fine little Pulse amplifier restored order for me, and I continued with the Radiance 3s...

My suspicion was that the Rotel, being a very high feedback design, would likely sound better with the under-damped Spendor SBp loudspeakers so this is how I started out reviewing them. Surprisingly, with or without the RC-1580 preamp in place, the RB-1582 power amplifier sounded little different via the Spenders; in fact it made them sound much the same as the Acoustic Energys, which is to say dynamically challenged and with constricted bass. With Duffy’s ‘Rockerry’ the upper midband dominated and this emphasis resulted in the sound having little warmth or body. An apparent lack of upper treble detail removed any sparkle and the bass line sounded almost distant. So I changed back to the Leema Pulse and again the sound stage opened right up, in both width and depth; all was normal again. Whilst Rockerry isn’t a great track sound quality wise it is possible to reproduce it well enough to be enjoyable but the Rotel smothered the sound with its own interpretation of music and it was coloured and unimpressive. I did also try Triangle Quartet loudspeakers but again there was no improvement.

Since our benchmark Spendors are a known quantity that have been driven by countless amplifiers under review, both solid-state and valve, and since the Leema Pulse worked fine with them, I am fairly sure that we are not looking at outside influences here. Particularly worrying with the RB-1582 is an upper response limit that exceeds 200kHz, which means into the Long Wave radio band. Why? This only invites problems. Naim amplifiers roll off at 20kHz, most others around 50kHz and some at 100kHz. Never have I measured a hi-fi amplifier with full gain at 200kHz. Wide bandwidth is achieved by using fast transistors, high open loop gain and very high feedback. This also results in a high damping factor and low distortion, but lots of active devices to achieve high open loop gain and the subsequent application of high feedback is detrimental to sound quality and exactly how not to do it when it comes to designing an audio amplifier, rather than a radio transmitter.

With a track containing strong deep bass, Angelique Kidjo’s ‘The Sound of the Drums’ I did get to hear how the RB-1582 handles bass power and although there was a sense of taut control and good downward extension, the notes had a bland, inflated outline. The amplifier sounded overly dry and mechanical here, as if notes were being generated by a synthesiser. I dutifully worked through a variety of musical genres but can report only that the Rotel combo maintained its distinctive sound.

Changing from CD to LP and an Ortofon Cadenza Bronze moving coil cartridge in an SME 2-10 arm on a Pioneer PLC-590 DD turntable, there was an expected improvement. Now, the natural depth and smoothness of the Cadenza helped inject life and a bit of stage depth into music from the Rotels, there was strong insight into Mark Knopfler’s gravelly drawl as he sung ‘The Fish and the Bird’ from the ‘Kill to get Crimson’ LP on 180gm vinyl, bass was quite distinct if dry but the peculiarly papery quality remained. The MC stage was stunningly silent and, for better or for worse, a long line of LPs played consistently sounded more like decent CDs!

CONCLUSION
I couldn’t find great merit in this amplifier combination. It brings quite a stark, dry outline to music perhaps, but even here it was superficially impressive rather than natural. Dynamically constrained, with peculiarly over taut bass lacking insight, rhythmic fluidity and punch, it wasn’t engaging. It has some virtues, such as the rugged looking build, the fine range of facilities (including quiet phono inputs) and lots of power, but still it seemed to major on its muscle and good looks more than anything else.

MEASURED PERFORMANCE
The RB-1582 power amplifier produces a massive 230 Watts into 8 Ohms and 420 Watts into 4 Ohms so this power amplifier is for those users who want to run really loud. However, it’s quite obvious looking at the unusual distortion spectrum at low powers (around 1W) that Rotel have found out how to give a transistor power amplifier a reasonably stable transfer function, for second harmonic distortion dominates our analysis shows and this remains the case at all output powers and frequencies. Our analysis is made at 10kHz, 1W, where crossover distortion is barely evident, but with the RB-1582 it is not, so this power amplifier should sound easy on the ear, treble lacking any unpleasant edginess or colour. The only peculiarity is a bandwidth that extends well past 200kHz, not a brilliant idea in an audio amplifier, especially nowadays with so much RF about. An extremely high damping factor of 157 will ensure the amplifier damps wayward bass cones, at least when there is a low DCR inductor in between. Ultra wide bandwidth and high damping factor suggests wideband transistors (or FETs) and very high feedback.

The line inputs, including CD, have a gain of x6.3, or 18dB, and this is very useful high. However, although x3 is a target value for preamps, since the matching RA-1550 power amplifier has a low 2V input sensitivity overall gain is much the same as usual. Rotel have given the preamp a bandwidth of over 100kHz, so there is no attempt to bandwidth limit before the power amplifier and this may cause problems with RF breakthrough. The tone controls work well, operating only at extremes, the bass control working below 200Hz and treble control above 2kHz. However, the amount of boost was very high and control action coarse as a result, just the smallest movement was needed for the sort of subtle trimming usually required. There is a cancellation button to switch the

VERDICT
Unremarkable sounding but well equipped and solidly built budget pre-power amplifier combination.

RB-1582
£995/£1,095

FOR
- seriously powerful
- MM and MC phono stage
- ease of use
- flexibility

AGAINST
- opaque sound
- no balanced outputs

MEASURED PERFORMANCE

RB-1582
- Power: 230W
- Frequency response: 8Hz-200kHz
- Separation: 99dB
- Noise: -126dB
- Distortion: 0.004%
- Sensitivity: 2V
- Damping factor: 157

RC-1580
- Power: 230W
- Frequency response: 2Hz-100kHz
- Separation: 102dB
- Noise: -117dB
- Distortion: 0.0002%
- Gain: x6.3 (16dB)
- Overload: 18V out

Disc (MM, MC)
- Frequency response: 8Hz-100kHz
- Separation: 66dB
- Noise: 6dB
- Distortion: 0.003%
- Gain: x410, x4500
- Input overload: 178mV, 16mV

DISTORTION
**14x4 Play!**

All formats have to start somewhere, and for the now ubiquitous CD that means the early nineteen eighties. The search for the successor to the LP had preoccupied the research departments of the world’s larger electronics companies for the greater part of the nineteen seventies.

What seemed to be emerging as the favourite was a high density LP-like disc using much finer track and groove dimensions, alongside technologies such as FM modulation, linear tracking and capacitive pickups. A system like this, RCA’s CED, did appear between 1982 and 1894 but it was for video rather than audio.

Meanwhile, Philips had its own video discs in the technically outstanding Laservision system. With 5MHz bandwidth, all analogue signal processing and no compression it was arguably the finest home video format there has ever been, but it still failed to establish itself; unrecordable video discs had very little market appeal in those days. It did prove however that a laser beam could be used to read a silver disc that could be mass produced and therefore laid one of the foundation stones for CD...

The other key technology, the PCM digital audio system, had already been developed in Japan by Sony and was being used for professional applications in conjunction with modified industrial video recorders. As a result of bringing these two technologies together, Compact Disc finally appeared in Europe in 1982.

One of the first players offered was the Philips CD100 which, despite its high price and the small selection of disc titles that were available in the early days, sold well.

**HARDTALK**

The CD100 was small, pretty and very easy to use. All one had to do was to drop the disc in the top and press play, and "perfect" digital sound would then flow out into your existing system; the new age had begun! Inside, the CD100 used Philips’ own chipset to decode the digital information. Up until quite near the launch of the format, Philips believed that CD data would be encoded as 14bit data, so they designed their Digital to Analogue Converters (DACs) to this standard. Sony however specified 16bits for their PCM system so Philips had a problem, how to get 16bit performance from a 14bit DAC. The answer was inspired, using four times oversampling (hence '14x4'), and clever noise shaping techniques in the digital filter a "digital feedback loop" was effectively constructed and the necessary resolution was restored. The chips that performed this function were classics in themselves, the digital filter being the SAA7030 and the DACs two TDA1540s. The TDA1540 later formed the basis for the famous TDA1541, itself the basis for just about every audiophile 16bit player that you can name. Also part of the CD100 formula was the CDM0 mechanism, complete with its single beam laser pickup and radial tracking arm powered by a linear motor.
Philips also paid very careful attention to the analogue stages that followed the DAC. The filters were carefully designed to give a smooth response with accurate phase linearity and it is this, along with the SAA7030 digital filter, which gives the distinctive "Philips sound". In contrast the Japanese characteristically went for filters with a very steep cut off, this gave a ruler-flat frequency response but at the cost of a harsh sound and muddled imaging. In 1983, The CD100 (and its boxy but technically similar stable mate, CD200) were lightly revised, renamed the CD101 and CD202 and joined by the CD303. Intended as a more upmarket version, the CD303 used the same basic components and assemblies but was more extravagantly constructed with better internal screening and larger circuit boards with wider component spacing. Most distinctively, the CD303 was a front loader but not in the modern sense, for instead of having a disc tray that opened the whole mechanism slid out under motor power! The previous Philips models had lacked the now familiar time readout but the CD303 had one although it was not perfect, it displayed a rolling display of random numbers when skipping through the tracks.

By this stage CD was catching on as a format but what was needed was a really popular player that fitted in easily with any system. This came in 1984 with the CD104, a true classic that was also a huge sales success, even Boots the chemist stocked them! The CD104 looks just as a CD player should, small and neat with a drawer to load the disc and finished in matt grey or black. The controls had been rationalised into a square pad (not too dissimilar to that of the B&O Beogram 4000 turntable launched ten years previously) and a few simple buttons. The machine could be placed in a stack of other components and was the correct size to match the 'midi' systems that were fashionable at the time. The whole thing reeked of quality in a way that only the highest of the high end does today; although the fascia was plastic, the chassis inside was a single diecasting, as was the new CDM1 mechanism, still with a single beam radial pickup but improved by the addition of a silent running brushless DC spindle motor. The CD104 was also offered with remote control as the CD304, which although physically larger is much the same inside. After the 14bit machines faded away, 1985 brought the CD150, the first of the new 16bit models that came with the TDA1541 DAC, the CDM2 mechanism and a more lightweight, plasticky build.

**SOUNDING OUT**

Sony's first CD player, the 16x2 CDP-101, had aspects to its performance which were quite good, but the Philips 14x4s have a degree of overall competence which none of the first generation Japanese machines comes close to matching. In simple terms they sound like an old turntable with quite punchy bass and soft, fluffy treble. If you've not heard one before then it'll be a revelation: can CD really be this different? The gentle analogue filters with their soft roll off yield treble that is not as well focused as one is used to with a modern player, but the classic digital audio trap of making everything above 10kHz sound the same has been elegantly avoided. Imaging, the result of attention to detail as regards phase linearity, is surprisingly good. This has the effect of drawing you into the music and making you want to listen more; there are plenty of other CD players that do just the opposite!

The CD100 is raw; it is the genesis and every time you hear it, it reminds you of the first time you heard CD. It bounces along in a lively way with a bit of a zing to the treble, but still surprisingly relaxed and oddly satisfying. The CD104 is very similar but more modern sounding, it's the most familiar of the three, like a modern player but with added 'essence of 14bit'. If the rest of your system has relaxed treble then this is an ideal mix. The CD303 on the other hand is quite different. At the cost of some extreme treble detail it is more silky and better timed. It doesn't put every note under the microscope like a good Japanese player does, but the way it strings them all together is strangely enjoyable. It offers a unique take on how to get pleasure from a silver disc although it demands that the rest of the system is easy going to give its best. One for the connoisseur then.

**TO THE END**

The early days of CD were curious; the media was obsessed with numbers. The 16bit (alleged) resolution that the Japanese machines offered was seen as simply better than the measly 14bits the Philips machines could muster. But some, more discriminating hi-fi journalists in this country and abroad pointed out that, even though they shouldn't be, the Philips machines were far...
This is the best turntable mat I've yet heard. At well under £100, it's a bargain.

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I really enjoy your website and find it very informative (and read it every day). — Richard Holbrook

I have never replied to online audio reviews but wanted you to know that I have enjoyed several articles. — Craig Mattice

What a great review! — Paul Kittingerk
more enjoyable to listen to. It merely went to illustrate the importance of the filtering; despite a lower resolution DAC, the Philips filter was far superior to those used on the Japanese 16x2 platform, and you could hear it!

Sadly though, 'phase-linear filtering' proved a more difficult marketing concept to grapple with than 'more bits'. In the same way that a guitar amp that goes up to 11 is "one louder" (as any Spinal Tap fan knows), so the Philips machines were "two less" good than the Japanese rivals. Unsurprisingly then, Philips soon replied with sixteen bit, four times oversampling machines using the TDA1541 chipset, which has gone on to be a classic. But as ever, 'it ain't what you do, it's the way that you do it'; the difference between the 1984 14x4 CD104 and the 1986 16x4 CD160 that replaced it is obvious, but it's not all positive. That mellifluous musicality was lost to the altogether 'up and at 'em' sound, albeit technically superior...

Philips 14bit machines are now reaching the status of collectable classics; they're not very detailed or focused by today's standards, but are listenable in a way that no modern CD spinner is (if there was ever a vinyl equivalent of the sound, it's surely an early Linn LP12 with Hadcock unipivot arm). They were very well built, and are more repairable than you might think [see TECH TALK], so if one turns up, it's worth a punt. Don't pay silly money; car boot sales turn up CD100s for under £5, whereas an excellent, mint, boxed version shouldn't be too far north of £100. They're lovely things to have, an interesting historical 'curio' and show that in build quality terms at least, Compact Disc hasn't taken the skyward trajectory we all expected it to. May that, ahem, "pure, perfect sound" of 14bit sing on forever!

TECH TALK

All the models mentioned are well built and solid, so it isn’t difficult (or expensive) to track any of them down today. The laser diodes used have proved exceptionally durable; laser failures are still not common after all these years. If the disc spins wildly but no information is read then a defective laser could be the cause. The CD100 is well behaved but it does suffer from poor soldering, especially around the voltage regulators, which can also be faulty in themselves. Defective reed relays in the analogue stages causing the loss of one channel and the interlock switch for the lid falling apart, stopping the disc being played at all, are other common faults. The CD303 has similar habits but in addition the signal lead from perfect. NK

MEASURED PERFORMANCE

Outstanding features of Philips' first player are a frequency response that, in effect shelves down treble to give a subtly warmer sound — just what CD needs — and poor linearity at low levels, resulting in excessive distortion — just what CD does not need! Otherwise, the CD100 differs little from modern machines, except there is no digital output and track indication is crude.

Our frequency response analysis clearly shows the classic in-band ripples produced by the early anti-aliasing filter and this serves to lower high frequency energy. The high frequency limit is a low 16.6kHz, against 21kHz for modern filters, but subjectively this isn’t easily detectable. Whilst at maximum signal level (0dB) 16bit gave an impressive 0.002% distortion — the figure Philips liked to quote, at -60dB this had risen to a massive 2%, something they did not quote! This contributes to the marksmanship of early CD sound.

So the CD100 ably demonstrated CD's strengths, even though it was far from perfect. NK

Frequency response (-1dB)

<table>
<thead>
<tr>
<th>Frequency (Hz)</th>
<th>2Hz - 16.6kHz</th>
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</thead>
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<tr>
<td>Distortion</td>
<td>(%)</td>
</tr>
<tr>
<td>0dB</td>
<td>0.002</td>
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<tr>
<td>-6dB</td>
<td>0.003</td>
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<tr>
<td>-60dB</td>
<td>2</td>
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<tr>
<td>-80dB</td>
<td>11</td>
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<tr>
<td>Separation (1kHz)</td>
<td>100dB</td>
</tr>
<tr>
<td>Noise (IEC A)</td>
<td>-107dB</td>
</tr>
<tr>
<td>Dynamic range (EIAJ)</td>
<td>95dB</td>
</tr>
<tr>
<td>Output</td>
<td>2V</td>
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</table>
Hitherto famous for their super-clean sounding Class A amplification, J E Sugden have just introduced a brand new Class AB design, offering more output power along with lower electricity bills. David Price tries the mysterious Mystro integrated amplifier...

In hi-fi, as in the wider world outside, certain brands are synonymous for certain things. And this doesn’t happen by accident; Sony didn’t get to the top of the consumer electronics tree by making trowels. Hoover have never once made a television. Bang and Olufsen don’t affix their moniker to cheap Chinese OEM mini systems the like of which you can buy at Tescos...

It’s always difficult then, when as a manufacturer that’s become famous for certain products, or certain types of product, you start to branch out. For example, cast your mind back to the late eighties when Linn Products launched the Karik/Numerik CD player: Here we had a company whose Managing Director was one of the most erudite critics of the little silver Frisbee, and now suddenly they were making things to play it on! The list goes on and on. Musical Fidelity, a company who I still regard as an amplifier specialist, did a short-lived turntable a few years back. SME of course moved into turntables, and whilst the results are superb, they still don’t quite have the almost supernatural, elevated status of their pickup arms.

Enter Sugden, West Yorkshire’s foremost (are there any others?) purveyor of Class A amplification. Now the company have done quite a few things in their time (not least CD players and DACs), but you’d be a braver audiophile than me to argue that they’re not most famous for their little boxes which get a lot hotter than they look, and sound better still. I can remember gazing at an advertisement for an A2la integrated amplifier as far back as 1978, wondering what delights were possible from the rather utilitarian looking box. I suspect the A2I line goes back further even than this, which explains why when you ask a British hi-fi nut to think of a Class A integrated, the word “Sugden” immediately issues forth from his mouth like your uncle naming the 1966 World Cup-winning England football team...

For this reason, I was intrigued to hear from Sugden’s Tony Miller about a new integrated amplifier. With his characteristic unalloyed matter-of-factness (he’s a Yorkshireman don’t you know, and as Geoff Boycott shows us, they don’t breed shrinking violets up there!), it just sort of slipped out in conversation. No “we proudly present” or “we’re delighted to be able to bring you”; it was more a case of “oh, and by the way we’ve done a little amp that we’re quite happy with”. To a hack who’s constantly on the receiving end of ever more purple prose from a new generation of professional PR people, I was intrigued...

To be honest, I’m not still completely sure why Sugden have done the Mystro, but here it is anyway. It’s almost as if its sole raison d’être is to take the company away from Class A, if only for completeness’s sake. The likes of the A2la S2 and IA4 show that they’re pretty much cracked that particular nut, so why not have a go at something a little different? So, this new amplifier runs in Class AB, and despite its 50W RMS (claimed) per channel power output, boasts substantially lower power consumption, as you’d expect. It has radically new underpinnings, including some circuitry designed for a high end range coming next year, to sit above Masterclass. It costs £1,225, which is about twenty percent less than their previous entry-level product (the £1,574 A2Ia). Soon, a matching CD player will be available £1,319. They both come in any finish...
The Mystro is the first Sugden amplifier to include a Voltage Current Voltage (VCV) preamplifier stage, which includes a buffered input, voltage to current converter (Howland Current Pump) and current to voltage output stage. This produces a perfect current, says Sugden, independent of the volume control setting, in the HCP stage, resulting in “perfect structure and low signal to noise characteristics”. This current drives the virtual earth output stage, combined with a Class AB power amp stage, configured as dual mono, which we found to be running very low negative feedback [see MEASURED PERFORMANCE] on its multi emitter, bi-polar output devices.

A large, clearly laid out printed circuit board houses selected discrete audio components, together with individually selected, low noise, low distortion, high slew rate op-amps. Most hardware components are mounted directly to the board and where they have hard wired interfaces these are all of special silver/gold construction. The Power Supply is a robust triple secondary wound toroidal transformer of 200VA. There are separate windings for each power output channel and a third winding for supplying the preamplifier stages. The latter supply is arranged with high impedance channel to channel and current shunt supplies to the active stages. The power output stages are smoothed by 680uF capacitors, resulting in low impedance, fast response power availability to drive and control the connected speakers.

The amplifier has a liberal sprinkling of sensible facilities - three stereo line inputs, and that’s your lot. A basic remote control is supplied. The slimline 430x340x90mm box is very good, showing few concessions to cost cutting compared to the A21 S2. The metal casing is decent, explaining some of that 9kg weight, and the front fascia is sumptuous and sleek looking. Finish is excellent considering the Mystro’s modest position in life.

SOUND QUALITY

The prospect of listening to a non-Class A Sugden amplifier hadn’t filled me with relish; like a V6 American muscle car or a four seater Ferrari, it sort of seemed to be missing the point. I’d expected the typical ultra-clean Sugden sound, except grittier, mushier and more diffuse - kind of like mineral water that had come from a London cold water tap. How wrong I was; I found the Mystro wasn’t so much comprehensively worse than the A21a S2, but comprehensively different. Yes, I was right to surmise that there wasn’t that crystalline clarity, the wonderful ‘through the looking glass’ midband that the A21a has at the very centre of its being. But what I didn’t expect was that the Mystro would have another, different, redeeming feature - a joyful rhythmic snap...

Kicking off with Sniff ‘n’ the Tears’ ‘Driver’s Seat’, and I was more than a little impressed by the way the song powered along in such a bubbly way. It was almost as if the little integrated had been doing some sniffing of its own, ingesting an exotic nose powder that put a tiger in its tank and a spring in its step. Given that the A21a S2 is rhythmically no slouch at all, I was more than slightly surprised to find the Mystro an even more urgent, friskier sounding musical tool than its more expensive sibling. The song’s basic guitar riff just seemed more spirited, the drums more impactful and the syncopation of the singer’s voice more dramatic. Dynamic contrasts were no less vivid than the A21, with the kick drum and snares conveyed with gusto, while a surprisingly strong bass guitar sound underpinned the song in an unremittingly insistent way. Rhythmically and dynamically, the Mystro sounded like an A21 that had been slipped something by its best friend, and was now out to enjoy Saturday night in style. It wasn’t as subtle or as...
Limited Edition Pearl Components

When they are gone - they are gone forever...

When you first encounter the new KI Pearls, the first thing you notice are their unique 'Silk Pearl' finishing. The first of its kind in fact for Marantz. But it's the magic that Ken Ishiwata has created inside the box that really gets the pulse racing. He has built-in everything possible to ensure that the music is reproduced exactly as the original artist and recording engineer intended.

SA-KI: "Fed all manner of SACDs from Mobile Fidelity, Linn, Telarc and other admirable die-hards, the SA-KI showed itself to be a thoroughbred player reminiscent of the for costlier Esoteric devices, though the voicing differs. Morantz itself used the adjective 'silkly' to describe the Pearls' black finish." Ken Kessler, Hi-Fi News Sept 09

PM-KI: "The phono stage was open, quiet and precise, especially the MM setting, and in every sense - from vinyl to CD to SACD - the bass was consistently quick. Decay or transient stops down below were as progressive or abrupt as required, nigh on perfect, while well-recorded bass drum kicks were reproduced with a vividly detailed sensation of pedal, hammer and skin in motion." Ken Kessler, Hi-Fi News Sept 09

Exclusively from Jordan Acoustics, the KI Pearls will be personally demonstrated by Ken Ishiwata at this year's National Audio Show 09.

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Hi-fi News Editors' Choice

For the true collector, Ken Ishiwata will be personally signing a limited number of 30th Anniversary Books & CD’s. We look forward to seeing you there!
This new iPod dock is available in four different colours; all black or white with variously pink, grey and blue cloth trimmings. The intention is that you can theme it with your interior decor, or more likely your current shade of iPod Nano. It's decently well made; superb by the dire standards of many docks but still plastikey compared to premium products like Harman Kardon’s Go and Play, and more so B&W’s Zeppelin. It comes supplied with a dinky little flat remote, and a laptop-type power supply, and the DC in is the only connection other than the iPod connector dock on the whole thing. Thus you can’t pipe in audio from elsewhere, and as no one really uses their iPod to feed video to a larger device, Yamaha make no provision for video outs. (Knowing Apple they’ll only switch the pinouts in a short while anyway, annoying all the peripheral manufacturers).

So it really stands or falls on its audio performance, and as long as you’re not trying to blast out at maximum volume the PDX-30’s 15W RMS per channel can deliver a decently satisfying listen.

La Roux’s brittle and compressed sounding ‘In For The Kill’ was tamed nicely, giving a tonally balanced and powerful performance up to about three quarters of the volume control, beyond which the bass became overpowered by the grating higher frequencies. The remote is usable, if a little counterintuitive in its attempts to emulate iPod control. The permitted iPods and importantly iPhones (nothing before 5G) respond well to control, with only the first-generation iPod Touch (running v3.0) not seeming to know whether volume was intended to be going up or down. In these days of multiple elaborate alarm clock/teasmald (or whatever) iPod docks, it is almost a relief to get a simple device that harks back to the original Bose Sounddock and the iPod Hi-Fi. Whether the buying public will agree remains to be seen, however. PC

(SENNHEISER HD218 £40)

We’ve all experienced the fellow traveller on the tube listening to something objectionable at ear-damaging volume, and annoying everybody else as the sound spills out. One of the sales angles of these new Sennheisers is that their closed construction reduces the anti-social effect generated by you, the portable listener. So I took a pair on the tube to try this principle out. Personally I still have a preference for in-ear ‘phones, maybe because I feel conspicuous with ‘phones as obtrusive as these in their sober, grey design. While they look deeply serious, they simply don’t have the B-boy cool factor of a pair of oversized Sonys, but that’s not my look either...

Personal aesthetics aside, the listening experience was a joy; the phones are light and comfortable, so much so I nearly walked into work forgetting I had them on my head.

Between home and work I played some 24/148 ‘The Downward Spiral’ from Nine Inch Nails got going. But the impeccable production shone through for me (the listener) with great clarity, the HD218’s upper range sounding pleasant and not at all grating. The closed design doesn’t do a huge amount to exclude exterior tube noise, but this is not of great concern when the ‘phones are able to deliver a coherent performance that stops you flicking through test material and gets you to settle down to a full album listen, getting truly lost in the music. For me this was the sumptuous symphonic prog of Toto’s ‘Hydra’ in its original mastering, the lossless FLAC being given full reign by the appealing, dynamic sound of the HD218s. As ever ‘White Sister’ provided the highlight, with the late Jeff Porcaro’s powerhouse drumming sounding truly impressive, Luke’s amazing guitar solo was easy to pick out, those slabs of analogue synthesis being revealed in all their glory without sounding fake. If you’re not a believer in ear canal, noise-cancelling type headphones these Sennheisers are worth every bit of the £30 they can commonly be found for, as they’re capable of an extremely musical performance with the right material. PC

(Contact: +44 (0)1494 551 551, www.sennheiser.co.uk)
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Here's your chance to win one of the best modern mid-price CD players, the Rotel RCD-1520, as tested in October's issue of Hi-Fi World magazine!

Here's what Paul Rigby said:

"The philosophy behind the construction of the Rotel RCD-1520 is intriguing. The company rejects the idea of employing surface mounting on its circuit boards because it prefers to have the freedom of swapping new and improved components in and out of its kit when the need arises. Measuring 431x99x320mm and weighing in at a relatively heavy 6.5kg, it features a large toroidal transformer to give the CD player the power to relax and perform without any constraints as well as to minimise noise, plus Wolfson multibit DACs to maintain sound quality. The RCD-1520 provides the user with a slot loading disc facility, which is a far nicer thing than most use in practice, and the rear features just the essential outputs.

In use, the Rotel provided essential yet subtle details previously hidden, such as impressive piano transients and the bending of guitar chords, with tremendous midrange insight and clarity in this region. Synth lines were carried better still, and its rendition of the bass proved both powerful and subtle; the RCD-1520 showed a level of maturity that belied its price point. It's an excellent mid-price machine with a spry, crisp and detailed sound, allied to gripping rhythms and dynamics - plus a peach of a slot-loading CD drive."

For a chance to win this great silver disc spinner, just answer the following four easy questions. Send your entries on a postcard only by 30th October 2009 to:

November 2009 Competition, Hi-Fi World magazine, Unit G4, Argo House, The Park Business Centre, Kilburn Park Road, London NW6 5LF.

QUESTIONS

[1] Rotel rejects the idea of using what on its circuit boards?
[a] surface mounting  [b] components  [c] cheese  [d] feedback

[2] What type of DAC is used?

[3] What type of disc loading system is used?
[a] slot  [b] tray  [c] drawer  [d] top

[4] What did Paul Rigby describe as "gripping"?

RULES AND CONDITIONS OF ENTRY

- ONLY ONE ENTRY PER HOUSEHOLD
- MULTIPLE ENTRIES WILL BE AUTOMATICALLY DISQUALIFIED
- PURCHASE OF THE MAGAZINE IS NOT A PRE-CONDITION OF ENTRY
- NO CORRESPONDENCE WILL BE ENTERED INTO
- THE EDITOR'S DECISION IS FINAL
- NO EMPLOYEES OF AUDIO PUBLISHING LIMITED, OR OF ANY COMPANIES ASSOCIATED WITH THE PRODUCTION OR DISTRIBUTION OF THE PRIZES, MAY ENTER

entries will be accepted on a postcard only

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Our ultimate goal is your complete satisfaction, through the best quality products, service and attention to detail.
In this heavily revised section, you'll find the great and the good from audio's glorious past. Most are seminal designs which have earned their place in hi-fi history, but 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. Think we've overlooked something? Then write in and let us know!

<table>
<thead>
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<th>MODEL</th>
<th>YEAR</th>
<th>PRICE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAMBRIDGE AUDIO CDI</td>
<td>1986</td>
<td>£1500</td>
<td>Inspired Stan Curtis redesign of Philips CD104, complete with switchable digital filter. Lean but tight and musical performer.</td>
</tr>
<tr>
<td>Linn Karik III</td>
<td>1985</td>
<td>£1775</td>
<td>The final Karik was a gem. Superb transport gives a brilliantly tight, gritty dynamic sound, albeit tonally dry.</td>
</tr>
<tr>
<td>MARANTZ CD73</td>
<td>1983</td>
<td>£700</td>
<td>A riot of gold brushed aluminium and LEDs, this distinctive machine squeezed every last ounce from its 14x4 DAC - super musical</td>
</tr>
<tr>
<td>MARANTZ SA-1</td>
<td>2000</td>
<td>£5,000</td>
<td>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.</td>
</tr>
<tr>
<td>Naim CDS</td>
<td>1996</td>
<td>N/A</td>
<td>Classic Philips 16x4 chipset with serious attention to power supplies equals grin-inducing sonics.</td>
</tr>
<tr>
<td>Sony CDP-101</td>
<td>1982</td>
<td>£800</td>
<td>The first Japanese CD spin was powerful and involving. Brilliant transport more than compensated for 16x2 DAC, and you even got remote control!</td>
</tr>
<tr>
<td>Sony CDP-RI/DAS-R1</td>
<td>1987</td>
<td>£3,000</td>
<td>Sony's first two boxers was right first time. Tonal, lean, but probably the most detailed and architectural sounding machine of the eighties.</td>
</tr>
<tr>
<td>Sony CDP-701ES</td>
<td>1984</td>
<td>£890</td>
<td>Sony's first ever bespoke high end audiophile machine used a 16x2 DAC to provide a clinically incisive sound; supreme build quality allied to the pure unadulterated luxury of a paper-book-sized remote control.</td>
</tr>
<tr>
<td>Technics SL-P1200</td>
<td>1987</td>
<td>£8000</td>
<td>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!</td>
</tr>
<tr>
<td>Yamaha CD-X1</td>
<td>1983</td>
<td>£340</td>
<td>Nicely built 16x2 machine with a very sharp and detailed sound; sometimes too much so. Excellent ergonomics, unlike almost every other rival of the time.</td>
</tr>
<tr>
<td>Meridian 207</td>
<td>1988</td>
<td>£995</td>
<td>Beautifully built two-box with pre-amp stage. Very musical although not as refined as modern Bitstream gear. No digital output.</td>
</tr>
<tr>
<td>Musical Fidelity Trivista</td>
<td>2002</td>
<td>£4000</td>
<td>When playing SACDs, the sweetest, most lucid and lyrical digital disc spinner we've heard. Old school stereo, pure DSD design.</td>
</tr>
<tr>
<td>QED Digit</td>
<td>1991</td>
<td>£90</td>
<td>Budget bitstream performer with tweaks aplenty. Postiron PSU upgrade makes it smooth, but now past its prime.</td>
</tr>
</tbody>
</table>

www.hi-fiworld.co.uk NOVEMBER 2009 HI-FI WORLD
CLASSICS

TURNTABLES

ARISTON RD15S 1972 £94 Modern evolution of Thorens’ original belt drive paradigm. Scotland’s original superdeck 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-S90 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 1982 £75 Simple high quality engineering and a respectable low mass tonearm made for a brilliant budget buy. Polished, smooth and slightly bland sound.

GOLDRING LENCO GL75 1970 £15.65 Simple, well engineered motor unit with soft, sweet sound and reasonable tonearm. Good spares and servicing support even today from specialists. Eminently tweakable. Similar 88 and 99 motor units are budget 301/TD124 rivals.

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

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

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

TECHNICS SP10 1973 £400 Seminal Japanese engineering. Sonics depend on plinths, but a well mounted SP1000 will give any modern a hard time, especially in respect of bass power and midband accuracy.

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

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

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

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

THORENS 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.

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.

TONEARMS

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

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

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 LVII version worth seeking out.

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

PIONEER PLC-590 1976 £600 Study 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.

ALPHASON HR1005 1981 £150 First-class arm, practically up to present-day standards. Buy carefully, though, as there is no service available now. Totally under priced when new, exceptional.

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

GRACE G707 1974 £58 This early Japanese example of the tonearm art has a smooth, lyrical sound. Imported by Linn, fitted to early LP12s. Sonically way off the pace now, though.

REGA RB300 1983 £88 Inspired budget esoterica. Detailed, tight, neutral sound but tonally grey sounding in absolute terms. Responds well to tweaking, and its cheaper RB250 brother better still.

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

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NAIM ARO 1986 £875 Truly endearing and charismatic performer – wonderfully engaging mid-band makes up for softened frequency extremes.
TECHNICS EPA-501 1979 £ N/A
Popular partner for late seventies Technics motor units. Nice build and Titanium Nitride tube can't compensate for middling sound.

INTEGRATED AMPLIFIERS/COMBOS

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

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

EXPOURE 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 used buy.

MUSICAL FIDELITY A11905 £ 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.

DAYTON 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 and a good introduction to valves.

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

AUDIO LAB 8000A 1985 £ 695
Smooth integrated with clean MM/MC phono stage and huge feature count. Extremely reliable, too. Post '93 versions a top used buy.

MCIINTOSH MA6800 1995 £ 3735
Effortlessly sweet, strong and powerful with semiapical 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 1986 £ 299
Classic eighties minimalism combines arresting styling with clean, open, lively sound. Further upgradeable with PSX power supply.

MICHAEL BARTON 1983 £ 25
Class-A transistor integrated with good build and one of the earliest remote control systems. Not quite up to Quad/Leak standards but considerably cheaper second-hand.

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

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

SUGDEN A25 1978 £ 220
The archetypal budget super-amp. Tonal grey but fine phono input and great facilities make it an excellent general purpose tool.

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 £ 3,500
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.

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

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

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

NAIM MAC325 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.

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

LINTH STRATED 1986 £ 499
Goodly preamp with a wealth of facilities, solid build quality and fine sound make it an excellent general purpose tool.

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

ROTEL RA-820BX 1983 £ 139
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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.
The first of the current dumpers is a capable design with smooth, effortless power and a decently musical sound, 606 and 707 continue the theme with greater detail and incision.

**Musical Fidelity**

**XA200** 1996 £1000PR

200W of sweet smooth transistor stomp in a grooved tube! Under-rated oddity.

**Quad II** 1952 £22

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

**Quad 405** 1978 £115

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

**Quad 303** 1968 £35

Bolder proof build, but woolly sound. Off the pace, but endearing nonetheless. Some pipe smoking slipper wearers swear by them!

**Quad II 1978 £62**

**Quad II 1952 £32**

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

**Quad FM4** 1983 £240

Supreme ergonomics and styling allied to a pleasingly lyrical sound with plenty of sweetness and detail made this one of the best turners around upon its launch.

**Marantz ST-8 1978 £553**

Marantz's finest radio moment. Warm, organic sound plus an oscilloscope for checking the signal strength and multipath.

**CREEK CAS140 1985 £199**

Excellent detail, separation and dynamics - brilliantly musical at the price. T40 continued the theme...

**NAD 4040 1979 £79**

Tremendously smooth and natural sound allied to low prices and good availability make this analogue equal as far as I'm concerned. Needs a good antenna to work properly, however.

**NAIM NAIT 1993 £595**

The warm, atmospheric sound is further proof of Naim's proficiency with tuners.

**Pioneer TX-9500 1976 £295**

Another of the serious classic solid-staters. Boasts the usual high end Jap package of fine sound, brilliant sensitivity and superb build.

**LEAK TROUGHLINE 1956 £23**

Series 1 an interesting ornament but limited to 88-100MHz only. II and III are arguably the best-sounding tuners ever. Adaptation for stereo easy via phono multiplex socket. Fed by a modern outboard decoder they're deliciously lucid with true dimensionality.

**NAD 4040 1979 £79**

Tremendously smooth and natural sound allied to low prices and good availability make this analogue equal as far as I'm concerned. Needs a good antenna to work properly, however.

**LEAK STEREO 20 1958 £31**

Excellent workaday classic valve amplifier with decent power and drive. Surprisingly modern sound if rebuilt sympathetically. Irresissibly musical and fluid.

**Quad II 1952 £32**

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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.

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

SONY ST-S590 1977 £322
One of the first Dolby FM-equipped tuners, a format that came to nought. Still, it was Sony's most expensive tuner to date, and boasted a very good sound quality allied to brilliant ergonomics.

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

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

ANALOGUE RECORDERS

YAMAHA TC-800GL 1977 £179
Early classic with slop-dope 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!

UHER REPORT 4000 SERIES 1961 £97
Uher's little Nagra beater was made for decades and sold over a million. Brilliantly packaged with bullet proof German engineering and a clean, transparent sound.

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

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

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

DIGITAL RECORDERS

SONY MDS-JESSSES 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.

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

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

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

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

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!

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

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

IMF TLS80 1976 £550
Warm and powerful nineteen seventies behemoth with transmission loading and a mixture of KEF and Celestion drive units. Impressively physical wideband sound but rhythms aren't its forte.

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

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

MISSION 752 1985 £495
Cracking Henry Azima-designed floorstanders combined HDA drive units and metal dome tweeters with surprisingly warm results. Rigid load characteristics makes them great for valves.

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

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

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

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

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

MISSION X-SPACE 1999 £499
The first mass production sub and sat system using NXT panels is a sure-fire future classic - not flawless, but a tantalisingly unboxy sound nevertheless!
Cleasby finally found in Rockbox a usable system that's fit for installation by mere mortals?

The iPod is surely this decade's greatest creation, but one thing it won't do, officially at least, is play FLAC (Free Lossless Audio Codec) files, which are the uncompressed format of choice for the new generation of computer audiophiles. There have been ways around this however, in the shape of alternative iPod operating systems, downloadable as freeware. And this is where Rockbox comes in, for it is available for a vast range of non-iPod devices it also supports; as most River H340s have now expired I have yet to collect enough spares to reconstitute a Rockbox version of one. Old Archos, Cowon and a few more obscure devices are also in the frame for modification. The key thing is don't get excited if you have a Touch/Classic/Nano (1G aside) generation pod, as the last (and the biggest) iPod you can Rockbox is the 5.5G 80GB. Anyone who wants rid of one, let me know!

Rockbox has now reached full packaged release level. As your average audiophile will have become ever more interested in FLAC over the last few years, having your primary format play on a mobile device without transcoding suddenly becomes an extremely appealing option.

I used to fiddle with Rockbox when installation was a very fraught, step-by-step, command line process, and I had some success with a monochrome 40GB 3G iPod, and then more recently finally managed to get the install on a 40GB iPod Photo working; FLAC playback on this machine has been flawless and very nearly entirely cache-lag free.

The Rockbox Utility makes installing on a PC a breeze. Linux and OSX installers are also available, but I have never got the latter to install a pod correctly. But for once this is not a huge issue for me, as the simple fact is that for Rockbox to work on an iPod it needs to be PC (FAT32) formatted through iTunes on a PC before you start. I have also never tried to install Rockbox on any of the non-iPod devices it also supports; as most River H340s have now expired I have yet to collect enough spares to reconstitute a Rockbox version of one. Old Archos, Cowon and a few more obscure devices are also in the frame for modification. The key thing is don't get excited if you have a Touch/Classic/Nano (1G aside) generation pod, as the last (and the biggest) iPod you can Rockbox is the 5.5G 80GB. Anyone who wants rid of one, let me know!

The Rockbox Utility-moderated install process has three main stages, and takes you through them all automatically using the main 'Complete Install' button on the first screen (once you have autodetected which model of iPod you have, or set its path and type manually). The first essential is to install the non-Apple bootloader, which is the program which lets the pod start up in the belief it is a Rockbox. Then there is the managed download of the appropriate Rockbox application for your particular pod. Finally you can select the colour theme of your choice (more limited selection on monochrome pods)! For colour pods, I find the Amarok theme the most appealing from the list offered during installation.

For the purposes of this write up, I initialised a 2GB 1G Nano on a PC, and installed the current 3.3 version of Rockbox with the current Rockbox Utility (I checked it on a Mac again; still doesn't work!). There were no issues at all. I then took it back to the Mac, to start loading it with FLAC and MP3 files I currently had to hand, a simple Finder or Windows Explorer drag/copy to the root of the iPod drive is all you need. The old Flash Rom in the Nano makes the loading seem time consuming, but the results make it worthwhile. Files right up to the bandwidth of my 24/96 'Gaucho' rip played with no problem, sounding great. But in a FLAC-centric world it is almost the convenience of using the same FLAC files everywhere, rather than their inherent quality that swings the argument for Rockbox.

Much like using Squeeze systems, you can navigate the FLAC library simply by folder/file structure, but to take advantage of well-tagged FLAC like you get out of RipNAS (or through assiduous Songbird or Mac Tag tagging), your final step is to run the 1st database update by going to the 'Database' menu and pressing 'Select' so all your metadata and art pays its way...

The only real concern over installing and using Rockbox, is that it will most likely make your use of anything more complex than a 3.5mm stereo jack for docking purposes awkward or impossible. But feel free to experiment; it is very simple to restore your iPod to pure Apple-ness in iTunes after all. And if you like Rockbox, make a PayPal donation to the project!

Mac Rockbox Utility.

Look at all those antique devices it supports...

VERDICT

The best way to get the most of the last days of your old iPods (and other devices). As Rockbox becomes ever more prevalent in audiophile music file collections, it now makes even more sense to free your iPod from the Apple lock-in.

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- multiple device support
- fun themes

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"sadly there have only been a few hi-fi stylists of note I can name in my whole lifetime..."

david price

Back in the nineteen sixties, separates weren't so much designed as bolted together. The styling came from whatever they had inside them, plus an obligatory steel 'biscuit tin' casing for good measure. Of course, there were beautiful exceptions to this rule (Quad gear springs to mind) but generally the look of a product wasn't important, as most of them ended up in large mahogany cabinets anyway.

The seventies was surely when 'hi-fi' took on its own unique identity. The silver brushed aluminium front panel, chunky spun aluminium knobs and aircraft-style switchgear became the design lingua franca of hi-fi, and something that's instantly recognisable even today. Ask a tech-obsessed sixteen-year old boy to sketch a 'stereo' and something not too dissimilar to a 1979 Pioneer SA9800 amplifier is what will appear on paper. At this time, the Japanese obsession for meters and flashing lights kicked in; hi-fi had to be in some way 'kinetic': it had to move, wink, sparkle. Suddenly a dour Quad 303 style box just wouldn't do...

The nineteen eighties ushered in the age of 'flat earth' minimalism, a new generation of British separates arriving with not very much to look at, at all. For me, the original Naim Nait was the supreme exponent of this look. Bleak, black, bedecked with one (power) LED and a 'free gift in a cornflake packet' plastic volume control knob, Naim's Julian Vereker probably designed it this way to save money, but for us starry-eyed audiophiles it was a powerful declaration of intent; in real hi-fi, less is more. The Nait, and others such as the Mission Cyrus and NVA AP30, weren't so much style statements as anti-cool incarnates.

It's quite hard to characterise the designs from the nineties. My memories of the early part of that decade are boxy black Sonys, sort of late eighties 'tech look' separates but with more knobs on. But there were some attempts to make distinctive products of the day. Do you remember the Arcam Alpha Series? All swoopy plastic front panels, as curved as the profile of a Nissan Micra dashboard.

But surely the nineties was notable for its floorstanding loudspeaker craze. Whereas seventies speakers had been a random mish-mash of all shapes and sizes (everything from massive IMF TLS80 transmission lines that looked like the side of a house to the cylindrical JR149s) and the eighties had gone for smaller designs with fewer drive units (Epos's ES14 was typical of this), as was the Celestion SL600), by the nineties it was decidedly uncool to have a loudspeaker with a wide profile. The decade ushered in the narrow baffle speaker with multiple drive units, normally still running in a two (or two and a half way) configuration. Mission's 753 springs to mind here, for a moment the speaker than everyone was using around 1995. How then do we define the noughties? Well, this is surely the decade of the eclectic. We saw the reappearance of the silver fascia panel, after two decades of black boxes. We saw a massive growth in the number of valve amplifiers, and the appearance of the skeletal turntable. Erm, hang on, didn't that start in 1980 with the Michell GyroDec? Well, yes, but suddenly every new turntable that arrived after 2000 couldn't come in a wooden box (sorry, I mean "plinth") anymore. It had to naked, plus a Perspex base.

It's been a strange decade for the silver disc, with a variety of different ways of playing it, from PlayStations to ultra high end battleship top loaders such as the Naim CD555. Indeed CD players have gone back to their roots in ergonomic terms. Everything from Stello's CD-T100 to Oracle's CD1500 now comes with a top loading mechanism, just like the original Philips CD100 from 1982. For those not interested in manually placing a disc on a spindle, there's now a craze for the slot-loaders, like Cyrus's CD8 SE and Rotel's RCD-1520. After twenty years of tedium, with creaking, rattly drawers moving out to accept your disc, suddenly CD players have got interesting again, just as hardware sales fall of a cliff. Doh!

This month's group test (with me living with the new AuraNote Premier for several weeks) made me realise how little real rhyme or reason there's been to hi-fi design over the years. Amongst four decades of new products, it's remarkable how few have actually been ergonomically designed rather than simply just 'put together'. Possibly it's because those who make hi-fi are more often engineers than architects. Everything on the outside then follows from what's inside, in a logical way, but with little original thought.

Sadly there have only been a few 'hi-fi stylists' of note I can name in my whole lifetime. Jacob Jensen ran his own audio design studio in Copenhagen, Denmark, before joining a certain company named Bang and Olufsen in 1964, whereupon he radically redefined the look and feel of the marque's products.

Over the water in England, Allen Boothroyd designed the striking Lecson AC1/API pre-power amplifier of the early seventies, then went to work for Acorn Computers (to style the Acorn Atom and BBC Micro) and latterly of course Meridian. The packaging of those late-seventies 100 series is a testament to his genius. Along with Kenneth Grange who did the AuraNote Premier, he's one of our great industrial designer. We should treasure such people, holding them in as high regard as our great audio engineers.
...well yeah, this new DAC from Naim costs a few notes, but it arguably stitches up the competition good and proper on performance and flexibility so i'm happy with my purchase from Oxford Audio...

**Naim DAC**

Exceptional music making is the first hallmark of the Naim DAC and the second is versatility. Versatility comes thanks to S/PDIF inputs that can accommodate either optical or coaxial formats and USB inputs that can accommodate memory sticks and Apple iPod/iPhone models. It arises also from the numerous Naim system upgrades that the DAC makes possible.

Simultaneously with its introduction, the CDX2 and CD5 XS CD players have gained S/PDIF outputs and can now benefit significantly from use with the Naim DAC. It also makes it possible for existing preamplifiers to now be incorporated into digital audio systems as well. Get ready to be converted!

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Denmark is the latest country that has decided to switch from using DAB to the more modern DAB+ standard. Denmark is no ordinary country where DAB is concerned, though, as it is the one and only country that has the same level of DAB ownership as the UK, with around a third of all households owning a DAB radio. To put this into context, the country with the next highest household penetration is Norway with 15% of households owning DAB, then Switzerland with just 4%, then Germany with 2%. The UK and Denmark are therefore the flag bearers for the old DAB system, which makes Denmark's decision to ditch DAB all the more significant, and all the more embarrassing for the UK radio broadcasters.

Eric Henz Kjeldsen, the head of Distribution at DR, which is the Danish equivalent of BBC Radio, told the Politiken newspaper that DR's digital-only stations will switch from DAB to DAB+ in 2010, but that DR's biggest stations, excellingly-titled P1, P2 and P3, will continue being broadcast in the old DAB format for some time to come. This is so that owners of the 1.3 million DAB radios in Denmark would still be able to receive these stations.

Eric Henz Kjeldsen justified the decision by saying that the majority of DAB radios are relatively inexpensive to replace, and that most owners will have had a few years of use out of their DAB radios by the time all of the DAB services have been switched off. He also said that listeners would benefit from the switch, because "DAB+ is a much newer and better standard than DAB", and with DAB+ being far more efficient than DAB it would allow for "more than twice as many digital channels as today, whilst the sound quality will also be improved".

Although I'm an advocate of switching from DAB to DAB+ as quickly as possible, I have to say that I'm quite surprised at how aggressive DR's switch over plan is, because it's the equivalent of the BBC switching 6 Music, 1Xtra, Radio 7, the Asian Network and Radio 5 Sports Extra from DAB to DAB+ next year, and I certainly wouldn't expect the BBC to do that!

Another reason why I'm so surprised at the way DR is going about this is that it isn't actually necessary to switch off the DAB stream for a stereo radio station in order to launch a DAB+ version of the station, and doing this wouldn't require any additional bandwidth so long as the DAB stream is reduced to mono. The advantages of launching DAB+ streams in this way is that owners of non-upgradeable DAB radios would still be able to listen to the station, so people would be far less likely to complain about the change, and owners of equipment that supports DAB+ would be able to receive the station at higher audio quality than beforehand. The older and newer format streams could then run side-by-side until the broadcaster decides to switch off the DAB version. For example, this could be once the vast majority of people owned DAB+-enabled equipment, which would then allow the bit rate level of the DAB+ stream to be increased to improve the audio quality further.

Irrespective of how Denmark switches its stations to DAB+, this is yet another huge blow for the old DAB system, whose turnaround in fortune is now almost complete. Just five years ago, most people with an interest in digital radio would have staked their houses on DAB going on to become the European digital radio standard, yet now only the UK and Norway support it (Ireland also supports DAB, but only 20,000 radios have been sold, so I'd predict that they'll switch to supporting DAB+ in the next year or so).

The other main 'DAB country' switching to DAB+ can only be a good thing for those who would like to see the UK make the switch as well. If DR manages to switch its stations to DAB+ without receiving many complaints, that would greatly increase the chances of the BBC following-suit sooner rather than later. But even if things didn't go smoothly in Denmark, the mere fact that the UK is now one of just two countries still supporting the outdated DAB system (ignoring Ireland) puts pressure on the UK to switch due to the sheer embarrassment of being the joint most backward digital radio country in the world.

The Digital Britain report should have laid out concrete plans for switching to DAB+ prior to digital radio switch over (if or when that actually happens), but as per usual for a Government/Ofcom report, the issue was dodged in order to avoid affecting the sales of DAB-only receivers in the shops, and the report claimed that DAB would be okay for the foreseeable future. I don't buy that for a second though, because commercial radio will want to use DAB+ as soon as possible, and, in my opinion, Denmark now deciding to switch puts the writing on the wall for the BBC to take the plunge as well."
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IT'S TAKEN THE WORLD BY STORM!
"Onkyo's easy way of combining old and new is fascinating, and a taste of things to come..."

noel
keyword

I'm intrigued by Onkyo's product line up in Patrick Cleasby's system this month, because this venerable Japanese hi-fi company has cleverly combined the oldest of the old with the newest of the new in a system without batting an eyelid, and they've covered all ground in-between. So you can play LP, CD, SACD and an iPod, digitally connected no less! That spans the entire history of hi-fidelity, source wise, from the vinyl LP right through digital discs up to and including internet delivery. But that is the way the world is going, slowly discarding the view that if it is modern it is good, and all else is, as Karajan said, "gaslight".

Karajan said that of CD, and it's telling to look at the performance of the CDP100 in this issue to see how deluded he was, a strong enough illustration if you want one that seeing a shiny new technology as offering salvation by the nature of its newness alone is naive and becoming outdated. Measuring the CDP100 shows that it actually has about 50dB usable range, because any signal lower than -50dB down is hopelessly distorted. Since you cannot go close to 0dB in a digital system, in practice it had even less than this, around 45dB if musical peaks are to be free from serious clipping distortion. Amazing then that Mr Karajan, along with millions of others, simply believed what they were told, that digital was perfect. At launch it was worse than LP!

Philips and Sony got away with the launch of CD, the UK Government is having an altogether harder time trying to convince anyone DAB is useful to its citizens in any way, shape or form. Just look at the hopelessly forlorn meanderings about it from the Department of Culture, Media and Sport in our Letters pages, where the only justification provided for DAB is that it is digital! So I suppose that means "better", but no one is actually saying so. The reason is, surely, that DAB proponents realise this they can't get away with any simplicities any more, as well as the fact that it isn't true of course! The Government's statement carefully avoids entering this territory and we end up reading a 'justification' that is no such thing, which is disconcertingly vacuous I find.

Hi-Fi World has always mixed the old with the new, finding strengths and weaknesses in both. My dear old Leak Trouthline is now virtually unusable in London, swamped by pirate radio Reggae and Soul stations, interference and much else, yet at heart it still has the best sound of any tuner I have ever used and if I lived in the village of Wrotham in Kent it would steam along merrily every day I'm sure. So technology can be appropriate to context and it's dangerous to dismiss something because it is old fashioned.

At the same time, it does not automatically follow either that being old fashioned is better! And here I can't say I fully support the view that all old kit bought for a song from eBay is going to sound good. A lot of it isn't quite frankly, often because of atrocious 1970s component quality. So in other words it might have been good at heart, but you won't hear this unless you replace most of the resistors and capacitors. I have done this often and the change can be startling. Old is not necessarily gold to me, except in certain particular cases, so beware of what you buy.

What is intriguing me at present about today's acceptance of the old alongside the new are the reasons. Just look at an old Jaguar E-Type fully restored, preferably with those four lovely fish pipe exhausts of the V12, and top down, or even the immaculate TR4s at a Triumph owners meet at Duxford, and the attractions are very obvious. But I'm puzzled by the pathetic popping sounds of old scooters in my area (and by old I mean Vespas and Lambrettas that are at least thirty years old), usually in a new condition and piloted by twenty something year olds in Sixties-style pudding basin helmets. I suspect this is retro-chic because I can't see a lot to desire in these two wheeled relics other than the amiability of travelling at a speed where you cannot hurt yourself. But that has to be balanced against being unable to outrun the Council dustcart and ending up beneath it.

Taking to the implements of the past isn't exclusive to high fidelity, then. That's why Onkyo's easy way of combining old and new is fascinating and a taste of things to come I suspect. Their receivers have become best sellers in the UK where they exploit this thinking, leaving other manufacturers struggling to understand. The more I see the old and new being used on merit alone, not on the whimsy of fashion, the happier I am.
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"we hi-fi types have existed at a distance from the rest of the normal music lovers out there..."

adam smith

So, my regular trips to Tesco finally paid off. Despite months of looking at the ‘Out of Stock’ sign, as you will have seen, I finally managed to lay my hands on “Britain’s best loved hi-fi”, the Tesco Value MC-907. Of course it really wasn’t very good, but in a way I felt that to be really critical and snobby about it was to be missing the point of its existence. The sort of people who buy one of these are never going to spend upwards of £30 on a single album – certainly not on that old fashioned vinyl stuff (“records – can you still buy them?”). They are the kind of people who will never have arguments about whether cables make a difference, if vinyl sounds better than CD or whether a ported or sealed loudspeaker enclosure is the better way of doing things. To the sort of people who will buy the MC-907, DAB radio is a most likely a wonderful invention and top end hi-fi means Bang & Olufsen (not that it necessarily doesn’t, of course!).

I realise that these statements may make me sound snobbish and snooty, but believe me that they are not meant to be disparaging as, after all, it has pretty much always been the case that we hi-fi types have existed at a distance from the rest of the normal music lovers out there. Think back for a moment, if you will, to the friends and family you have known over the years since you were young. Granted that, as a reader of this magazine you will be a hi-fi enthusiast and will very probably have relatives who were similarly afflicted, as I did, but I would wager that a moment spent recalling the audio replay equipment in the houses of friends and relations over the years will elicit more names like Alba, Leak, Quad, Nakamichi and SME.

I suppose this is true of many walks of life however, as there are certainly more Toyotas than Ferraris in the driveways of my nearest and dearest, despite my passionate and reasoned arguments as to why a secondhand 412GT would make a better family runaround than a diesel Aventis...

In a way, I actually think that the sort of people I am talking about here are quite lucky, as it is the music that matters to them first and foremost and, to be honest, this is exactly the way it should be – something that one or two hi-fi enthusiasts have had a tendency to forget on their way to audio nirvana! When most people hear a track they like, they go onto iTunes, download it to their iPod or computer and simply get on with the business of listening to it and enjoying it. They have no need to concern themselves over bitrates and compression methods, and they certainly don’t spend hours worrying whether that album they fancy is ever going to be released on vinyl and whether a kind distributor will bring it to the UK if so, or whether it’s going to cost a fortune to acquire from some far-flung corner of the globe and possibly arrive in a few pieces. Or is that just me?

The fact is that, like the generations of portable radios, battery operated cassette players and Dansettes that went before, the Tesco MC-907 is an effective source of music for a good many people and is undoubtedly entertaining a good many of them right now as you read this. For this alone it seems a shame to really disparage it and, after my time with my example, I actually found myself growing quite fond of it. In its own little way it wormed its way into my heart and I’m sure I can find some shelf space in the guest bedroom or the shed for it – it’s certainly the cheapest award winner I’ve ever bought!

On a second topic, I cannot help but notice that the subject of Empire turntables keeps cropping up in our letter pages and it seems that the catalyst for this was the letter from Billy Gunn in our June 2009 issue, so thanks for that Billy! The marque’s name appeared again last month after an informative communiqué from Simon Brown (I’d forgotten about the company’s hexagonal loudspeakers) so it appears there is definitely a rich vein of interest in these products running through the readership, which I am hoping to mine successfully. Regular readers may recall that I signed off my reply to Mr. Gunn with the words, “I have been keeping my eye out for one for a number of years now, and rest assured that, if and when I do find one, I will be sharing the news with Hi-Fi World readers!”

Well, that time has come, as I am now the proud owner of a Troubadour 598 MkII and actually owe some big thank yous to the fine gentlemen Andy and Phil at Phonography near Winchester for this. As it happened, my telephone rang the very day after that June issue hit the shelves and it was Andy himself, saying, “we’ve got one of those stuck out in the back room and have been wondering what to do with it!”. Naturally, my car may have come very close to breaking the odd speed limit on the ten miles or so to from my house to Phonography’s country premises, the beast was unearthed and a deal was struck. I’m afraid that it has been sat waiting for a while, but am pleased to report that the sturdy old-timer is now in mid strip-and-clean and I am waiting impatiently for a new belt to arrive. However, I feel sure that an Olde Worlde will be coming this way regarding it in due course, so I shall say no more for now!
Innovation Situation

Adam Smith listens to the latest Innovation turntable from Teutonic vinyl-meisters Clearaudio...

Just as Italian products have traditionally been portrayed as 'full of character but flawed', so German designs were often regarded as 'staid and a little dull, albeit well engineered'. Nowadays though, Teutonic products are more universally admired, in the sense of forward looking, well designed and unerringly well built. It's not difficult to see why this is now the case, as some products coming out of Germany are built like few others. It's often said that, if you want to know what features the family car of a five years time will have, just look at the current Mercedes S-Class...

This holds for the hi-fi industry too. A wander around the hallowed halls of the Munich High End Show reveals a whole host of companies churning out products that make some of their contemporaries from other nations look both staid and ineffective. The leaders in the German turntable field are surely Clearaudio. With a product range that culminates in the Statement, which Clearaudio describe as "taking the best and making it better" and for which adjectives like 'mighty' seem too weak, this is surely 'Germanic' in the very best sense of the word.

A glance at Clearaudio's range shows that it's growing rapidly, and latest to arrive on the scene is the Innovation turntable, described by the company as "setting new standards in high end turntable manufacturing". Whilst a cursory glance may reveal nothing more than a funky looking belt drive design, things are rather less simple under the skin. Firstly, the deck features Clearaudio's patented floating magnetic bearing for virtually frictionless drive, and the three speed motor uses a new optical regulation circuit to control its speed, where an infrared sensor monitors a highly reflective calibrated scale on the underside of the platter and the control system keeps the speed under check through feedback from this. A quick glance over at the astonishingly impressive measurements obtained by this [see MEASURED PERFORMANCE] show that this system works very well indeed.

Other than this, the chassis features a shape that has apparently been optimised for resonance control, and the platter is a two-part design, featuring a steel lower platter with the markings for the optical sensing system, and above this a Delrin second part that provides the contact with the record and the drive surface for the belt. Each speed is adjustable through trimpots in the chassis and the whole caboodle sits on three spiked feet, which are easily adjustable for levelling. Fit and finish are very good, although the lightweight 'wall wart' power supply struck a rather discordant note, particularly given the impressive mass of the rest of the 23kg beast!

Fitted to the review deck was Clearaudio's new tonearm, the Universal, which itself encompasses a number of noteworthy features. Obviously the high quality bearings are a given, and the arm tube is a carbon fibre type with differing diameters along its length to dissipate resonance. An optional VTA...
adjustment collar is available, which permits tonearm height adjustment during play and the headshell can be loosened and rotated for optimum cartridge azimuth adjustment. Once again, measurement shows that this works very well; the arm design is clearly beyond reproach. I was however rather disappointed by a couple of fit and finish issues. That VTA collar has no lock on it and allows the whole arm a couple of millimetres of lateral free play unless adjusted to its end stop. Also, the screw thread for the magnetic bias compensator made a squealing noise as it was adjusted. Small gripes maybe, but I personally feel they are valid, when similar and considerably cheaper products from the likes of SME, Jelco and Rega are beyond reproach in this respect. I also have to confess that, to my eyes, the Universal is challenging aesthetically. Still, I used to own a Ford Scorpio, so perhaps am not best qualified to pontificate on matters stylistic!

SOUND QUALITY
Clearaudio supplied the Innovation with their £3,600 DaVinci cartridge and this was how I commenced listening. Initial impressions were very good indeed, with the whole combination turning in an effortlessly detailed and intimate performance. There seemed to be no particular area of the frequency range leaping out at me, as the Innovation took everything in its stride quite happily and offered a uniformly strong performance from top to toe.

Treble in particular was a pleasure, as the Innovation seems to have mastered the trick of being simultaneously insightful and blessed of fine clarity, whilst also imbuing the top end with a delightful softness and sense of flowing ease. Cymbals and hi-hats were never jarring or splasy, and yet they never floated off into the background to be glossed over, as is all too common with turntables that offer more of a sense of smoothness to proceedings. The Innovation and Universal strike a finely judged balance in this respect.

Where this paid off particularly handsomely was in terms of busier classical material, where the Innovation separated out the action with almost surgical precision. Filling the front of my listening area with scale and drive, the horns and brass were easily distinguishable, both in form and location in the soundstage. The violins in the particular piece I was playing were expertly located to the left of the action and completely free of any nasty hints of screechiness. I did feel that some other decks I have auditioned at the price, such as the Thorens TD550, were better able to pull the action out into the room and consequently draw me as a listener better into the recording, but the Clearaudio still made a top job of throwing images well to the sides to offer a broad sense of perspective.

Changing the tempo a little to some classic rock in the form of Focus’s ‘Moving Waves’, I noticed that the Innovation was really at home when asked to reveal...
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All in all, the Clearaudio's real and the fine tonality of every captured her vocal inflections backing instrument brilliantly. but there was no doubt that it soundstaee as much as some. quite filling in the centre of the system I felt the deck was not 'Norwegian Mood' LP Clearaudio offered a pleasingly of my loudspeakers and the soft classical whispered out forth with clarity and power, and Universal combo proved frequency range more than from the bass guitar were a tad compensated, as the Innovation to via my idler drive Garrard. I chose to slide under its more rounded than I am used Pretending'. Here, the notes from the bass guitar were a tad more rounded than I am used to via my idler drive Garrard. Still, the rest of the frequency range more than compensated, as the Innovation and Universal combo proved equal to the task of getting right to the heart of whatever I chose to slide under its stytw. Hard rock pounded forth with clarity and power, soft classical whispered out of my loudspeakers and the Clearaudio offered a pleasingly intimate rendition of Kari Bremnes’ vocals from her 'Norwegian Mood' LP. Once again, through my system I felt the deck was not quite filling in the centre of the soundstage as much as some, but there was no doubt that it captured her vocal inflections and the fine tonality of every backing instrument brilliantly. All in all, the Clearaudio's real area of strength is in revealing the character of both instruments and the human voice. Never did I feel an ambiguity in terms of who or what I was listening to, as the Innovation and Universal made each and every aspect of every recording abundantly clear, but without losing the overall focus of the performance as a whole. Overall, it is a lovely performer.

CONCLUSION
The Clearaudio Innovation turntable and universal arm combination is a magnificent record player, of that there is no doubt. The even-handedness with which it approaches any sort of music means that it always turns in a thoroughly competent and enjoyable performance, no matter how soft and mellow, or loud and thrashy you are asking it to play. My only real remark is that it lacks the 'wow factor' that some decks bearing this sort of price tag have. I never found it anything less than superbly enjoyable, but equally you couldn't say it's one of the more 'showy' superdecks. Rather than grandstanding, it simply gets into the music in a subtle and delicate way.

This is precisely the point of the Innovation: it's a self-effacingly superb way of playing vinyl that never draws attention to itself, a turntable that should be - as the saying goes - seen but not heard. In the true spirit of German heavy engineering, it's a sophisticated, safe and solid choice that's bound to win many friends.

MEASURED PERFORMANCE
Our analysis of arm vibration using an accelerometer shows the assembly is fairly inert by current standards, all peaks being below 0.1g. The main arm tube bending mode lies at 500Hz and is very low in amplitude; this is as good as it gets and suggests the arm will have solid bass, stable stereo imaging and likely a wide sound stage at lower frequencies. The third order bending mode which also affects the headshell and cartridge is clearly at 1500Hz, is narrow and of low amplitude so will add no arm 'ting' type colouration. There is an unrelated small peak between them at 725Hz but it too is of low level and, being narrow, holds little energy. The usual forest of high frequency modes possibly related to the headshell exist above 4kHz but again they are of low level so treble should be clear.

The Clearaudio arm measures very well by current standards, being up with the best, if not surpassing them. The platter does seem to measurably benefit from magnetic suspension, since its unweighted IEC Linear Wow & Flutter figure was one of the lowest we have ever measured at 0.065% and it maintained this low value stably over a long period. As a direct result, the IEC Weighted value was also very low at 0.042% - quite amazing figures that few turntables will easily rival. Absolute speed accuracy was good at -0.3% slow as delivered, an inconsequential error.

Measurement shows that Clearaudio's Innovation turntable and arm offers exceptional results and is a fine piece of engineering. NK

VERDICT
High end heavyweight vinyl spinner with superlative levels of detail. Never flustered, it cuts to the musical choice in a characteristically Teutonic fuss-free way.

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FOR
- uniformity of performance
- vivid midrange detailing
- soft and enveloping treble
- superlative speed accuracy
- sheer stature!

AGAINST
- a few minor build issues
The Opera Consonance Audio Company of Beijing is the oldest of China's respected audio manufacturers, having been founded in 1994 by Mr. Shi Hui Liu, and I would say that they are definitely the kings of left-field. Whilst I have heard quite a few of their products and been impressed by them all, it is the sheer breadth and variety of their range that never fails to amaze me. If any readers can name a single current manufacturer where high-end CD players rub shoulders with affordable turntables; where single-ended valve amplifiers like the Cyber 10 sit alongside solid state 200W behemoths like the Forbidden City Calaf, and where horn loudspeakers find themselves stablemates to an iPod dock, then please let me know, because I can't think of any!

It is the record playing department with which we concern ourselves here though, as after testing a couple of Consonance's highly worthy LP spinners, I could not help but notice that the tonearm fitted to both, the ST100, was a rather special item. This formed the base of the ST range, below the ST300 (another nine inch, multi-pivot design), the ST300 (a 10.5in unipivot) and the ST600 (another unipivot with adjustable effective length from 10.5in to 12in). I have sent much nagging in the direction of Consonance's UK distributor, Ailum Audio, for a review sample of the ST500. However, it was not to be as I recently learnt that Consonance had pulled a curve-ball on me. Yes, that's right, they discontinued the entire range!

All is not lost however, as I sit here with Consonance's new tonearm quietly warming up beside me, and rather smart it is too. The newbie actually comes in two flavours; the T988 which is a nine inch unipivot design, and the T1288 which is the twelve inch variant. The designs are actually identical in other respects and spare arm wand/bearing assemblies can be purchased to simply lift on to and off the installed base. Each wand comes with leads terminated in a small multi-way plug that connects to a short lead with matching socket that is screwed to the armbase. The other end of this lead has a pair of phono sockets, so that the interconnect of your choice may be easily used to connect to your amplifier or phono stage.

The new arms have an interesting bearing structure, consisting of a 'well' with a central protrusion in the base around which sit six ball bearings, and the rounded 'point' on the underside of the arm fits into the centre of these, free to move on their upper surfaces. Maybe this doesn't make it a conventional unipivot in the strictest sense of the word but the arm feels more stable than some of the more 'point on a spike' types. Interestingly, this must be a very new development as the manual shows a thin point and makes no mention of the bearings!

The armtube itself is made of carbon fibre and a single weight allows for balancing in both the fore-and-aft and port-starboard planes. The headshell is little more than a basic support platform, very much in the mould of the Simon Yorke S9 arm that still stands as the best unipivot we have yet measured at Hi-Fi World. Construction quality is excellent, although I was a little disappointed to find that the cueing lever seems to be more akin to the first ST100 arm that I met than the second, in that it dumps the stylus into the groove with a rather abrupt thud. Such things are rather a shock, especially when used to an Alphason cue lift so overdamped that there is time to brew a cuppa in between tapping the lever forward and diamond finally hitting vinyl!

SOUND QUALITY

It is often true that one affordable unipivot arm can often give similar results to another, and to really step forward in sonic terms, a greater outlay has to be made. Consequently I wondered if the ST988 would offer the usual blend of strengths and weaknesses that are most often part of the package with such designs. As the opening bars of Steely Dan's 'Do it Again' rang out through my loudspeakers, however, I realised that the ST988 seemed destined to impress. This particular track, taken from a double 'Best of Steely Dan' album is a rather laid-back recording that lacks top end sparkle and, unless a vinyl spinner can really cut through this to the material underneath, can often sound rather drab. With the Consonance in charge though, everything leapt out into the room and not the slightest bit of action was missed. Even more encouragingly, the bass line underpinning the track was impressively detailed and spry...
despite, again, not being the most vivid around in recording terms.

I was pleased to hear that the ST988 offered the traditional unipivot strengths of space and atmosphere around instruments and singers, as this is one aspect of such a design that I always find most enjoyable. With a good design of this type, performances stretch well into the distance and simultaneously project into the listening area, making a good recording a truly room-filling experience. Spinning such a recording, in the form of Eleanor McEvoy's 'Yola' had me thinking that perhaps I actually had a room full of musicians rather than a room half full of hi-fi!

The lady's vocals were marvelously intimate and forthright, the Consonance capturing each phrasing inflection as she uttered it and giving a vivid sense of being there. I also noted with delight that the drums that underpin the track 'Isn't it a Little Late?' were snappy, raft and full in their physical form. All too often even the best unipivots can be found a little wanting at the low end, but it appears that the T988 is not one of them.

With this in mind, I decided to see how far I could push things down at the bottom end. Maxi Priest's eponymous album went under the stylum next and the track 'Suzi - You Are' punched out of my loudspeakers in a forthright manner. In absolute terms the Consonance lacked the real punch, drive and virtually instantaneous start and stop of my reference Alphanson HR-100S, but it really wasn't far off and I certainly never felt that it was struggling; something that can occasionally afflict another favourite unipivot of mine, the Roksan Nima. The ST988 has an air of confidence about it at all times, and not once did I hear it give the sense that it was out of its depth, despite flinging a range of synthesiser bass lines, double basses and even some lithe fretless bass material at it. The ST988 took it all comfortably in its stride.

Part of this air of confidence surely has to be the fact that the ST988 seems completely uncritical of the material that is fed to it. Yes, this should naturally be true of any good hi-fi component but the fact is that a certain item's sonic signature may often suit one style of music over another. The ST988 seems to pull off the trick of coming complete with a whole range of musical 'hats', and it just put the appropriate one on according to what I was playing on it. Grand orchestral soliloquies made it seem to stand firm in order to elicit a fine sense of purpose and control, whereas some more soft jazz flavours seemed to have the arm sliding back, kicking its shoes off and lighting up a cigar. At all times instrument definition was excellent, rhythms captured expertly and sound staging deep and well ordered, if ever so slightly diffuse at the very extremes of left and right.

A final fling in the form of Runrig's 'The Big Wheel' album was a delightful reintro- duction to an LP that I have not played for far too long. Once again, the Consonance took a controlled yet fluid attitude to the rhythms of the faster paced tracks, but the tough time if it didn't come up to scratch. It turns out I need not have worried however, as the T988 builds on its predecessor's strengths and tops them off with a cheeky dollop of extras that, for me, make it a must-audition at the price. Heartily recommended!
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Please phone for price list and further information.
Ever wondered what goes on when you send your tonearm to be rebuilt? David Price walks you through the restoration of his ailing Michell Focus Arm...

It was in such a sorry state, so I decided I'd no option but to get my classic Michell Focus unipivot rebuilt. Given that Audio Origami has made a name for itself restoring and rewiring Rega RB250s, I decided to enlist the services of their enigmatically entitled 'Johnny Seven', latterly of Syrinx Precision Instruments, to do the job. The prognosis was bad; the arm actually turned out to be very slightly bent, the aged wiring was in a dreadful state and the external condition was 'distressed' by its earlier life with a heavy smoker (not me, I hasten to add!) As such, the jobsheet entailed realigning the tube, rewiring the arm with Cardas 33ga OFC cable inside and Super OFC cable outside, and a thorough 'chemical peel' of the aluminium parts. Here's how Audio Origami did the rebuild...

Johnny's first job was to evaluate the work involved. It was clear that there was cosmetic damage; the silver finish was tarnished in a few areas. Here is the arm as sent to Audio Origami by me, complete with some sticky label marks, thanks to the label applied to it in the junk shop in which it spent many months before I found it! Also, the internal wire was well worn and there were a few cartridge tags missing...

The arm tube seemed a little bent, possibly in transit as I didn't remember it as such. Johnny duly noted it down, and it was duly straightened later...

The first job was to strip the arm down and inspect the bearing shaft and cup assembly. As the arm was nearly thirty years old, Johnny said, "I would expect a little wear and tear on the bearing surfaces". He added that, "this type of primitive shaft in cup bearing needs oil to bring down the bearing friction, as it does not have the more normal shaft and 4 ball bearing assembly". The Focus arm uses a oil bath to damp and oil the bearing parts, and this had all but dried up!

The gunge on the cotton bud shows how dirty the threads on the bearing area had become; any moving part becomes like this over time. Classic hi-fi buyers take note!
Inside the bearing housing, it's a plain aluminium cup and is not hardened; rather, the oil bath is designed to keep friction in check. After cleaning, Johnny replenished it with his special 'booster PTFE oil' which should last longer than the stock oil used back in the late nineteen seventies...

A closer look shows some machining marks and a dark area near the centre where the bearing shaft has worn in over the years...

This picture shows the bearing shaft point, and if you look close you can see some wear near the very tip. All to be expected in an arm of this age...

With a back light, we can see the silhouette of the shaft and happily it looks fine!

An even closer look at the hardened tip shaft shows very little wear really if you consider the arm's age; testament to the fine build quality.
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HI-FI COMPONENTS

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Cyrus has introduced a new range of amplifiers. Featuring circuitry developed for its DAC 7SE, 8 XP d & Pro XP d, Cyrus’ latest digital inputs are for playing most popular video compression, all at high-quality 24-bit 96kHz. The new Cyrus 6 XP d is a two-room multi-zone amplifier.

Rotel
Rotel’s highly-regarded 15 Series moves from Rotel’s Premium line of current, ensuring a vice like grip and precise output stage and is capable of swinging over forty-five pounds of drive. The dual mono designed Tucana II uses three heavy-duty transformers, has a refined bi-polar differential multi-DAC converter technology to provide breathtaking realism.

Arcam
Arcam FMJ combines sleek design, flexible connectivity and a level of reproduction far beyond that of budget separate systems. Arcam’s FMJ range includes two CD players, three integrated amplifiers, mono blocks, and stereo power amplifiers plus the DASH8/FM10 turntable. A range of home cinema components is also available. Available in silver or black.

Leema
Leema Antilea CD Player: TUCANA II AMPFLIFIER
With an amazing sound quality and outstanding sound fidelity, the new Antilea CD player features a new MOSFET circuit, a five differential multi-OAC converter technology to provide a breakthrough system.

Roksan
Roksan Kandy K2
Combining sleek design, flexible connectivity and a level of reproduction far beyond that of budget separate systems, Roksan’s Kandy series CD player uses a custom-designed woofer and ribbon tweeter. These are housed in solidly built plasma-topped cabinets for outstanding performance.

Monitor Audio
Monitor Audio introduces a new range of speakers available in a choice of finishes. The Silver RX series of shelf speakers are available in a choice of finishes with high-grade finishes to complement any room. The Meridian 112 speakers feature a custom-designed woofer and ribbon tweeter. These are housed in solidly built plasma-topped cabinets for outstanding performance.

MARantz
MARantz CD6003 PM6003
Marking the highly-regarded 15 Series for MARantz, the new CD6003 amplifier and CD6003 CD player combine Marantz’s Premium line of current, ensuring a vice like grip and precise output stage and is capable of swinging over forty-five pounds of drive. The dual mono designed Tucana II uses three heavy-duty transformers, has a refined bi-polar differential multi-DAC converter technology to provide breathtaking realism. Marantz’s Kandy K2 series CD player uses a custom-designed woofer and ribbon tweeter. These are housed in solidly built plasma-topped cabinets for outstanding performance.

B&W Zeppelin
B&W Zeppelin
This award-winning iPod docking station is stylish and compact, stylish and compact, stylish and compact, stylish and compact...

ALL-IN-ONE SYSTEMS

Arcam Solo Mini
Arcam Solo Mini award-winning integrated CD Player and Amplifier with Blu-ray control via optional remote.

Dali Lektor
Dali Lektor continues its range with the Lektor 2. In this model, the award-winning Lektor 1, this new model represents outstanding value.

Wharfedale
Wharfedale Diamond 10.1
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Monitor Audio
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TELEVISIONS

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B&W Zeppelin
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HOME CINEMA SPEAKERS

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B&W MT-25
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After cleaning and oiling the main bearing, the next job was to replace the wiring with Audio Origami's 'Super OFC' external cable. An additional earth strip was made up inside the arm for the main earth of the base, and a separate earth was made inside the arm tube. "This should improve the original idea of sharing the arm tube earth with the green wire", Johnny observed...

Once fitted to the base, this makes a secure external lead...

The arm was rewired with Cardas 33ga OFC internal wire and VdH gold cartridge clips were fitted as a matter of course. This has to be done because thirty year old wiring does not make for great sound quality!

Now reassembled, the arm was cleaned with special solvents to remove the scunge. The excellent quality of the original machining is shown in its full glory; it’s come up beautifully!

Job's a good 'un! Here we see the finished product; the tonearm looks new again, and now sports superior wiring to standard. Unipivots are simple things, so the rebuild wasn't complex; it just needed painstaking attention to detail. "I'm sure it will be able to perform as well as some other well known unipivot arms for a fraction of the cost", concluded Johnny.
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Paul Messenger Hi-Fi Choice September 2008

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NOVEMBER 2009 HI-FI WORLD

DIAL A DEALER
This is a comprehensive directory of Hi Fi Dealers throughout the UK and Ireland
**Ex-demo and second hand items**

### Digital
- **47 labs Dumpty S/H** | **Was**: 1425 | **Now**: 799
- **47 labs Gemini Progression dual mono DAC x-demo** | **Was**: 3884 | **Now**: 2499
- **Copland CDA823 X-demo** | **Was**: 2300 | **Now**: 1750
- **Krell Evolution 505 cd/sacd x-demo** | **Was**: 8598 | **Now**: 6875
- **Krell Showcase DVD x-demo** | **Was**: 3698 | **Now**: 1999
- **living Control Room Box4 BNIB** | **Was**: 1712 | **Now**: 1199
- **living Control Music Box 3 BNIB** | **Was**: 2887 | **Now**: 1995
- **Naim Audio CD555/PS555 Reference CD player S/H** | **Was**: 14000 | **Now**: 9500
- **Orpheus Zero CD Player S/H** | **Was**: 4800 | **Now**: 1599
- **Orelle CD100EVO S/H** | **Was**: 1500 | **Now**: 599
- **Roksan Kandy CD MK1 S/H** | **Was**: N/A | **Now**: 199
- **Theta Pro Basic II DAC with Oscim/Balanced S/H** | **Was**: 2990 | **Now**: 499

### Analogue
- **Koetsu MCR-1 Transformer S/H** | **Was**: 3333 | **Now**: 1399
- **Kuzma Stabi XL4/313 x-demo** | **Was**: 17945 | **Now**: 2999
- **Kuzma Stabi S/ Stogi S double arm version Xdemo** | **Was**: 2795 | **Now**: 1950
- **Mark Levinson No320s Phono Module x-demo** | **Was**: 995 | **Now**: 649
- **Lehmann Black Cube Twin BNIB** | **Was**: 900 | **Now**: 599
- **Lehmann Black Cube Linear BNIB** | **Was**: 1300 | **Now**: 950
- **Roksan Xerxes DX2/XPS/DSU Standard Power Supply** | **Was**: 800 | **Now**: 640
- **Voyd Valdi with Origin Live motors and PSU S/H** | **Was**: N/A | **Now**: 549

### Preamplifiers
- **Audio Research SP17 stereo preamplifier x-demo** | **Was**: 2749 | **Now**: 2199
- **Karan Acoustics KAL preamplifier S/H** | **Was**: 3720 | **Now**: 2250
- **Naim Audio NAC552/PS552 preamplifier S/H** | **Was**: 11750 | **Now**: 7999

### Amplifiers
- **Audio research VT 60 S/H** | **Was**: N/A | **Now**: 799
- **Anatek A50R Remote class A integrated x-demo** | **Was**: 1850 | **Now**: 999
- **Gryphon DM100 Dual mono power amplifier S/H** | **Was**: 15000 | **Now**: 3999
- **Krell Evo 402 400w stereo power amplifier Black x-demo** | **Was**: 12900 | **Now**: 8999
- **Krell Evo 302 300w stereo power amplifier Black x-demo** | **Was**: 8950 | **Now**: 7160
- **Naim Audio NAP500 Poweramplifier S/H** | **Was**: 11000 | **Now**: 5750
- **Naim Audio NAP500 Poweramplifier S/H** | **Was**: 11000 | **Now**: 5750
- **Naim Audio NAP500 Poweramplifier S/H** | **Was**: 11000 | **Now**: 5750

### Loudspeakers
- **Avalon Opus Cherry S/H** | **Was**: 16000 | **Now**: 6299
- **Konus Essence Floor stander zebrano x-demo** | **Was**: 2800 | **Now**: 1350
- **Martin Logan Vista Dark cherry x-demo** | **Was**: 3490 | **Now**: 2750
- **Martin Logan Fresco pair inc stands S/H** | **Was**: 1500 | **Now**: 699

### Speakers
- Martin Logan Vantage dark cherry x-demo | **Was**: 5149 | **Now**: 3999
- Rega R1 Cherry x-demo | **Was**: 298 | **Now**: 198
- Sonus faber Cremona Elipsa Maple x-demo | **Was**: 12980 | **Now**: 7999
- Wilson Audio System 8 obsidian black S/H | **Was**: 23998 | **Now**: 2999
- Wilson Audio System 8 Obsidian Black x-demo | **Was**: 23998 | **Now**: 5999

### Cables and Accessories
- **Attacama Equinox 3 tier stand x-demo** | **Was**: 375 | **Now**: 199
- **Attacama Europa Reference 8 3 tier S/H** | **Was**: 550 | **Now**: 199
- **Cardas Cables Golden Cross 3m speaker cables** | **Was**: 1999 | **Now**: 999
- **Cardas Cables Golden Cross 6m set of RCA interconnects** | **Was**: 2830 | **Now**: 1415
- **Densen De-magic BNIB** | **Was**: 10 | **Now**: 5
- **Electrocompaniet ECS1 M6 feet x4 BNIB** | **Was**: 189 | **Now**: 49
- **Eichmann Express 4 interconnects BNIB** | **Was**: 80 | **Now**: 49
- **Madrigal MDC1 1mAES/EBU110 ohm Digital Cable S/H** | **Was**: 420 | **Now**: 199
- **Siltech HF9 AES/EBU1m Digital S/H** | **Was**: 420 | **Now**: 199
- **Spectral Mi-350 20ft interconnect S/H** | **Was**: 2100 | **Now**: 899
- **Spectral MH-750 2x2.5m Speaker cables S/H** | **Was**: 1050 | **Now**: 399
- **Target R4 stands 60cm S/H** | **Was**: 379 | **Now**: 175
- **Transparent Reference SC 2x10ft x-demo** | **Was**: 6192 | **Now**: 3399
- **Transparent Balanced Reference 2x30ft x-demo** | **Was**: 6345 | **Now**: 3499

### Tuners & Tape decks, power supplies
- **Magnum Dynalab FTR remote/Tuner for Etude S/H** | **Was**: 395 | **Now**: 199
- **Nakamichi LX5 3 head cassette deck S/H** | **Was**: N/A | **Now**: 150

We have a large record collection mainly Jazz and Classical from £3.00 up to £20 for some boxed sets. Please call for more details.

Midland Audio X-change are looking for All high end audio separates best prices paid for good examples.
WANTED: MISSION 767 loudspeakers. Condition relatively unimportant (within reason!) but must be in good working order and preferably complete with original LFAU amplifier. Email: audiolaural@yahoo.com

FUBAR USB DAC, mint, £80, (Brentwood, Essex)

Wanted: ICON Audio headphone cables, condition, lovely sound £125. Tel: 01743 793 323 daytime (Shropshire)

MARTIN LOGAN Aerus electrostatic loudspeakers with brand new panels from ‘Absolute Sounds’. Superb imaging, excellent condition, £895. Kef 104-2 (rosewood) floorstanders (£1800) £225. Musical Fidelity AScr pre-amp (£1495) £550. Tel: 07872 955698 or Email pavz_01@msn.com

FOR SALE: Two black Target Hi-Fi stands, Model TT4, £20 each. Tel: 01743 793 323 daytime (Shropshire)

EASTERN ELECTRIC Minimax integrated 40wpc, mint, £200. Zeta tonearm VDH wiring £250. Avondale power supply £300. Philips Airpaz motors £50. Tel: 01233 661 556


REGA APOLLO CD player, Rega Brio 3 amplifier, Denon TU1800DAB tuner, £660. North London. Phone after 7pm. Tel: 07930 878 582

SALE: GOLDRING Lenco GL75 turntable, 4 speed. Trio model KA 2500 solid state stereo amplifier. Two loudspeakers teak cabinets with Kef baffles. JVC stereo video cassette recorder £455. Tel: 020 8892 7077

LEAK STEREO 20 modified by Classique Sounds. Good condition, £525. Also World Designs power amp KT88 hand built, good condition, £375. Tel: 01384 79402 or 0121 569 3947

GARRARD 301 (oil bearing, strobe turntable) £550, SME 3009 (improved) £175, Quad 405 & 33 £170. Telephone 01189 413708.

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TERMS AND CONDITIONS: Only one advert per reader. No Trade adverts. This section is strictly for readers selling secondhand hi-fi equipment only. Maximum length per advert is 30 words. Adverts over 30 words will not be accepted. Telephone numbers and E-mail addresses are treated as one word. Model numbers are treated as one word i.e. Quad 303 = two words. Email your advert to; classifieds@hi-fiworld.co.uk or fill in the form on page 129 and post it to Hi-Fi World Free Readers Ads, Suite G4, Argo House, Kilburn Park Road, London NW6 5LF. Sorry, we cannot accept adverts over the telephone. The Publisher reserves the right to judge submissions.
A selection of Used Equipment
Credit available on most s/h & ex/d items

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Q.E.D X-TUBE 400 speaker cable 1.8m 6 feet and 1 @ 11 feet. £50.00 inc delivery. E-mail: ike3all@gmail.com Tel: 01782 256087

LEAK DELTA 30 FM tuner boxed in good nic £70.00 +pkt hitachi fc550am/fm tuner £70.00 +p/p 01606784767 cheshire

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Audiolab 8000c pre and 8000p power. Good fully working condition £400. Nakamichi DV10s DVD player, boxed, remote, £120. West Yorks. Phone 07809 554827

MUSICAL FIDELITY X-P100 preamp complete with remote and original box. Perfect working order £350. 0120275503 jck2me@aol.com

NAD 3020 good condition £60. NAD 2020i bit blurry £30. NAD 370 no remote hence £130. Marantz PM6650E (not KI) £80, T-Amp with oversize power supply Dave 07899934110 davidarn6@aol.com

NAIM NAP180 power amp (olive), pristine condition with original box, leads and manual. £425. Telephone: 07921 240028; email: andrew.prichard@caparo.com. (West Midlands)

PRIMARE D30.2 High-end CD player (black) balanced/phono/coaxial outputs/crw/remote, boxed - heavyweight machine, excellent condition, fabulous reviews. (cost £1200 new) £495 ono. Call 01483-271669 or 07759205820. (Surrey)

PAIR DUEVEL Planus Speakers 6 months old, as new, fantastic open sound. Mint condition. Cost £800, accept £450. Tel: 02380 224003

QUAD ESL 988 Excellent Condition. Recent Service by Quad (£3,400) £1,450 Tel 02380 224003

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AUDIOLAB 8000S silver integrated amplifier. Boxed unused due to house move £295. Sound Organisation metal 5 shelf gloss black CD rack £50. Telephone 07976 614754 (Preston)

LEAK 2075 transmission-line speakers mk1 rare 4 way design 60kg each VGC huge sound very detailed £545 ono tel 07794593930 Brighton
WDKEL84 Valve Amplifier Kit

“The quality that can be gleaned from this amp is a fine introduction to the joys of the valve sound”

The WDKEL84 features a pair of EL84 valves in Push Pull configuration per channel, providing two channels each 18 Watts into an 8 Ohm load. Available as a 5 input integrated amplifier with ALPS volume control.

WDKEL84 kit £499
WDKEL84 built and tested £649

WD88VA Valve Amplifier Kit

“The result is an amplifier that combines majesty, transparency and rhythmic boogie factor with the ability to swing and sing on all types of music”

Often described as a ‘sweet sounding’ valve, our particular implementation of the KT88 makes sure that it is driven to its ultimate performance. Available as a 35W stereo power amplifier with single input volume control, or as a relay switched integrated with five inputs.

WD88VA kit £989
WD88VA built and tested £1289

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“WDHD3S is a single-ended design with the power pentode wired up in triode configuration for added purity and is as quiet as a mouse”

A beautifully simple stereo headphone amplifier design using Mullard ECL83 valves. It works directly from any source. The circuit uses twin high specification E/I output transformers that can be switched to drive any headphones between 16 to 300 Ohms.

WDHD3S kit £398
WDHD3S built and tested £528

WD25A Standmount Speaker Kit

“The one aspect that stands out is the easy ability to resolve instruments and voices … bass quality and definition is a revelation”

Cabinet kit (pair) £349

The aperiodic enclosure offers the bass clarity and definition of a larger closed box, together with the efficiency and easy amplifier load necessary for users of valve amplifiers. Available with SEAS STD soft dome treble unit, or high performance SEAS Millennium treble unit.

WD25A STD kit (pair) £269
WD25A EX kit (pair) £699

WD25T Floorstanding Speaker Kit

“The WD25T always sounds crisp and taut, but can ‘rumble’ menacingly giving impressive physicality reminiscent of far larger boxes. Imaging is superb, the midband is also special; it’s very open with masses of detail about the condition of the recording”

Cabinet kit (pair) £549

Cunningly arranged as an aperiodic enclosure leading to a lower sealed compartment, the WD25T combines the optimum damping of aperiodic loading with the bass extension of a large closed box. Available with STD soft dome or high performance Excel treble units.

Both the WD25 kits are based around a SEAS 26cm (10”) paper cone bass unit with an efficiency of 89dB for 1W. The crossover has been developed for an easy drive 6 - 8 Ohm load making the system ideal for all types of amplifiers.

WD25Tv2 STD kit (pair) £329
WD25Tv2 XL kit (pair) £499

All our kits are complete with pictorial easy-to-follow instructions.
All parts are included - all you need is a screwdriver and soldering iron.

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As the leaves blow around your ankles, the light fades and the clocks go back, there's nothing better than snuggling up with your copy of December's Hi-Fi World magazine! It's packed with our customary mix of weird and wonderful kit, leading with the superb Digital Do-Main B-1A V-FET power amplifiers, which are already warming the cockles of Noel's heart! We've also got Spendor's brand new high end ST loudspeaker, the intriguing Devore Gibbon 9 speaker (pictured), and Marantz's treasurable KI Pearl system to name but a few more. Here's just some of the superb kit that we hope to bring you next month...

£1,500 SPEAKER SUPERTEST: AUDIOSMILE KENSAI, MOWGAN AUDIO ARTIO, AUROUSAL VS, ZU DRUID CREDENZA

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**WE WILL ACCEPT PHOTOCOPIES OF THIS FORM**

**FREE READER CLASSIFIED ADS COPY DEADLINES**

DECEMBER 2009 - 8TH OCTOBER
JANUARY 2010 - 5TH NOVEMBER
On the face of it, the album was no great shakes. Packed full of old songs and contemporary hits. However, “Heart Like a Wheel” was much more than that, and in fact was much more than Ronstadt...

Songs like 'It Doesn't Matter Any More' written by Paul Anka, 'When Will I Be Loved' via The Everly Brothers and 'You Can Close Your Eyes' via James Taylor would, in any other hands, more than likely resemble a conglomerate, the result of throwing a bunch of song-sheets up into the air and seeing which fluttered down to the ground first. Yet, in Ronstadt's hands, they all make sense. She delivered here, using her excellent interpretive abilities, in exactly the way she singularly failed to do with her more recent attempts at the Great American Songbook such as 1984's 'Lush Life' or 2004's 'Hummin' To Myself'.

When he ran the DCC Compact Classics album, he tried to license it. The problem, which derived from EMI/Capitol in the USA, was that there were no master tapes, they were all lost. “So we contacted Peter Asher who had the original multi-tracks. He said we could remix the album if we wanted to. We said, no, that's not what we do. We're not the painters, we take the paintings and bring them back to their original lustre.”

The project was dropped but, many years later, under the label's new guise, Blonstein brought up the subject again with Capitol who suddenly announced that the 2-track master had been found. Steve Hoffman was put on the case, he confirmed that the master was the original and so the license was confirmed. “I then thought that it would be a great idea for Linda to place her signature that would show up on each one of the labels. So we contacted her manager who said that she loved the idea. Linda then sent us four different signatures completed in different types of pen thickness.”

The results of which, you can see on the accompanying image of the CD.

Let me tell you now that this is a superbly mastered disc, the best method of hearing this album digitally. However, a note for all audiophiles out there; the gold on the CD? It doesn't make any difference to the sound at all. That is, this CD would sound just as good as a silver disc. Anyone telling you otherwise is suffering from a case of 'Emperor's New Clothes' syndrome. The real source of the improved sound on this and similar discs is the sourcing of the master tapes and the correct processing of the same.

Blonstein made the point that, during mastering, they do not enhance the master in any way. There's no toning down of vocals and lifting of bass here. Blonstein's task is all about seeking clarity: polishing the painting to make the colours more vibrant, as it were. And that processing was partly Steve Hoffman's own ear, and partly Audio Fidelity's proprietary CD mastering system, called the Kensei Audio Transposer. "It gives the digital master a softer broader breath, a more analogue feel," said Blonstein. And that's exactly what this album gives you proving, once again, that beauty is more than (24 karat) skin deep.
USHER

DANCER mini
small wonders

Size really doesn't matter.
Close your eyes when listening to the Usher DANCER mini speakers, and you forget about their size immediately. The weight, energy and scale of ambience reproduced by these speakers simply defy their physical size. You'll also be pleasantly surprised that coherence and precision, often unique to small monitors, are an essential part of the Usher DANCER mini experience.

DANCER mini one
2-way system
1.25" dome tweeter
7" woofer
sensitivity: 87 dB @ 1 watt-1m
nominal impedance: 8 ohms
frequency response @ -3 dB: 38 Hz - 40 kHz
dimensions (w x d x h): 31 cm x 36.5 cm x 105 cm

DANCER mini two
2-way system
1.25" dome tweeter
two 7" woofers
sensitivity: 90 dB @ 1 watt / 1m
nominal impedance: 4 ohms
frequency response @ -3 dB: 28 Hz - 40 kHz
dimensions (w x d x h): 34 cm x 48 cm x 123 cm

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