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# welcome

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# hi-fi world

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My formative music listening years began in the early nineteen seventies, courtesy of 'wonderful Radio One' (247m Medium Wave) on a trendy orange plastic Philips AM 'transistor radio'. But then, sometime later in that decade it moved to 275/285m - and life would never be the same again...

Of course, the great names (!) that populated the station stayed the same, but the distant fade in-fade out that so troubled 247m had

gone. And then, before I knew it, it was now Radio I FM, and in stereo too! Simon Bates' Radio I Top Twenty had never sounded so good.

Such nostalgia-tinged memories perfectly illustrate the point that radio broadcasting never stays the same. It's something which government has direct control over, inasmuch as it has the power to decide who (and what) broadcasts where.

In 2005, we're at the point that - for reasons best known to Gordon Brown perhaps - the great British public is being courted by Digital Radio (the name given to Digital Audio Broadcasting here in the UK). To wit, we see incessant 'PR puffs' for the medium on BBC TV (paid for by us, the TV license payers), telling us how great it is, what with all these stations all in perfect digital sound.

Ho hum. I'd agree that the extra BBC networks (i.e. BBC 6 and 7), plus the ability not to have to listen to BBC 5 Live on AM, are very good things. But, err, that's it. The rest of the stations proffered by Digital Radio make mid-seventies 'Smashy and Nicey' Radio One look like high art. They are God-awful.

Secondly, the sound is by no means perfect. True, it is better than AM (just), but it's a step change below half-decent FM. Now I think the Beeb is counting on the fact that

the FM sections built into your average Sony car stereo are so bad, plus the swingeing levels of compression and EQ on commercial music stations, to argue its case. Compared to bad FM, DAB is good, but compared to good FM, DAB is very, very bad.

This month's issue is devoted to radio in all its myriad forms. We look at everything from Short Wave to Podcasting, with everything inbetween. We start by trying some classic seventies 'super tuners', then put them against the best of the latest FM and DAB designs, and throw two spanners into the works in the shape of a Digital Satellite receiver and a classic tube tuner - just to make life hard for the moderns!

We may, as some say, be entering a new 'golden age of wireless', but that doesn't mean you should forget the past. That's why I think you'll find this issue a great insight. Enjoy!







# verdicts



OUTSTANDING EXCELLENT GOOD MEDIOCRE POOR VALUE

simply the best extremely capable worth auditioning unremarkable seriously flawed keenly priced

# testing

Hi-Fi World has its own advanced test laboratory and acoustically treated listening room, and a dedicated team of experienced listeners. We review thoroughly by extensive auditioning, rather than by quick-fire group listening tests. Our engineering team designs a wide range of products in-house. No other hi-fi magazine is so expert and dedicated.



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Yamaha CT-7000 - the best FM tuner ever?





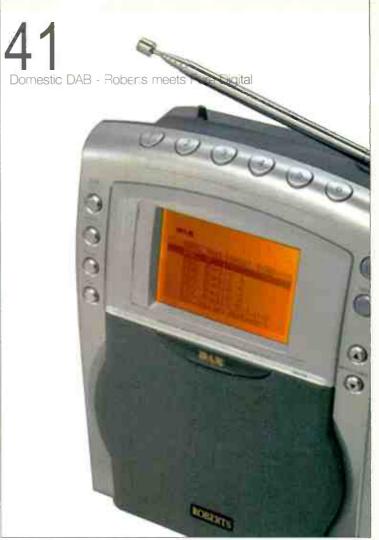
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# hi-fi world

**JULY 2005** 

VOLUME 15: NO. 5

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# news

# **JET SET**

Elac's new FS607 is an extremely sophisticated high end loudspeaker, boasting complex aluminium and wood cabinet construction and a new coaxial ribbon tweeter/ midrange driver. The elegant three and a half-way floorstanding speaker, retailing for £6,000, sports the new XJET driver, with is a unique combination of a flat aluminium honeycomb midrange diaphragm and a concentrically arranged JET ribbon tweeter, which approaches



an ideal point source. Allied to two of Elac's familiar dished aluminium and paper bass drivers, and a very rigid cabinet made from two alloy extrusions clamped together across wooden cross braces, and it's an impressive product. Elac also has a new £1,800 supertweeter, in the shape of the 4 PI PLUS.2. This omnidirectional ribbon gives nondirectional treble right up to 53kHz. It can be adjusted to suit individual listening preferences, room characteristics and also those of the partnering loudspeakers. For more information, click on www.elac.com and look out for reviews in the next issues of Hi-Fi World.



# **SEVEN UP**

Munich's High End show was the chosen venue for Cambridge Audio to launch its most expensive separates to date. The company claims its Azur 740 range of electronics delivers all the performance of £1000-plus products for around £600. The 740C Compact Disc player is based on a Sony mechanism with reworked servo, coupled to a new Adaptive Time Filtering (ATF) upsampling DAC developed in conjunction with Anagram Technologies of Switzerland that runs up to 384kHz. Rather than the usual digital to analogue converter and filter arrangement, the Azur 740C instead incorporates a 32-bit Analog Devices 'Black Fin' digital signal processor and dual mono DAC configuration. This topology upsamples the native 16-bit/44.1kHz CD data in real time to very high resolution 24-bit/384kHz data, before conversion takes place by two Analog Devices AD1955 24bit/384kHz processors. Two digital inputs are also provided, so the 740C can also operate as an upsampling DAC, and a recording digital output can even allow bit-for-bit data, or upsampled data at 48, 96 or 192kHz to be recorded by a suitable device.

The Azur 740A integrated amplifier is no less impressive, boasting a massive toroidal transformer which makes for 120W per channel into 8 ohms or 200W per channel into 4 ohms. However, what makes the product so special is its patent pending XD technology, developed by the 740A's designer Douglas Self. This is said to give pure Class A operation at low levels, moving smoothly into an enhanced version of Class B at higher levels. Cambridge Audio says this should not be confused with Class AB, which inherently generates greater distortion at high levels. In addition the 740A also uses a complex multi relay stage attenuator for volume control. The Azur 740 series is available in black or silver and will hit the stores in September 2005. For more information, click on <a href="https://www.cambridge-audio.co.uk">www.cambridge-audio.co.uk</a>.





# **SHURE THING**

Shure's new £245 E4c sound isolating earphones are said to have studio quality sound with a sleek, lightweight design to complement today's popular listening devices. Shure's new High-Definition driver with Tuned-Port technology is said to significantly enhance bass response, while the E4c's sound isolating sleeves contour to the inner-ear, naturally sealing out more background noise than noisecancelling alternatives. The E4c earphones include a pair of disposable foam sleeves and triple-flange sleeves, three sizes of flex sleeves, and three sizes of ultra-soft flex sleeves to ensure a personalised, comfortable fit and maximum sound isolation. For details, see www.shuredistribution.co.uk.

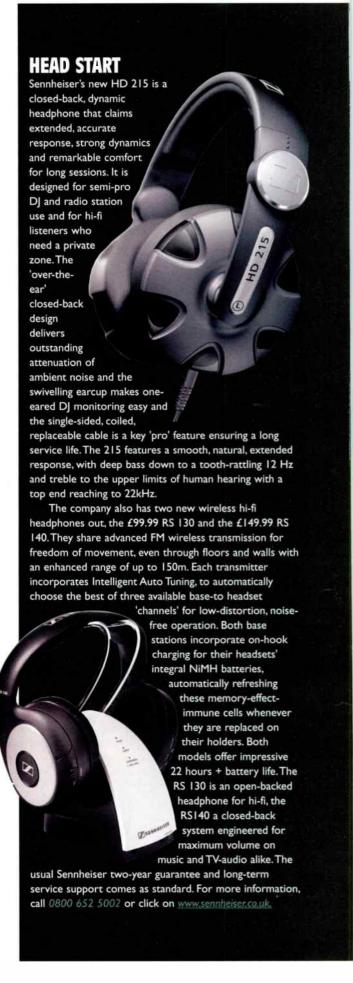
# **PUMP UP THE VOLUME**

Townshend Audio's new TA 565 CD is an upgraded version of its impressive TA 565 Universal Player. The company says that the high-speed DVD-Audio processing power has been harnessed to optimise the reproduction of regular Compact Discs. The player now features special transformer coupling circuitry to transfer the DAC's output signal to the analogue filter, and there's now a video circuitry disable switch. Townshend says it's the most analogue sounding CD spinner in the world, as adds that it really shines on DVD-Audio, SACD and DVD-Video too! Prices are £2,990 for the TA 565 EVO 4 and £3,899 for the new TA 565 CD. All Townshend Audio 565 players may be upgraded to either EVO 4 or TA 565 CD level. Also new is the Glass Seismic Sink Stand featuring fully adjustable shelves which may be added or removed without dismantling the stand. It claims vibration isolation down to 2Hz, but now done without air, so no more pumping! For more information, click on <a href="https://www.townshendaudio.co.uk">www.townshendaudio.co.uk</a>.



# TWO'S COMPANY

Tivoli Audio, manufacturer of those beautiful, loveable and thoroughly enchanting Henry Kloss-designed analogue table radios has bowed to the inevitable and introduced a Digital Radio equipped version, the Model DAB Two. Supplied in the same case as the One, but with a blue backlit LC display and push buttons for the DAB tuning, it also offers the famous rotary tuning wheel for analogue as before. We're not too convinced about the styling (the original is so pure and crisp, the new one is not), but the sound remains satisfyingly rich...



# **MULTI CHOICE**

NAD's latest stereo receiver, the C720BEE, combines the same amplifier design as the award winning C320BEE Stereo Integrated amplifier with an RDS AM/FM tuner, and Multi-source Zone 2 capabilities. Like many of NAD's most innovative products, the 720BEE comes from the creative mind of Bjorn Erik Edvardsen, Director of Advanced Developments. The receiver benefits from NAD's proprietary PowerDrive topology that enables an amplifier to effectively handle musical dynamics and difficult



speaker loads; up to 220 Watts into 2 ohms and up to 50 amps peak current capability. The C720BEE also incorporates NAD's acclaimed switchable "Soft Clipping" circuit, which significantly reduces the risk of damage to loudspeakers due to prolonged high power operation. It sports seven line inputs and the preamplifier section can be separated from the power amplifier for easy upgrades or adding ancillary equipment, so the C720BEE can be expanded to meet future system needs. It's fully remote controlled and comes supplied with the NAD SR5 system remote control. The remote control will also operate other NAD products such as CD players. We also include a small Zone 2 remote that allows input switching from a remote zone when used with an IR extender eye. A second zone can be configured by using the switchable Speakers B option. The NAD C720BEE Receiver is available from May 2005 and will retail at a suggested price of £399.95 in either Titanium or Grey finish.



# **AUDIO ESOTERICA**

In Japan, TEAC's high end products are sold under the Esoteric brand name. This isn't mere window dressing either, as the marque has produced probably the best ever CD transport – in the shape of the legendary Esoteric P0 – complete with user adjustable laser focus, no less! Now, the brand is coming to Britain at last, with the £8.995 X-01 Esoteric SACD/CD player. This remarkable player embraces TEAC's VRDS-NEO technology, a mechanism unique to TEAC and derived from the company's original VRDS technology. It plays SACD, CD and CD-R/RW discs, sports a high-precision disc drive system with magnesium turntable, 3-phase brushless spindle motor and high precision bearing, pickup thread servo system to maintain accurate laser beam angle, machined aluminium disc tray and heavy weight steel chassis, exclusive high quality audio DA converter, full-function remote control, XLR balanced analogue audio output, 5.1ch analogue audio output (L, R, C, SL, SR, SW). Size is 442x153x353mm, weight 25kg. For more details, call Symmetry Systems on 01727 865488 or click on www.symmetry-systems.co.uk.

# ICE COOL!

Those looking for proof that the world has in fact gone crazy need search no more. Japanese giant Panasonic has made what it calls 'the world's best car receiver', in the shape of the £765 double DIN sized 'CQ-TX5500D', complete with valve audio output stage!



Apologies to Missing Link for getting their telephone number wrong in the DIY Supplement on p95 of the June 2005 issue - the correct number is 0115 877 9089.



# Walrus



# 11 New Quebec St, London W1

Some Digital and some Analogue news. And, don't forget the upcoming Heathrow Show ..!

Just because we are predominantly an analogue, vinyl based, retailer doesn't mean we don't care about digital. We realise that our customers, much as they love their vinyl collections, still need to play digital media occasionally! It's a pity that SACD never achieved the prominence it ought to have. But then, the choice of music is still very limited. Or, perhaps it's the other way round. Anyhow, when you get a good recording, SACD can be stunning. You guessed this was leading somewhere, and it is! Musical Fidelity have at last released their new kW Series SACD player. It features MF's trademark sophisticated choke regulated power



supplies, and, unusually, the SACD and CD circuits and their power supplies inside the player are completely separate. Too often, when you buy a really good SACD player you still need to retain your existing expensive CD player to get the best out of the respective media. The MF player gets the absolute best out of both media, it really is one of the only genuine dual purpose machines on the market. Other details include technical specs (signal to noise ratio and jitter) which challenge the resolution of measuring instruments, and the ability to switch between two very high quality output stages, valve and transistor, to keep both camps happy! This is their best digital player yet, and one which it will be very hard to surpass (despite what MF say in their regular newsletters - existing owners know what we mean!) - if you are interested, don't delay in hearing it as I think the limited production run will soon all be allocated. Oh, nearly forgot, the price is a whisker under £4000 - very good value indeed when you see (and hear) what you get for the money.

Staying with digital, we've just taken delivery of the new "entry-level" Shanling CD player - the CD-T80 at £650 - and what a brilliant player it is. How they manage to make this superbly built unit for the price they do is quite scary. The fit and finish is absolutely top class, what you might expect if you pay double or treble the price, and the sound quality is on a par or better than just about anything else up to a thousand pounds. I'm told the importer is having a problem keeping up with the demand! If Shanling continue on present form, they will be (rightfully) dominating quite a few sectors of the enthusiast hi-fi market. We refer, of course, to their two existing models, the midrange CD-T100 (£1650) which has been around for ages now but is still very competitive and looks as stunning as ever, and the relatively new limited edition CD-T300 Omega Drive player, featured in our last ad, for £3999. This new, very modern and attractive player is attracting huge interest. Like the Musical Fidelity it is also a limited edition model. If you fancy owning a top class CD player which will have lasting value, superb sound, and totally original appearance, come and demo it before it's sold out.



Our main business, in case you were wondering, is definitely still analogue! And, we have some exciting news on the turntable front. First, the affordable: Michell Engineering have released a limited edition (it's all limited editions this month!) turntable, loosely based on the famous Gyrodec. However, the Odyssey looks completely different, with a jet black acrylic base, black chassis, clear lid, and a special black version of the acclaimed Tecnoarm A, finished off with a black version of the HR power supply. It also has nickel silver weights, and a clear acrylic spyder like the Orbe. This special model, which only needs a cartridge to complete it, is not only stunning looking but very competitively priced at £2150. But, the most interesting thing is the exclusivity - only 100 pieces are being made. They will almost certainly become collectable. And, sadly, due to copy dates, by the time you read this we suspect there may not be many left, so please phone for current availability.

The other exciting news is the arrival at our shop of the brand new flagship turntable from Nottingham Analogue, the Deco. This model is about as exclusive as it gets, the price alone will assure that! Mass is very high, and the platter features a unique contoured design to aid energy dissipation. If you want to know more (and hear it) you'll have to pay us a visit.

Also new to Walrus is the Stirling Broadcast LS3/5a loudspeaker. Stirling is only one of two current licensees for this superb, classic speaker design. It might be an old design, but it still beats most other compact speakers, especially since Stirling made some small but important tweaks! Price is a very reasonable £890 to £973 dependent on finish. On demo now, please try to hear before you consider purchasing any other compact speaker.

On to this month's Featured Accessory, the Shure SFG-2 Stylus Force Gauge. This is a very simple well made balance which sells for £28, and will last you a lifetime. It measures tracking weight between 0.5g and 3g. For anyone who regularly changes their pickup this is an absolute must, unless you're rich enough to afford one of the swish electronic gauges such as the Martin Bastin gauge. Even if you have an arm which already has tracking force calibration, the Shure will be a lot more accurate.

Lastly, don't forget the Hi-fi and Home Entertainment Show at Heathrow, from the 23rd to 25th of September. I know it's a long way off, but put it in your diary now! We'll be there with lots of our favourite stuff in room Syndicate 16, feel free to turn up with your favourite LP or CD for a quick demo. See ya there!

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# Racio times

Welcome to Hi-Fi World's tuner surprise, in which we take a look at the past, present and future of hi-fi radio... First, three absolute classics David Price and Channa Vithana are at the

YAMAHA NATURAL SOLND FIN STERED TILLER ST.

using the best brains and technology of the day. Yamaha was a particularly important player, not least because of its epoch making NS1000 loudspeaker,

end products

Japanese styling has always been faddish; its products often look immensely futuristic and 'leading edge' for about six months after launch and then date very badly. Interesting then how disarmingly crisp the CT-7000 looks even now. Aside from the wood casing (which would of course now be silver pressed steel), it's very well turned out. All the ancillary controls are behind a hinged metal flap, while the tuning dial and meters are beautifully understated.

The CT-7000 isn't the best equipped tuner ever made, but it includes a useful variable rate switchable FM muting control and a signal meter that doubles as a multipath meter. As is compulsory on Japanese high end, there's a 6.3mm headphone jack with volume control. Round the back, there are fixed and variable level audio outputs and multipath outputs for an oscilloscope. At nearly 15kg, this is one of the most solidly made lapanese tuners ever.

Inside, it's textbook high end tuner - in fact, it probably wrote the textbook. Beautifully laid out with separate boards, shielding and cabling, plus high quality discrete componentry, it's designed to keep

interference between sections to a minimum and signal integrity as high as possible. It boasts a 7-gang tuning capacitor with 7 IF filters (mixed ceramic and LC types) and a discrete MPX decoder.

> In use I have to say that the CT-7000 shows its age in its (lack of) ability to pick up stations and stay tuned in to them. Its front end is middling by today's standards, and the likes of Hitachi's 1983 FT-5500 mk II (see p38-39) would embarrass it the selectivity stakes. It works okay with 'wet string' antennas, but don't expect it to work wonders.

> Given a serious signal however, and the Yamaha flies. In 2005, it spends most of its life telling you just how awful most analogue radio broadcasts are. You can hear all the compression, digitisation and various other signal-ruining activities going on by the broadcasters. Hit it with a BBC Radio 3 live broadcast, and suddenly things change however. The Yamaha displays incredible detail, with amazing incision in the treble, a tight. taut bass and wonderful dimensionality. Twiddle the knob to Radio 2 and things are still pretty impressive; full and warm and musically engaging.

I loved it, but I think I would have loved it more if I hadn't heard so much hype - an old NAD 4020 with a serious aerial wouldn't be too far behind, at about one hundredth of the price. Methinks the myth and legends surrounding this tuner are partly from its stunning build, ergonomics and aesthetics, but it sure does sound great too ...

TUNER: YAMAHA CT-7000 YEAR: PRICE NEW:

he thing that dreams are made of, at least if you believe the talk that surrounds this legendary early nineteen seventies design. Indeed, the very mention of the hallowed name causes some to bow down in deference, as if they're not worthy. With the possible exception of the Leak Troughline, this is undoubtedly the

most hyped tuner in history. For those not in the loop. who've always assumed their Naim NAT-01 or Linn Pekin was the best simply because of the stunning things these two British designs do with BBC Radio 3 live broadcasts, let me introduce you to the CT-7000.

Back in the early 1970s, Japan Inc. was falling over itself to do the best hi-fi yet made, if not to show to the world what its engineers were capable of, then to prove this to rival Japanese companies. The result was that it launched itself, and the world, into a 'golden age' of stunning high



t's hard to believe that the
Sansui comes from the same
year as the Yamaha, displaying —
as it does — all the signs of late
nineteen sixties styling, cues
which incidentally are still
prevalent in Japanese high end even
today. To wit, it's big, shiny, button festooned and has chunky wood sidecheeks.

Sansui is a name that's faded from grace, at least in the UK.Construction quality is superb, giving little away despite its lower price. Still, remember that this was when £86 would buy you a brand new Linn Sondek LP12, so its £400 selling price wasn't exactly small beer (go figure!)... Most attractive is the large, expansive tuning dial and excellently weighted flywheel tuning knob. It's easy to forget now, but before the age of presets, the user interface was the beginning and end of a tuner. After all, what was the point of a stunning radio receiver if it has all the delicacy and finesse of a pneumatic drill? The touch and feel of machines was always so important to the Japanese. (Remember this was from an age when - arguably the most stunning Ferrari ever, the Daytona - was as genteel and well behaved as a Massey Ferguson tractor, and it wasn't until the Japanese arrived with the 1988

The TU-9900 is about as gadget festooned as was possible in 1974 – there's a row of buttons proffering antenna attenuation, variable selectivity, noise cancelling, muting (fixed level), calibration tone and metering (signal or multipath). There's switchable FM stereo/mono and variable headphone level, plus the usual power switch. Round the back, there's the usual analogue audio outs, antennae ins and a 'scope out.

Inside, the Sansui is nicely detailed, neat and tidy with serious front end boasting with 5 gangs and 3 IF filters (two of which have 4 stages). There aren't many 'designer' passive components, but you're left with the impression that it's all been extremely thoroughly engineered, and isn't an embarrassment after looking under the hood of the much pricier Yamaha. Contrast this to Sony's rival offerings like the ST-5950, which was a veritable rat's nest of passive components stuffed in willynilly, and the Sansui must have been well regarded in this respect.

Indeed, power it up, let it warm through and you're not disappointed. I found the TU-9900 more sensitive and selective than the CT-7000, despite it being from virtually the same time in history (you have to remember that, by and large, tuners had improved noticeably in this respect by the end of the seventies). It pulled in weak stations with confidence, and there was an obvious lack of noises which I'd heard from

the Yams...). Yet still I found the Sansui to be a warmer and more euphonic sounding device, closer to greats such as the Leak Troughline, than the Yamaha. Indeed, the TU-9900 showed the CT-7000 as a little on the analytical side for my tastes. The latter is certainly detailed, almost forensically so by comparison. It's easier to discern the four walls of a radio studio (on a Radio 4 speech transmission) through the 7000, while the 9900 is less precise and considerably more expansive in its stage width and depth. Again, the former locates front to back images with greater precision but lacks the sheer depth of field of the latter.

Never let it be said that the Yamaha CT-7000 is a cold and unlovely performer - by today's standards it's positively euphonic but the Sansui TU-9900 was still blessed with a lovely, natural tonality that I came back to time and time again. This was actually of greatest benefit on AM, where its richness (colouration?) made it positively pleasant experience. Factor in the Sansui's superior front end (i.e. ability to pull in all and sundry from a poor twig) and I find myself surprised to say that, for me, this proved superior. What then of the mighty Revox B760...?



ven the Japanese never managed to make a tuner as visually impressive as the Revox. It was mind bogglingly expensive back then, and boy did it look it. The tuner equivalent of an Aston Martin V8 Vantage, it has massive physical presence, a blue-chip brand name and a finish that even no Japanese high end tuner can match – which is really saying something.

Styling is actually quite successful, despite the profusion of buttons and switches. Indeed the 1977/ 78 model year was a particularly strong period for Revox. Buoyed by the success of the new B77, the replacement to the classic A77 open reel tape recorder, it was on a roll. It boasted extremely high quality matching equipment for this machine, including a massive integrated amplifier, a parallel tracking, direct drive, quartz-locked turntable and this, the tuner.

So plastered in bells and whistles is the B760 that it makes the already well appointed Sansui TU-9900 look like an entry level NAD. Most importantly, it's notable for being an FM synthesiser design with a large LED digital display of tuning frequency in 50kHz steps to the left

To the left is a volume control knob and a switch for Dolby FM 'noise reduction' - one of the great non-events in VHF/FM history (the format was planned, and many high end tuners built with the circuitry in place, but never saw the light of day). To the right, there's a bank of fifteen presets, switches for Hi Blend (a popular facility at the time, which blends the stereo channels in a bid to lower hiss), a mono switch and an elaborate muting facility. Then there's the upper flap, which opens to reveal switches for variable FM deemphasis, preset memory store modes and adjuster pots for output level and threshold controls.

The Revox is a beautiful tuner to use, although still struggles to attain the accessibility of the Yamaha, even if it does boast those 'new fangled' presets. Indeed it feels far less intuitive and more fussy, yet in a way one gets the sense that that's probably what its buyers' wanted — to be constantly reminded of its complex, technical nature.

Construction is peerless- it's a very nice 'object' to have in your front room.

Amusingly, despite all the Revox's techno wizardry, it struggles to attain the tuning performance of the Yamaha, let alone the Sansu. It has

Sonically the B760 was also something of disappointment. It's good in absolute terms (especially compared to cheap synthesiser tuners), but really isn't anything special to anyone who's heard a NAD 4020 or Creek 3140. Bass is warm and full, which is probably its best attribute. It 'fills' the speakers, and establishes a sense of presence for itself in the listening room. Yet in this respect it is no better than the Yamaha, which does the rest of the frequency range so much better.

Indeed, the B760 is quite midforward. It's not stridently so, but it projects confidently and assertively into the room, but fails to hang back images in space like either of the Japanese tuners. The result is a slightly two-dimensional sound, which the wonderfully expansive Sansui highlights all the more. The midband is detailed and controlled, but again the Yamaha is obviously more so. Worst of all is the treble, which is pretty perfunctory and lacks the incision and air of either group rival and the tonal warmth of the Sansui is nowhere to be heard either, despite the obviously curtailed top end. Overall, the Revox is an amazing bit of kit, but not an audiophile dreamboat. It's something I'd love to own, but I can't help thinking a well set-up modern day NAD or Creek would cause it real embarrassment. To find out, read on...

# **DENON T260L II £129.99**



n audio classic that has provided high quality sound at a very reasonable price for many years, the Denon is a very important benchmark for hi-fi tuners. The T260L II is the smallest tuner here measuring just 434x75x239mm and weighing 2.5kg. At the front is a basic, though good display which is clear and visible, a lightweight but precise rotary tuning knob, Tuning/ Preset button to the right and twelve buttons to the left of the knob contro ling eight presets and Display/ Memory/ Band and Shift-Pty (for automatic RDS named station select). To the left of the display are four buttons to control, Auto/ Manu (tuning), Search/ Character, RT (radio text), EON TA.

The black all aluminium casework is satisfactorily built for the price but is rudimentary and dated to the late nineteen eighties. Internally it features Denon's linear power supply, Mitsumi FM module and a small frame type transformer. There is a large 2,200 micro farad capacitor and several smaller value ones spread across the circuit board, all by SMG. At the rear are connections for AM, female coaxial socket for FM, phono sockets and figure-eight mains input socket.

# **SOUND QUALITY**

With Radio Two FM, the Denon had a warm overall sound, yet it was never cloyingly tepid either. Rather it presented the music and speech with a well-rounded feel that invited longer listening sessions, crucially, without inducing lethargy and subsequent attention deficit to the sound. The speech was very slightly sibilant however, and compared to our

reference, the Denon also had a more internalised presentation. However, for the extremely reasonable asking price, it was possessed of a dynamic ability with both music and speech. It was expressive too, while the bass was quite extended but mostly tuneful.

Treble was also suitably sophisticated providing nice texture to both guitar and orchestral stringed instruments. Vocals had a minute amount of sibilance to the treble regions and though the sound was a little internalised compared to the Cambridge, I found the Denon was still enjoyable none the less. For Radio Three FM, the Denon's spatial awareness was very good with the orchestrations. The sound was

controlled and tidy without any tangible nastiness — where the horn sections had a nimble presentation because the timing qualities of the Denon (on both Radio Two and Radio Three) was excellent.

The Denon performed well in this test and is to be commended. In use it was a pleasure, being precise in tuning through its rotary knob and easy to discern display. The sound quality was also at a similarly excellent and pleasurable standard considering its low price. It was warm and weighty yet dynamic and engaging too! It was let down slightly by the dated finish and some cheap plastic feet, but this is only a small gripe and is excusable as it is a genuine low-cost hi-fi tuner.

# **MEASURED PERFORMANCE**

This tuner has been a benchmark for budget vhf/fm tuner performance for a decade or more and has a deserved reputation. It now has, in MkII form, a flat frequency response as our analysis shows. There's still a small top end roll down, above 8kHz, to ensure the sound stays smooth. Pilot tone rejection by a deep filter is high, as is sub-carrier. Under test there was little intermodulation distortion from this source as a result.

Harmonic distortion levels at 50% modulation are consistently around 0.15%, a fine performance. Our analysis shows 0.3% on a centre image signal (R+L) at 100% mod., with second and third harmonics only.

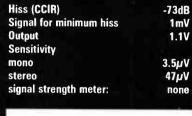
third harmonics only.

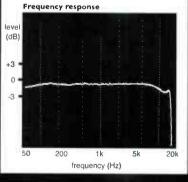
The Denon is sufficiently quiet at

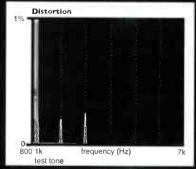
-73dB for hiss to be nearly inaudible.
However, it needs 1mV for this, which
in most locations demands an outdoor
aerial. Sensitivity of this sample
seemed relatively low, as 47uV was
needed for stereo with -50dB hiss (IHF
stereo sensitivity).

The TU-260L MkII remains balanced and well specified, measurement shows. It needs a good aerial for best results though. NK

Frequency response Stereo separation Distortion (50% mod.) 10Hz-10.4kHz 41dB 0.3%







# VERDICT \*\*\* £

Denon UK Ltd. (\*\*)+44 (0)1234 741 200 www.denon.co.uk

### FOR

- low cost, operation
- excellent performance

### AGAINST

- dated styling

# NAD C422 £189.95



his NAD C442 is finished in an attractive silver. The front panel is a simple affair, discretely styled with a tuning 'knob' to the right of the display and a set buttons to the left of the display for Preset/Tune, Display, AM/ FM, FM Mute/ Mode. Memory and Blend. The Blend feature is like a noise reduction for the FM, enabling weaker received stations to function in stereo without the hiss or having to resort to mono. The Blend feature can also be stored for one of the 30 individual assignable AM/FM presets. The display is very good and can be viewed from a distance; it also has a radio signal strength meter just under the Antenna moniker.

Internally the NAD has quite a substantial tuner circuit board. There looks like an OEM encoder at the rear connecting to the AM/FM socket, while liberally supplied Elcon and Licon capacitors are spread across the circuit board. The power switch gets its own board while the power transformer is a frame type, providing separate linear power supplies to the digital and analogue sections of the C422. For the tuner section, the NAD uses an LA1837 Sanyo IF chip, a phase lock loop LC7218 chip and the RF decoder is a LCF72723 type. When I spoke to one of NAD's engineers, he said that there was some special tweaking of the C422, which resulted in a flatter than normal response. Nicely built and finished for the price, the controls work with solidity and it is functionally logical too. It was a delight to operate and use. The C422 measures 435x80x285mm and weighs 4kg.

# SOUND QUALITY

The NAD was initially underwhelming as it sounded

thin compared to the others, but through extended listening proved interesting, as I began to really appreciate its consistently neutral sound. It was controlled through all the frequency extremes where there was no sibilance in vocals or plumminess to the speech. There wasn't exaggerated bass bloom either, that could easily dislocate and ruin the musical structure. The treble didn't suffer; there was no screeching or high pitched whine that some vocals can have on both FM and DAB On Radio Three FM it didn't flatter the music broadcasted; rather it was disciplined and precise without being unemotional. The NAD had excellent timing too, never being out of control on dynamics - it handled the difficult orchestral crescendos really well. With Radio Two FM, the sound quality remained entirely neutral and the NAD was expressive and timed very well. The speech was nicely presented if not as well rounded or deep as others.

The NAD was deceptively good, providing a continually neutral and excellent sound quality that at first seemed underwhelming. It is nicely made and finished for the price and is only really let down by the 'semi' rotary knob. It's a league above the Denon sonically, with more incision and less euphony, although obviously doesn't quite achieve the cheaper unit's stratospheric value for money rating. Strength in depth!

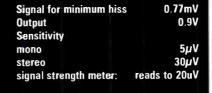
# **MEASURED PERFORMANCE**

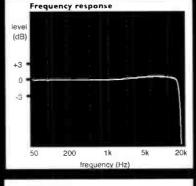
Frequency response of the C422 has a distinct lift at high frequencies our analysis shows, giving it a brighter sound than most rivals, which these days measure flat. The steep drop at right in this trace is the pilot tone filter, giving the C422 less pilot and intermodulation distortion around it. With reasonably low levels of harmonic distortion, most low order 2nd harmonic our analysis shows, the C422 should sound clean enough.

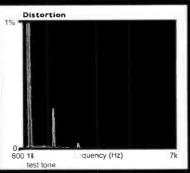
The C422 uses conventional chip sets, managing a reasonably "normal" level of hiss that measured -72dB (IEC A wtd.). This makes it one of the quieter tuners of the group and it needed just 750uV from the aerial to achieve this result, which is pretty good. Sadly, the little signal strength display hit maximum with just 20uV, not even enough to get -50dB noise when receiving stereo. Stereo sensitivity was a good 30uV and mono just 5uV.

The C422 was a good all-rounder under measurement, but may sound just a little bright. NK

Frequency response Stereo separation Distortion (50% mod.) Hiss (CCIR) 10Hz-15.5kHz 44dB 0.3% -72dB







# VERDICT OOO

NAD Electronics
(+44 (0)1908 319 360
www.nadelectronics.com

### FOR

- unflappable, incisive sound
- well built
- simple to use

# AGAINST

- non rotary dial

# CREEK T50 £550



430x60x250mm and weighing 4kg, it doesn't immediately strike you as being (materially) worth £550. The Creek is quite simply attired with an internal folded silver chassis and black rear plate. The front plate is nice though, being a solid brushed silver affair, which contrasts nicely with the rather thin and resonant black top plate. At the front there is a superb rotary tuning knob which has excellent feel and is a delight to operate.

n ostensibly simple look-

ing affair, measuring only

The vacuum fluorescent display has an attractive green lighting to the frequency legends that is both precise and clearly legible from a distance at different viewing angles. When tuning, the display becomes brightest to

indicate when a station has been tuned, (similar to the old Naim NAT03 tuner) and also shows its name if it is RDS compliant. There are 99 presets for FM and 29 for AM. The main tuner circuit board is one of Creek's own, with no discernable bolted-on OEM tuner modulator. There is a series of Samwha capacitors spread across it. There is a separate mains filter PCB which contains the T50s fuse that sits in between the IEC socket input and the power transformer. The display PCBs are mounted vertically across the inside of the front panel.

# **SOUND QUALITY**

On Radio Two FM, The sound was well balanced with a really amazing bass in both extension and tunefulness. Treble was sophisticated because it was controlled, textured and expressive. These qualities enabled the Creek to have a very high resolution sound for the price, even comparing brilliantly to the group

reference. The speech was entirely natural with no sibilance and was perfectly weighted. The Creek preferred to concentrate on the high resolution of instruments and timing over ultimate spatiality and as such may not be as immediately vibrant as say the Cambridge continued to be, however it didn't take too long for the Creek's real musical abilities to come forth. On Radio Three FM, the high resolution presentation continued where the vocals were nicely resolved and there was extended and tuneful bass. With excellent instrumental separation, the Creek produced an atmospheric and continuously listenable sound.

Horns were nicely rendered and the orchestral string sections emotive yet smooth. Orchestration was expressive, emotional and had inroom impact. Timing overall was also good, (if not the best in the group when considering price) where all instruments and vocals had a sympathetic relationship to each other, never once sounding dislocated.

I really enjoyed the Creek as a tuner. It has an excellent display and tuning knob alloyed to brilliant sound quality that in some respects runs with the far more expensive and esoteric reference tuner right up to the wire, with only depth perspective pulling it back from pole position. It is only let down by the rudimentary finish considering its price, but considering the design and engineering work that's obviously gone into it, then it's churlish to complain.

# **MEASURED PERFORMANCE**

Sensitivity

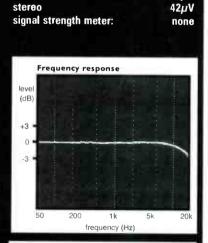
mono

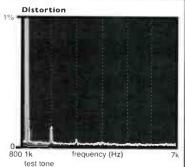
The T50 was notable for its absence of a pilot tone filter, something our frequency response analysis clearly shows by lack of a filter notch at right. There are two main effects: a smooth audio response that will sound great in terms of naturalness, but the presence of strong intermodulation distortion against 19kHz pilot. This may intrude at high levels, possibly muddying violins and complex material a little. Our distortion analysis shows that, otherwise, the T50 produces little harmonic distortion.

At -67dB (IEC A wtd.) a little hiss might well be noticeable on stereo, typically during Radio 3 silences, and speech intervals on Radio 4, etc.
Sensitivity was respectable at 42uV and full quieting occurred at just 530uV, but then it would since noise floor is high in any case.

Against today's rivals the T50 looks a little dated in some areas, but I suspect it will sound pretty good all the same. NK

Frequency response	10Hz-14kHz
Stereo separation	44dB
Distortion (50% mod.)	0.3%
Hiss (CCIR)	-67dB
Signal for minimum hiss	0.53mV
Output	0.95V





# VERDICT ••••

Creek Audio Ltd.
(\*\*)+44(0)1442 260 146
www.creekaudio.com

### FOR

- outstanding sound quality
- tactile use, discrete
- excellent display

AGAINST

# CAMBRIDGE AUDIO AZUR 640T £199.95



he first of the three hybrid DAB/FM designs, the Cambridge sports the best silver coating of the group, with finely countersunk openings for the centrally located display and buttons either side. The poorly legible LC display is a disappointment. To its right are countersunk buttons for DAB/FM, Autotune, Info, Select and Left and Right Arrow symbols for tuning. The side panels are attractive extruded aluminium C-sections, each smoothly folded six times. The top plate is nicely screwed into the main chassis with flush mounted countersunk star head fixings.

Inside the Cambridge also features a Radioscape DSP similar to the Arcam, which takes both the FM (with direct digital synthesis and digital demodulation) and DAB through the digital DSP.The DAB module uses a Texas Instruments fixed point DRE200 chip while the DAC is a Wolfson WM8716 24/192Khz type with 48kHz sample rate. A frame transformer feeds a linear power supply. At the rear panel, there is an F-Type aerial socket for DAB/FM, gold-plated electrical digital out, optical digital out, input loop through phono sockets to save an input socket on an amplifier, output phono sockets, switchable 'Natural Contour Technology. Vital statistics are 70x430x305mm and 3.9kg.

# **SOUND QUALITY**

The Cambridge produced one of the best results for the group on both FM and DAB. On Radio Two DAB 128kbps, it featured a vibrant sound that I thought was not possible on DAB, let alone the lower bitrate of 128Kbps! It proved thoroughly enjoyable, with the vocals in

music being beautifully presented. On Radio Three DAB 192kbps, orchestration was lush and unrestrained - where the Cambridge handled the crashing crescendos without strain. I couldn't discern any DAB compression or sibilance to the vocals either. With Radio Two FM, the sound gained in spatiality in comparison to the Cambridge's own DAB version.. Radio Three FM also had an excellent showing; violins were really tangible while horns were well rounded and dynamically resolved, convincingly, naturally, rendered. Still, the

Cambridge did have discernible midrange smear on both DAB and FM compared to the other tuners, but this did not detract from an otherwise brilliant performance. An excellent all rounder and an absolute pleasure to use and listen to, this tuner is very well built, finished, priced and designed – few hi-fi components tick all four of these boxes! In absolute terms it can't quite match the Creek, NAD or the reference on FM, but remains absolutely outstanding value for money.

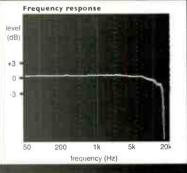
# **MEASURED PERFORMANCE**

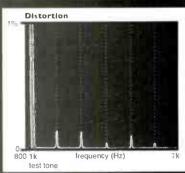
The Cambridge Audio Azur 640T is very similar to Arcam's DT-91, using a Radioscape DAB/VHF module, but there are differences. Cambridge have fitted switchable frequency response equalisation to the rear panel, marked "warm" and "lively" in addition to normal (flat). Warm lifts bass only, by around +3dB below 450Hz - quite a lot. Lively lifts bass less, by +3dB again but below 250Hz. It also raises treble level to add some brightness. Switched to Flat the 640T gave a smooth response with slightly rolled off upper treble, our analysis shows. Like the Arcam, pilot tone at 19kHz barely existed, measuring –90dB, There was little intermod. against this tone as a result. Distortion levels were !ower than those from the Arcam too, quite significantly so in the midband on stereo signals (L+R and L-R) at 0.05%, if not on full left and right signals (L, R) at 0.2%.

The 640T also turned in 3dB less noise, managing –66dB (IEC A wtd.), so it appears to have a better spec. Radioscape module inside, but hiss will still be audible at times, minimised only by the compression and lack of silences on most radio programme.

Like Arcam s DT-91 the 640T was massively sensitive, maintaining minimum hiss (full quieting) down to a miniscule 22uV. For this alone, to most people, who have poor aerials, it may well seem unusually quiet. It neither needs nor benefits from a big outdoor aerial. Another mixed bag, but

interesting. NK 10Hz-10.6kHz Frequency response **APU9** Stereo separation Distortion (50% mod.) 0.2% -66dB Hiss (CCIR) Signal for minimum hiss (50ohms) 22uV Output 0.78V Sensitivity (50ohms) 1.4µV топо 12UV stereo signal strength meter: reads up to 9uV





# VERDICT •••• £

Cambridge Audio
(C)+44 (0)207 940 2200
www.cambridge-audio.co.uk

### FOR

- blistering value
- superb design, build
- excellent sound quality

# **AGAINST**

- poor display
- no rotary knob

99 cd-s

99 cd-p

fm tuner

pre-amolfier

stereo power amplifier

mono power amplifier

909 stereo power amplifier

quad 99 series



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Product of the Year 2004-2005
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Separates System of the Year 2003-2005

II-FI News (99 Serie

# QUAD

Quad Electroacoustics Ltd. IAG House, Sovereign Court, Ermine Business Park, Huntingdon, Cambs, PE29 6XU Download brochures and reviews from www.quad-bifi.co.uk Tel: 0845 4580011, Fax: 01480 431767

001

# PURE DIGITAL DRX 702ES £329.95



turing a multitude of functions, the black anodised aluminium front panel is nicely laid out. The backlit LCD display, while clear and informative close up, is not the best at a distance or at angles, which was disappointing. To the left of the display are three LEDs for Remote, Secondary and Stereo, then a headphone socket and Power On/Off switch.

complex machine fea-

Inside there is a separate board for the headphone output and a main PCB containing a Frontier Silicon Chorus FS1010 third generation DAB chip, either side of which is an optional balanced output board and the standard Panasonic

FM module, and there's a small toroid transformer. The Pure uses a Wolfson 24/192 Delta Sigma DAC for the DAB and its digital outputs. At the rear there are separate connectors for FM (male coaxial socket), AM and DAB (F-Type screw-in socket) meaning you have to connect three aerials for DAB, AM and FM. Then a USB socket, electrical/optical digital out socket, RDI optical, input phono sockets for loop through connection saving an input from amplifier, output phono sockets, optional Neutrik balanced sockets and IEC mains input socket. The balanced option DRX-702ES costs £399 or £100 for a factory fit to standard £330 DRX-702ES. The aluminium bodied Pure comes in black or silver and measures 430x65x 270mm.

# **SOUND QUALITY**

With Radio Two FM, the Pure Digital's sound quality was neutral, with speech also being well handled. Music had controlled bass which was tight and dynamic but not as extended or as fully tuneful as

some of the others, thus the Pure Digital came across a little thin and undynamic compared to the vibrant Cambridge 640T or full bodied Arcam DT91 for instance. On Radio Three FM, violins had a nice tonality with good texture and expression revealing some nice timing ability enabling the Pure to keep a grip on some of the more challenging orchestral swings. On Radio Two DAB 128 Kbps, there was slight sibilance to the speech but the music didn't suffer untowardly because DAB compression was less noticeable on the Pure Digital than say the audible trace amounts evident on the Arcam DT91 - which can be described as a slight muddying and loss of absolute

clarity. Radio Three DAB 192kbps, was a little disappointing however, because the music wasn't as expressive as the other tuners on digital or DAB. Midband had a slight grain to it. Timing remained very good though, and notably better than the newer Arcam DT91.

A nicely built and finished tuner with excellent flexibility and generous preset allotment, but its sound lacks body and weight. This superbly engineered tuner has a professional feel and appropriately analytical sonics, and when specified with the balanced XLRs would be an excellent broadcast monitor – but domestic buyers might prefer the superior sonics and value of the Cambridge Audio.

# **MEASURED PERFORMANCE**

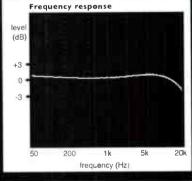
The DRX-702 is a little unusual in its smoothly rolling response that adds a little boost to both ends of the audio spectrum to add a little zing to sound quality. This affects DAB as well; in fact it is there for DAB. The digital output measured flat, when fed to a digital analyser direct; the e.q. affects analogue output only. There is no pilot tone removal and both pilot at 19kHz and subcarrier at 38kHz were high, giving rise to intermodulation distortion against the pilot. Harmonic distortion levels showed why: linearity wasn't so hot generally, with 1% distortion - 2nd harmonic luckily – on a sum signal (centre image) in stereo.

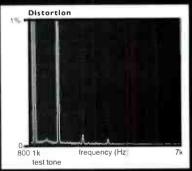
Hiss was on the high side at -66dB (IEC A) and may just be audible at times, during Radio 3/4 silences. With full quieting measuring 530uV and stereo sensitivity 34uV the DRX-702ES is normal enough in these areas. It signal strength meter worked well too, usefully showing maximum at 425uV. Results were identical via the balanced outpot, into a balanced analyser, except it gave much higher output, no less than 2.3V.

The DRX-702ES vhf/fm section will give fair results, but it doesn't set standards. NK

Frequency response Stereo separation 6Hz-15.5kHz 33dB

Distortion (50% mod.)	0.3%
Hiss (CCIR)	-66dB
Signal for minimum hiss	0.53mV
Dutput	1.28V
Sensitivity	
mono	6µV
stereo	34µV
signal strength meter: reads	up to 425uV





# VERDICT ••• £

Pure Digital
(+44 (0)1923 277 488
www.pure-digital.com

### FOR

- well built, finished
- timing

# **AGAINST**

- so-so sound

# Winners Breed Winners 000000 HI-FICHO magazine Distinctive delivery 9999 Hi-Fi World HI-FICHOICE "Great musical cohesion" Hi-FI Choice PRODUCT OF THE YEAR Outstanding depth of image HI-FI News

# The New Classics: Upholding an award-winning tradition

Attention to detail wins hands down. Purpose-built by hand, the new Classics from Exposure have been garnering rave reviews from hi-fi magazines far and wide; with our new Pre- and Power Amplifiers receiving the coveted Product of the Year 2003-2004 accolade by Hi-Fi Choice magazine. Adding yet again to the growing list of award-winning equipment already in Exposure's stable. And reaffirming our reputation as engineers of some of the world's finest hi-fi.

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his new tuner is well made and finished. The front panel has the best display of all the tuners reviewed. The centrally mounted logic switching rotary knob which can scroll through the display functions is a delight, being well weighted and a pleasure to use.

Internally the Arcam utilises a Radioscape DSP and routes both DAB and FM through it. Thus you can have analogue and digital outputs for both FM and DAB! Digital signals are taken through a Wolfson 8740 DAC for which Arcam have paid special attention to the clocking circuitry for better sound. The Arcam's

digital sampling rate for DAB is 48kHz and for FM, 32kHz. The Arcam uses a linear power supply from a toroid transformer that has separate windings for its digital, analogue and display sections.

At the rear panel are two sets of phono socket outputs, an F-Type aerial socket, goldplated electrical digital out, optical digital out, remote-in socket, R\$232 port, an opening labelled - 'program', voltage indicator and IEC mains socket. Casework is aluminium with a thick damped steel base-plate at the bottom, and the aluminium front plate is in three parts, the main panel being a gently curved C-section flanked by two matching end caps. Vital statistics are 435x320x83mm and 3.6kg.

# **SOUND QUALITY**

On Radio Two FM, vocals and speech had a nicely rounded and smooth delivery. While also being natural, speech didn't have that plumminess that some tuners have when their electrical design is tailored to sound rich and weighty. For

music, the bass was deep and sonorous while there was a nice overall spatiality to the sound.

The Arcam proved to be continually listenable. On Radio Three FM, the sound had a sustained warm presentation and had a rather nice liquid quality. It was very good actually with fine vocal ability and depth. Strings from the orchestra were lush and expansive. On Radio Two DAB 128kbps, the Arcam was open and dynamic in comparison to the FM section; minimising the trademark DAB splashy sibilant presentation, revealing a slightly rolled off treble. On Radio Three DAB

192kbps, speech was good while the music boasted better than average instrumental detail. I could still discern the typical DAB compression though, but it was not so evident - I was really impressed with the Arcam's sound via DAB as it wasn't only listenable but enjoyable too!

The Arcam is a great all rounder, doing everything to a very high standard. It doesn't offer the best outright DAB and/or FM sound, rather its skill is the way it brings extremely listenable sonics together with superb styfing and ergonomics. As the strap line goes, it's 'reassuringly expensive' and no less classy.

# **MEASURED PERFORMANCE**

The DT-91's vhf/fm section gives identical results to those from the Cambridge, both using an unusual and, in some areas, advanced chip set from Radioscape. This is software radio, of a form. The bad news here is that the DT-91 is noisy by vhf/fm standards, measuring a poor –63dB hiss (IEC A wtd.). This is 1dB worse than a Leak Troughline from the 1960s and 17dB worse than a Hitachi FT-5500 from the 1980s.

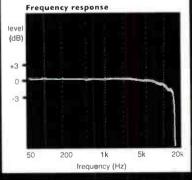
Whilst channel separation was almost infinite, there was some distortion in the quiet channel. However, one has to take a view here; there was no pilot too, so none of the intermod. it raises through non-linearity. Harmonic distortion levels were mediocre at 0.3% but the distortion residual was distinctly digital, unlike that of the Pure. Note the extended harmonic spectrum — not nice. Frequency response was flat, our analysis shows.

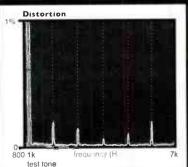
The DT-91 was, however, fantastically sensitive, hitting full quieting (i.e. minimum hiss) at just 22uV, and with a stereo sensitivity of 14uV. With a poor aerial the DT-91 vill be quieter than rivals, except the Cambridge, by a country mile. A very mixed bag than. NK

Frequency response

10Hz-10.5kHz

Stereo separation 70dB
Distortion (50% mod.) 0.28%
Hiss (CCIR) -63dB
Signal for minimum hiss (500hms) 22uV
Output 0.87V
Sensitivity (500hms)
mono 1.4µV
stereo 14µV
signal strength meter: reads up to 6uV





# VERDICT ●●● £

Arcam
(\*\*)+44 (0)1223 203 200
www.arcam.co.uk

### FOR

- build, operation, finish
- warm, engaging sound
- flatters DAB

# **AGAINST**

- cheap control buttons

# NTL/ PACE DI1000 £100



ight, this is where the fun starts! We've decided to include a digital cable set top box to provide a counterpoint to the DAB tuners in the test? Why, well you can get so-called Digital Radio through cable and Freeview, often at considerably higher bitrates, at a much lower price - and free TV too! Kind of makes life tricky for the Cambridge Audio, Pure and Arcam, doesn't it...? The NTL/ Pace Di 1000 reviewed here has just been superseded by the Di4000N, but is still perfectly representative of the myriad 'digital set top boxes' around in design, build and features. By and large they're pretty generic designs using similar chipsets, with any visible 'distinguishing marks' being on the TV side of things. We also tried Philips' DTR500 (£60) Freeview receiver, and most of what we've found here applies to this, too. The key point is that both provide considerably higher bitrates for radio than DAB and feature digital audio outputs, so you can pipe this 'higher resolution' digital radio out to your hi-fi digital to analogue convertor, or AV receiver, or use your DAT, MiniDisc, DCC or CD recorder in 'monitor' mode to listen.

The NTL/Pace box provides outputs for digital TV (including Sky), Ethernet broadband internet and digital radio (supplied by Sky). The Di 1000 set top box comes as part of NTL's series of entertainment packages starting from £10 per month for the Base Pack which includes the familiar free to air broadcasts like BBC1-6, ITV1-2, Discovery Channel, Sky One, etc., and no less than 42 digital radio stations bought in from Sky. The Di 1000 has a basic display on its curved plastic front plate, with large

green legends denoting setup and channel number. There is a set of arrowed navigation keys similar to the ones on a DVD player below the display set in an oval button count. To the right of the display are four smaller oval buttons for TV, TV Guide, Interactive and Favourites. On the far right is the power standby switch. To the left are buttons for Channel up/down, OK and a fold out flap containing a viewing smart card slot.

Internally it features an 80 MIPS (Million Instructions Per Second) processor, 8MB RAM, 6MB FLASH, 4 MB video RAM, 4 MB graphics RAM and MCNS DOCSIS/ EURODOCSIS cable modem. There is a separate tuner module which utilises the QAM (Quadrature Amplitude Modulation) technique to bring digital signals from the radio stations and then the signals go through a demodulation tuner to get sound and music. The Di 1000 has a switch mode power supply. At the back are various Scart and aerial socket connections along with an Ethernet port, phono sockets, F-type connector for the digital cable feed and figure eight mains input socket. The Di1000 has a perforated metal top cover because it runs very warm in use. The newer Di4000N is broadly similar to the Di1000 but features a faster 175+MIPS main CPU, USB and optical digital output while it omits the phono sockets for a mini-jack connection instead. They both measure 380x73x255mm and weigh less than 2.9kg.

# **SOUND QUALITY**

Even via its onboard DAC and analogue audio output stage, the NTL /Pace had a generally good spatial sound quality - remarkable

considering all the other elements such as the potentially sound degrading TV/ video sections to its electronic design. On Radio Two Digital Cable, the speech had a slight sibilance to it probably because the general tonal shading of the NTL/ Pace was spread towards the upper HF regions. However the bass was excellent, being both well extended and tuneful too, amongst the best in the group! This gave the music a good rhythmical thrust and provided a very tuneful feel to all the music broadcast. Musically there was a snap and fleet of foot presentation, never sounding aggressive or crude.

The Pace was quite enjoyable really on Radio Two, with a nice fluid midband and excellent musical separation, considering its Digital Radio DNA - it procured a generally musical presentation here. On Radio Three Digital Cable, the speech was improved over the Radio Two presentation, though there still remained a tendency to favour for the upper HF regions of the musical spectrum. The music on Digital Cable was clear, crisp and dynamic, while the NTL/ Pace was just about able to hang onto the orchestral crescendos as the music went from the quiet passages to huge dynamics.

The shock result is that, even via its 'bread and butter' DAC and analogue output, this humble set top box achieved the strongest and most dynamically assured sound - all the more remarkable considering the hostile internal environment of the set top box, with all its video circuitry and switch mode power supply. Pipe the digital signal out to a serious audiophile DAC and watch it fly on digital radio broadcasts, thanks to those valuable extra bits going into the tuner...

# VERDICT ••• £

### ITI

(\*\*) +44 (0)800 052 2000 www.ntl.co.uk

### FOR

- surprisingly good sound
- satellite TV, broadband
- ease of use

## **AGAINST**

- slight vocal sibilance

# GTA LEAK TROUGH LINE 3 STEREO £800 approx



ur reference is a Graham Tricker Audio (GT Audio) Leak Trough Line 3 Stereo. There are two options from Graham Tricker, the £250 Standard and the £350 Audiophile (our review sample was the latter) with a modern decoder chip and Class A output amplifier. The Leak Trough Line measures 292x108x210mm and weighs 5.8kg.

The front has two rotary knobs, for tune and off/mono/stereo, a tuning dial and slide switches, for AFC and local/distant sensitivity. The AFC (Automatic Frequency Control) when switched off activates the EM84 Magic Eye tuning indicator. Once the desired station is tuned in, the AFC can be switched on locking in the station, which then switches off the EM84. preventing valve

# **SOUND QUALITY**

On Radio Two FM, the GTA Leak was stunning. The sound was immensely deep and expansive, and yet so dynamic and well resolved. Speech was spot-on, neither thin nor plummy. The fluid midband was an aural delight; tuneful with excellent decay to musical instruments that underlined just what a phenomenally natural performer this is. On Radio Three FM, with a live broadcast, the sound from the GTA Leak enveloped the room with an eerie quality as if the presenters were there with you, while the subjective dynamic range was so good

and the subjective distortion so low that the music had an quality that you don't normally appreciate from either vinyl or CD; it was different. There was a delicious timbre to the violas making their inherently deeper and richer sound all the more believable. For the higher frequency violins, there was delicacy and definition without either a nasty stinging rasp or muted softened dynamic. For the stringed orchestration there was an exquisitely silky presentation. One could listen to the

Leak for hours on end without getting bored or fatigued, it was just right.

Sublime performance, design and ergonomics, the GTA Leak is truly special and in a class of one. It shows what is possible from analogue radio transmissions, providing the hardware is right. The magic of a Troughline like this is the connectedness you feel to the broadcasting studio. You need a serious roof-mounted FM antenna though.

# MEASURED PERFORMANCE

The Troughline is surprisingly accurate, having a frequency response that smoothly covers the audio spectrum, our analysis shows. Within 1dB frequency response limits, the Leak manages 10Hz-9.75kHz, little different from others in this group.

Using the magic eye I got around 30dB channel separation across the audio band to 10kHz, and around 0.6% second harmonic distortion (see our analysis) at 100% modulation, with little less at 50% modulation. This is fair, considering it is all innocuous second harmonic.

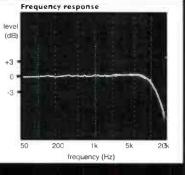
Hiss was -64dB down (IEC A wtd.) at full quieting and for this the tuner needed 2mV – a lot of signal. Faint hiss will be audible. The Troughline isn't sensitive, needing a good 1mV or so from the aerial too avoid obvious hiss.

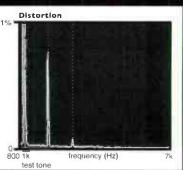
The Troughline is fundamentally accurate and its weaknesses tolerable. That's why, well maintained, it can sound so good. NK

Frequency response 10Hz-9.75kHz
Stereo separation 30dB
Distortion (50% mod.) 0.6%
Hiss (CCIR) -64dB
Signal for minimum hiss 2mV
Output 1V

Sensitivity mono stereo signal strength meter:

22μV 11**0**μV none





VERDICT •••• £
GT Audio
( +44 (0)1895 833 099
www.gtaudio.com

### FÖR

- stunning sound quality
- retro design
- tangible, hands-on

# AGAMEST

- the waiting list!

# Conclusion

n conceptualising this weird and wonderful sweep through the world of radio past and present. analogue and digital, tube and transistor, we could instantly anticipate the cries of "foul" and "you're not comparing like with like"! Well, this is precisely what we wanted to do, to give a real sense of perspective on how all these different designs, technologies, formats and philosophies correlate. Now it's time to unpick it all, and come up with some useful buying advice. So on this page, we're looking at how the moderns stack up against one another, and on page 25 we'll see how the best of this group stacks up against the three classic designs from Yamaha, Sansui and Revox, and finally how the winning modern and the winning classic rates against our all time fave rave and reference, the GT Audio Leak Trough Line. Confused? Hopefully you won't be if you read

Of the modern tuners, the £330/399 Pure Digital DRX 702ES is very nicely made and easy to use. It has an excellent front panel, eschewing the typically messy button count typically found on some hi-fi equipment. The rotary tuning knob was also excellent. The display was a disappointment though, because it wasn't as easily legible from a distance, and the sound as a whole while well-timed was ultimately disappointing through both DAB and FM for the price, especially when compared to the £199.95 Cambridge.

The Arcam DT91 is a very agreeable instrument in both sound and use, especially its display and rotary tuning knob which were the best of the whole group. It had warmth, high resolution and a good spatial sound quality to all music. It also really shined with DAB where it produced a very good and listenable sound, without any of the splashy and

sibilant artefacts normally associated with DAB.

The £199.95 Cambridge Azur 640T is my top choice for the hybrid tuners, as it was excellent in all the important areas and at a very reasonable price. Design, build and usability was first-rate while the sound quality for both FM and DAB was brilliant - almost comparable (on FM) to the higher priced analogue tuners in the group, let alone exceeding its own hybrid tuner competitors.

The only fly in its (and all the other Digital Radio tuners') ointment was the performance of the NTL/ Pace Dil 000. Its sound was shockingly good for such a lowly device, as it isn't designated as a genuine hi-fi component. Dynamic, vibrant and rhythmical - and all this through its own 'cheap as chips' analogue outputs, let alone feeding a serious hi-fi DAC. There's nothing magic about the NTL/ Pace, it's simply that the bitrates are significantly higher, so we're listening less to the antique MP2 compression technology and more to the music...

Of the analogue tuners, the £129.99 Denon did an excellent job for the asking price; it was nicely ergonomic, precise in action and tuning, while the sound quality was warm, dynamic and very enjoyable. However the dated styling and small lightweight casework will unwittingly put off some as they might wrongly consider it to be a cheap and nasty pseudo-hi-fi tuner which in performance terms at least — it clearly is not.

The £189.95 NAD C422 is a nicely built and finished tuner with an entirely unflappable and neutral sound quality. It initially hides its light under a bushel, but beyond immediacy, proves to be a consummate performer, able to handle all the dynamics and subtlety with an unflustered verve. It has

excellent timing too. The only disappointment is its faux rotary tuning knob! It provides tough price and performance competition for both the Denon and Cambridge, and many will find it a brilliant mix of serious value and serious performance.

The £550 Creek T50 is an awesome tuner, with an unfailingly high-quality, high-resolution sound that is commensurate with its asking price. It has a well finished and attractive front panel with clearly legible display and superb rotary tuning knob - making it a delight to operate and listen to. The rest of the Creek's finish does not look worthy of its price, and like the Denon this may wrongly put some potential purchasers off before they have heard it. However it is clear that Creek have spent all their effort on what is inside the T50 and as such the sound quality is deservedly

Indeed, the only tuner that comprehensively outclassed the Creek (and in some areas it was closer than we expected) was the £800 GTA Leak Trough Line 3 Stereo. Of course, we're not comparing like with like - I'm sure a slide rule-wielding reader will write in to point out that the Leak cost £600 or so in real terms when new. and you have to add the extra £700-800 of mods to that, But it's still a valid £800 purchasing option now, and so we had to include it. It shows us that the Creek is the best 'real world' tuner available new today, and how deeply refined and finessed a design the T50 is. It also shows us that FM radio is capable of more still, and - fascinatingly, that it always was capable of that, too, Our only sadness is that ye olde terrestrial FM won't be with us forever in this country - try and hear one before it goes - and/or try and stop the switch off.



## AND IN THE END...

mpressive and convenient as the digital designs were – particularly the Cambridge Audio 640T – ultimately they just weren't on the pace in the sonic stakes. There are two reasons for this; first they're hidebound by the risible bitrates they're forced to work with, and second, in this test they were up against some of the best tuners ever made...

At the final reckoning, it was analogue that delivered the sonic goods; all else (Auto tuning, remote controls, etc.) was just a distraction. Even the budget priced Denon proffered a warm and relaxing way to listen to music, and flatters commercial FM stations with their hideous compression and spiky signals. The NAD is a brilliant design, its problem being that it uncomfortably falls between two stalls in this particular group test it's neither the best value nor the best. This doesn't negate the fact that for many - who, sensibly perhaps, don't want to invest in a format that apparently has already had its death warrant signed by Her Majesty's Government - it is all they could ever want. It has real incision, space, depth and balance, and makes the Denon sound dull. Finally, the Creek is sublime - as befits the latest descendent of the brilliant 3140 and T40 designs.

So then to the real point of this elaborate group test, which is to find out how our modern champion, the Creek T50, compares to both our reference Leak Trough Line and the three nineteen seventies classics from Yamaha, Sansui and Revox?

Well, first, the Revox doesn't compare with it – which may raise the eyebrows of those who've just taken out a second mortgage to purchase a middling example off eBay. By all criteria, the T50 betters the B760; it is more sensitive, quieter and offers dramatically warmer and more insightful sound. Oh, and as a wounding aside, it's much easier to use too. Only the Revox's superlative build and finish give any justification for its existence...

How then does it compare with the Yamaha and Sansui? Here, we start to talk in terms of things being different, not better. On a good day, with a good signal, there's little to choose between the CT-7000 and TU-9900. Ultimately I'd say the latter is better, but the Yamaha's sublime styling and ergonomics pull some ground back for it. Either way, the Creek lacks some of the warmth



# "it was analogue that delivered the sonic goods; all else was just a distraction..."

where the instruments and vocals are within the mix and/or recorded acoustic, whereas the Sansui and Yam are more vague.

and shut in, yet better focused.

Indeed, the Creek tells you all about

Interestingly then, we're beginning to reach some kind of parity. The Creek is detailed and transparent, the two Japanese classics more expansive and euphonic. In some ways, many will plump for the latter character, as it's more beguiling and has that special something about it. Yet we come back to the fact that the Creek has a far more sensitive front end, and will pull in distant stations with less hiss and whistles. (It's interesting to note that the Creek is by no means exceptional in this respect by today's standards, it's just that the standards of thirty years ago were dramatically poorer. Note also that the Japanese classics were the best and most sensitive tuners around, back then...)

So, ideally what we'd want would be the size and scale of the classic Japanese designs allied to the Nakamichi's CR-7E cassette deck, Garrard's 301/401 turntables or Koetsu's Rosewood Signature cartridge. It does everything superbly, and most of this so sublimely that – even though it does err from perfection in a few respects, you hardly ever notice.

audio things with Quad's ESL-57 or

Yamaha's NS1000M loudspeaker,

The amazing thing about the Trough Line (in Graham Tricker's heavily modded form) is that it just doesn't sound like hi-fi. Switch it on, give it about twenty minutes to warm through, and watch the soundstage balloon in front of your very ears. Bass is so supple, fluid and tuneful, midband so dimensional, detailed, articulate and treble so sweet (to be fair to the very neutral Yamaha CT-7000, for 'sweet' read 'coloured') that you find yourself listening and listening and listening to the radio - to programmes and/or music you'd previously never bothered with - just for the fun of it. It has the capacity to make music magic, which is just how it should be.

# COMPETITION marantz

WIN A SUPERR **MARANTZ PM11S1** INTEGRATED AMPLIFIER **WORTH £2,500 IN THIS MONTH'S GREAT COMPETITION!** 

# QUESTIONS

[I] Dominic thinks this amp would drive any...?

- [a] loudspeaker
- [b] bus
- [c] train
- [d] Austin Allegro

[2] HDAM stands for what?

[a] Hyper Dynamic Amplifier Module

[b] Hedonistal Dyslexic

Agnostic Mentalist

[c] Heavy Deep Awesome

Maiesterial

[d] Have Done A Misdeed

[4] Construction is mainly of what?

- [a] aluminium [b] sugar [c] cheese
- [d] egg

[4] The PMIISI isn't the ... you might expect?

- [a] Neanderthal bruiser
- [b] midnight cruiser [c] bad sneakers
- [d] razor boy

July Competition Hi-Fi World Magazine Unit G4 Argo House The Park Business Centre Kilburn Park Rd. London NW6 5LF

arantz's stunning new PMIISI is one of the very best integrated amplifiers money can buy, and here's your chance to win it! Here's what Dominic Todd wrote in his recent review:

"Pick up this amplifier and you'd be hard pressed to believe that it would have trouble driving any loudspeaker. A good deal of that weight comes from the power transformer. At first sight it looks like a conventional toroidal, but there's actually far more to it than that... the PM-IISI features choke regulation to give a cleaner supply of mains to both pre and power sections. Great use has been made of Marantz's HDAM (Hyper Dynamic Amplifier Module) discrete op-amps. Believe it or not, that HDAM SA2 crops up yet again in relation to the volume control. In combination with a Wolfson chip, it is designed to give a highly linear control, with steps of just 0.5dB across a wide 0-100dB range. More good news for the user is that it actually feels like a good old-fashioned analogue device! And of course, no high-end Marantz product would be complete without a healthy dose of copper plating, and the PM-11SI is no exception. Construction is rigid and mainly of aluminium, with the majority of the chassis being copper-plated to reduce radiation interference. With its superlative finish, the overall sense

is of a beautifully hewn and exquisite piece of high end exotica.

Proving that size can be deceptive, the Marantz PM-11S1 isn't the Neanderthal bruiser that you might at first imagine. Instead, the sound was more organic and, to use a cliché, more valve-like. Despite the slight softness - and it was just slight - the timing proved as accurate and upbeat as you could hope for. Without the expected overwhelming bass presence, it was also possible to focus upon the highly impressive midrange. Vocals were superbly articulated, natural and colouration free, There was intricate detailing throughout the frequency range, and the sort of cohesion that simply wouldn't have existed from a Far Eastern transistor amp' design of old. The Marantz struck exactly the right spot in terms of presentation: Forward enough to be differentiated from the rest of the musicians, but not so far as to sound forced and exaggerated. Equally well balanced was the treble response, which had

plenty of detail for those who wished to 'listen in', but not the grain or splash of powerful transistor amps' of old. The PM-11S1 is not overtly soft, and will still sweep through music with a degree of effortlessness that's rare for any transistor amp', let alone one costing this much. Even at high volumes, it remained composed. uncompressed and capable of accurate timbre from a wide variety of instruments. In terms of detail retrieval it is one of the very best. A class act. This redoubtable integrated covers all bases with panache; the subtle, finessed, musical sound won't suit all systems - but with the right ancillaries it is superb".

If you'd like to win this stunning amplifier, then all you have to do is answer the following four easy questions. Send your entries by 30th

luly 2005 Competition, Hi-Fi World magazine, Unit G4, Argo House, The Park Business Centre, Kilburn Park Road. London NW6 5LF.

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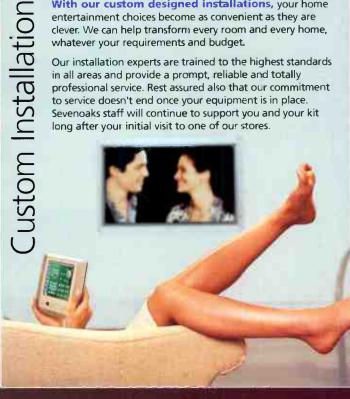
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Each Sevenoaks Sound & Vision store stocks a wide range of quality products, covering all categories of specialist home entertainment, from Hi-Fi separates and systems to DVD recorders, widescreen plasma televisions and projection systems.

Our fully trained installation experts can neatly and seamlessly integrate a home cinema or hi-fi system into your home. All electronics can be hidden away, speakers discreetly mounted either in the wall or ceiling and the complete system operated via remote control.

Whatever your requirements, Sevenoaks Sound & Vision has a diverse range of products and the expertise to advise, demonstrate and guide you through the home entertainment jungle.

- THE BEST PERFORMANCE
- THE LATEST TECHNOLOGY
- THE WIDEST RANGE

... AND TOTAL PEACE OF MIND

**NEW B&W Mini Theatre** 

Bowers & Wilkins has introduced Mini Theatre, a high-performance compact home cinema system. The system is available in three different configurations distinguished by three subwoofer options. Common to all is the M-1 satellite speaker, which, although diminutive in size, has been engineered with the same design attributes as B&W's larger ranges. The M-1 is supplied with both a pedestal stand and an adjustable bracket for wall mounting with a floor stand available at an additional £150 per pair.

MINI THEATRE PRICES START FROM £849.95



BEDFORD BIRMINGHAM BRIGHTON BRISTOL BROMLEY CAMBRIDGE **CARDIFF** CHELSEA **CHELTENHAM** CRAWLEY CROYDON EALING **EDINBURGH EPSOM** EXETER **GLASGOW GUILDFORD HOLBORN** HULL **IPSWICH** KINGSTON **LEICESTER** LEEDS LINCOLN MAIDSTONE MANCHESTER **NEWCASTLE** NORWICH NOTTINGHAM OXFORD **PETERBOROUGH PLYMOUTH** POOLE **PRESTON** READING **SEVENOAKS** SHEFFIELD SOLIHULL

SOUTHAMPTON

SOUTHGATE **STAINES** SWINDON **SWISS COTTAGE** TUNBRIDGE WELLS WATFORD WEYBRIDGE WITHAM (ESSEX) WOLVERHAMPTON

ABERDEEN

49 STORES NATIONWIDE WWW.sevenoakssoundandvision.co.uk

# SEVENOAKS

SOUND & VISION



# Arcam

Arcam has spent more than a generation building some of the finest high fidelity products the world has ever seen. Whether you're interested in two channel or a complete multichannel AV system, the Arcam DiVA series offers the music and movie lover the most complete range of high-performance home entertainment solutions from any

specialist manufacturer



DIVA SERIES INCLUDES

A65 PLUS AMPLIFIER

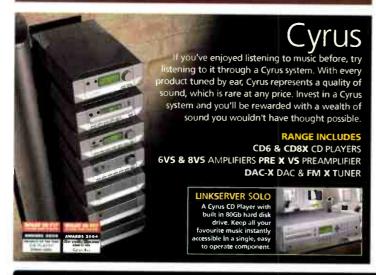
A80 AMPLIFIER

A90 AMPLIFIER

CD73T CD PLAYER

CD192 CD PLAYER

T61 TUNER
DT91 DAB TUNER
DV78 DVD PLAYER
DV79 DVD PLAYER
AVR250 AV RECEIVER
AVR300 AV RECEIVER



# Specialist hi-fi

Contemporary hi-fi is constantly setting new standards in sound reproduction and design. Whatever you listen to, be it Robbie Williams or Rachmaninov, Sevenoaks can recommend separate components that will bring your music collection to life and complement your home. We're enthusiasts and experts, passionate about helping you build (or upgrade) a system that will delight for years to come.



Rotel is truly unique: a family-owned, specialist Japanese company whose passionate interest in music led them to manufacture audio components of uncompromised quality.

The **02** Series is Rotel's entry-level range. The RCD-02 CD player combined with either an RA-01, RA-02 or RA-03 integrated amplifier represents true audiophile performance at an affordable price. For increased high-end performance, the RC-03/RB-3 pre/power amplifiers are available. The RT-02 tuner completes the range.

### D2 SERVES

RA-01 AMPLIFIER RA-02 AMPLIFIER RA-03 AMPLIFIER RCD-02 CD PLAYER RT-02 TUNER

RA-1062 AMPLIFIER RCD-1072 CD PLAYER

# ROTEL RA 03 INTEGRATED AMPLIFIER "The Rotel is simply the best-sounding amp here, and on of the cheapest - if you're after an amp, you must hear it."



# Project

Project is currently one of the world's leading suppliers of turntables, with a range of models designed to satisfy all levels of expectation and budget. The range is simple to use, maintenance free and will function for a lifetime.

**DEBUT III** TURNTABLE WITH OM5E CARTRIDGE **2 XPERIENCE** TURNTABLE (PICTURED RIGHT)





# B&W

Since the outset, the focus of Bowers and Wilkins Loudspeakers has always been to offer the best possible musical experience. With a combination of the latest R&D techniques and a passion for music, B&W produces a diverse range of products befitting the largest audio manufacturer in the UK.

DM601 S3 & DM602 S3

700 SEMES INCLUDES 705 & 703 FPM SERIES INCLUDES

PV1 SUBWOOFER



# The Magnificent Seven

Visit the special offers page on our website for some fantastic savings on new and ex-demonstration equipment.

www.sevenoakssoundandvision.co.uk and click-on Special Offers

# **£** PRICING POLICY

We always try to ensure our prices are highly competitive. In the event you can find the same products and excellent service at a lower price, please bring it to our store managers' attention.

# **ESSENTIAL ACCESSORIES**

The right accessories can make or break your system. Our carefully selected range, including QED, Soundstyle and Grado, will ensure you get the very

best performance from your system.

# O% FINANCE OPTION

Spr ad the cost of buying.

 finance extrain is invitable on the majority of products we stock

# PLEASE NOTE

Some products/brands are not available at all stores. Please call to confirm or visit our website before travelling.

\*Added Value Offers - From range available in-store. Not in conjunction with any other offer.

ADVERT VAUD UNTIL AT LEAST 30/06/2005, E&DE.



Since 1972 Monitor Audio has been developing and perfecting the implementation of metal drivers, innovative crossovers, and exemplary speaker cabinet construction and finish to further the ideal of achieving sound which is to the original "as close as it gets"

The range includes - Gold, New Silver RS, Bronze and Radius, a seriously compact system bringing true hi-fi performance to both music and movies at home



Best Buy

the speakers is their

finest characteristic

sounds wonderfully

price level." digital

BRONZE B2, B2 AV, B4 AV SILVER RS1, RS6, RS8 **GOLD REFERENCE 10 & 60** 



speakers don't get much better than the B2s.

Wharfedale

SILVER RS6

# Acoustic

Established in 1987, Acoustic Energy is one of Britain's premier loudspeaker manufacturers offering one of the most targeted range of hi-fi and home cinema loudspeaker systems on the market today





AELITE THREE

The legendary AE1 lives on in this groundbreaking new version... It sets a new standard for small speakers."

# Digital Radio Harman Kardon

With Digital Audio Broadcasting (DAB) capability, this high-quality tunes delivers more stations and offers pure, distortion-free, CDlike sound, while providing useful radio and data services.



DRX702ES DAR/ANALOGUE TUNER

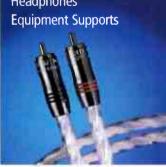


# Essential Accessories

The right accessories can make or break your system.

Our carefully selected range, including QED, SOUNDSTYLE and GRADO, will ensure you get the very best performance from your system.

Interconnect & Speaker Cables Speaker Stands Headphones





The Marantz 'Range Series' offers flexible system building options for every lifestyle.



CD5400 "This is a remarkable CD player for the money, with superb sound, looks and feel - A very solid buy and a lot of fun.

IGE SERRES INCLUDES

CD5400 CD PLAYER PM4400 AMPLIFIER PM7200 AMPLIFIER ST4000 TUNER SR4500 AV RECEIVER SRS500 AN RECEIVER **DV4500** DVD PLAYER

The Latest evolution of the acclaimed O Series demonstrates how the benefits of KEF technology cascade down from the Reference Series to more affordable ranges. New Q features all the inherent advantages of KEF UNI-Q technology and are available in a variety of Finishes.





Q COMPACT BOOKSHELF SPEAKERS Q4 FLOORSTANDING SPEAKERS Q7 AV SPEAKER PACKAGE Founded in 1938, Quad's history is one of audio excellence. Today's range includes both electronics and speaker systems PRODUCTS INCLUDE 99 CD-PREAMPLIFIER 11L SPEAKERS

Musical Fidelity's X-Series combines execeptional build quality with value for money.

X SERIES X-80 & X150 AMPLIFIER X-RAYV3 CD PLAYER AS SERIES AS AMPLIFIER & CD PLAYER



# EVENOaks



Some products/brands are not available at all stores. Please call to confirm or visit www.sevenoakssou

Linn RANGE Michell Gyro SE/RB30C	£ CALL
Project Debut Phono SB	f169.95
Project Debut III (Black)	£129.95
Project 1 Xpression	£209.95
Project 2 Xperience	£549.95
Roksan Radius 5 (Wood)	£749.95
TUNERS	
Arcam DiVA T61	£230.0E
Arcam DiVA DT91 DAB/FM	EAAO DE
Cyrus FM X	
Denon TU260L MKII	F90 95
Harman Kardon TU970 DAB/AM/FM	£749.95
Marantz ST4000	£99.95
Pure DRX-701ES DAB	£189 95
Pure DRX-702ES DAB/FM	£269.95
CD PLAYERS	
	C200 0F
Arcam DiVA CD73T	£377.95
Arcam FMJ CD33T	£1340.05
Cyrus CD6	£1343,33
Cyrus CD8 X	£000.05
Cyrus CD8 X Cyrus DAC X	£1000.05
Denon DCD485	f119 95
Linn RANGE	£ CALL
Marantz CD5±00	£110 05
Meridian RANGE	£ CALL
Meridian RANGE Musical Fidelity X-Ray V2	£899.95
Musical Fidelity A5	£1499.95
Quad 99 CD-5	£649.95
Quad 99 CD-P2	.£999.95
Roksan Kandy KD1 MKIII	£649.95
Roksan Caspian M	.11099.95
Rotel RCD1072	E3/3.33
	E394.93
CD RECORDERS	
Yamaha CDR-HD1500	.£599.95
AMPLIFIERS	
Arcam DiVA A65 Plus	.£389,95
Arcam DiVA A80	£599.95
Arcam DiVA A90	.£849,95
Arcam FMJ A32	£1199.95
Cyrus 6vs	. £649.95
Cyrus 8vs	£849.95
Cyrus Pre X vs Pre	£999.95
Cyrus SmartPower plus	£699.95
Cyrus X Power	£999.95
Cyrus Mono X Power (Each)	£1199.95
Denon PMA355	. 1169.95
Marantz PM4400	£120 05
Marantz PM7200	£730.05
Meridian RANGE	£ CALI
	L CHLL

**TURNTABLES** Goldring GR1

undandvision before travell	ing.
Musical Fidelity X-80	
Musical Fidelity X-150	
Musical Fidelity A5	.£1499.95
Quad 99 Power	£549.95
Quad 909 Power	£899.95
Roksan Kandy KA1 Mkili	. £649.95
Roksan Caspian M	. £999.95
Roksan Caspian M Pre/Stereo Power	
Rotel RA-01	£249.95
Rotel RA-02	£349.95
Rotel RA-03	£499.95
	.£594.95
SPEAKERS	
Acoustic Energy Aegis Evo One	£129.95
Acoustic Energy Aegis Evo Three	£249.95
Acoustic Energy Aelite Two	£449.05
Acoustic Energy Aelite Three	£740.0E
Acoustic Energy AE1 MKIII FROM	E/43,33
AND Mountage BY	11039.33
AVI Neutron IV	. £499.95
B&W DM601 S3	
B&W DM602 S3	. £299.95
B&W 705	.£899.95
B&W 703	£1999.95
KEF Q RANGE	£ CALL
KEF XO RANGE	
Linn RANGE	
Meridian RANGE	£ CALL
Wission m31i	£179.95
Mission m34i	
Monitor Audio Bronze 82	£100.0E
Monitor Audio Cities DC1	133,33
Monitor Audio Silver R51	2.349.93
Monitor Audio Silver RS6	£399.95
Monitor Audio Silver RS8	£799.95
Monitor Audio Gold Reference 10	£799.95
Monitor Audio Gold Reference 60	
Quad 11L	.£379.95
Quad *2L	.£499.95
<b>⊋uad</b> 22L	.£894.95
tuark RANGE	£ CALL
Wharfedale Diamond 9.1	
HI-FI SYSTEMS	
Arcam Solo Ex Speakers	£999.95
Denon 201 Ex Speakers	
Denon DF101 Ex Speakers	£200 PE
Denon DM31 Ex Speakers	.1400.00
penon DIVI3 Ex Speakers	.£189.95
Denon DM33 Ex Speakers	.£229.95
Denon DM35 Ex Speakers	£279.95
inn Classik Music Ex Speakers	£ CALL
OVD SYSTEMS	
Denon DHT-500SD Inc 5.1 Speaker Package	E CALL
Denon DHT-550SD Inc 5.1 Speaker Package	E CALL
KEF KIT100 Inc Speakers	± CALL
MULTI-ROOM AUDIO	& CALL
Cyrus Link RANGE	. E CALL
Investor Standard Control	. E CALL
amaha MusicCast RANGE	£ CALL

DVD PLAYERS		
MAKE & MODEL		
Arcam DiVA DV78	ECOD OF	MULTI REGION
Arcam DiVA DV79		
Arcam FMJ DV29		
Cyrus DVD8	£1199.95	£1199.95
<b>Denon</b> DVD-1710	£ CALL	£ CALL
<b>Denon</b> DVD-1910	£ CALL	£ CALL
Denon DVD-2910 Universal	£ CALL	£ CALL
Denon DVD-3910 Universal	£ CALL	£ CALL
Denon DVD-A11	£ CALL	£ CALL
Denon DVD-A1xv	E CALL	£ CALL
Harman Kardon DVD31		£ CALL
Marantz DV4500		£ CALL
Meridian RANGE	£ CALL	£ CALL
Pioneer DV370	£ CALL	£ CALL
Pioneer DV575A Universal	£ CALL	£ CALL
Pioneer DV668Av Universal	£ CALL	£ CALL
Pioneer DV868Avi Universal	£ CALL	£ CALL
Toshiba SD250	£ CALL	£ CALL
Toshiba SD350	£ CALL	£ CALL
Yamaha DVD-S557Yamaha DVD-S657	£ CALL	£ CALL
Yamaha DVD-S657	£ CALL	£ CALL
Yamaha DVD-S1500	£ CALL	£ CALL
<b>DVD RECORDERS</b>		
MAKE & MODEL	BECION 3	MULTI REGION
Panasonic DMR-ES10	f CALL	F CALL
Panasonic DMR-EH50	£ CALL	£ CALL
Panasonic DMR-E500	£ CALL	£ CALL
Panasonic DMR-EH50 Panasonic DMR-E500 Pioneer DVR-220	£199.95	£219.95
Pioneer DVK-320	E CALL	£ CALL
Pioneer DVR-420H	£ CALL	E CALL
Pioneer DVR-520H	.£ CALL	£ CALL
Pioneer DVR-720H	£ CALL	£ CALL
Pioneer DVR-920H	£ CALL	£ CALL
A/V AMPLIFIERS		
	CECC/	200
RECEIVERS & PRO	ICE22(	JK2
Arcam AVR250 A/V Receiver		.£999.95
Arcam AVR300 A/V Receiver Arcam AVP700/P1000 A/V Proce		£1299.95
Arcam AV8/P7 A/V Processor/Por	essor/Power	CETAN DE
Cyrus AV8 A/V Processor	wei	£3/43.33 £1000 0E
Denon AVC-A1XV AV Amplifier		£ (055.55
Denon AVR1705 AV Receiver		£ CALI
Denon AVR1905 AA/ Receiver		E CALL
Denon AVR2105 AVV Receiver		£ CALL
Denon AVR3805 AV Receiver		E CALL
Harman Kardon AVR335 A/V Re	eceiver	£ CALL
Harman Kardon AVR635 A/V Re	eceiver	.£ CALL
Harman Kardon DPR2005 A/V F		
Lexicon RANGE  Marantz SR4500 A/V Receiver		E CALL
INFORMATION AND THE STREET		£ CALL

Pioneer DVR-520H £ CALL	£ CALL
Pioneer DVR-720H	£ CALL
Pioneer DVR-920H £ CALL	£ CALL
A A / A B A D LIE IE D C	
A/V AMPLIFIERS	
<b>RECEIVERS &amp; PROCESS</b>	ORS
Arcam AVR250 A/V Receiver	
Arcam AVR300 AV Receiver	£1200 05
Arcam AVP700/P1000 AVV Processor/Powe	r ETRA
Arcam AV8/P7 A/V Processor/Power	£5749.95
Cyrus AV8 A/V Processor	£1099 95
Denon AVC-A1XV AVV Amplifier	f CALL
Denon AVR1705 AV Receiver	£ CALL
Denon AVR1905 AA/ Receiver	£ CALL
Denon AVR2105 AVV Receiver	. £ CALL
Denon AVR2105 AV Receiver Denon AVR2805 AV Receiver	£ CALL
Denon AVR3805 AV Receiver	£ CALL
Harman Kardon AVR335 A/V Receiver	£ CALL
Harman Kardon AVR635 A/V Receiver	£ CALL
Harman Kardon DPR2005 AVV Receiver	£ CALL
Lexicon RANGE	£ CALL
Marantz SR4500 A/V Receiver	£ CALL
Marantz SR5500 A/V Receiver	£ CALL
Onkyo TX-NR5000E A/V Receiver	£ CALL
Onkyo TX-SR602E A/V Receiver	£ CALL
Pioneer VSX-D814 AVV Receiver	£ CALL
Pioneer VSX-2014i A/V Receiver	£ CALL
Pioneer VSX-AX5Ai A/V Receiver	. £ CALL
Pioneer VSA-AX10Ai AV Amplifier	£ CALL
Rotel RSX1056 AV Receiver	£1199,95
Rotel RSX1067 AV Receiver	£1799.95
Rotel RSP1098 AV Processor	£2294.95
Yamaha DSP-AX757SE AV Amplifier	£ CALL
Yamaha DSP-Z9 AV Amplifier	£ CALL
Yamaha RX-V357 AV Receiver	E CALL
Yamaha RX-V557 AV Receiver	. E CALL
Yamaha RX-V657 AV Receiver	. E CALL
Yamaha RX-V1500RDS A/V Receiver	. E CALL
Yamaha RX-V2500RDS A/V Receiver	E CALL
A/V SPEAKERS & PACKA	GES
Acoustic Energy Evo 3B	£700 05
	. 21 22,33

Yamaha RX-V357 A/V Receiver	.£ CALL
Yamaha RX-V457 A/V Receiver	.£ CALL
Yamaha RX-V557 A/V Receiver	.£ CALL
Yamaha RX-V657 A/V Receiver	.£ CALL
Yamaha RX-V1500RDS A/V Receiver	.£ CALL
Yamaha RX-V2500RDS A/V Receiver	
A/V SPEAKERS & PACKA Acoustic Energy Evo 3B Acoustic Energy Aego P5/II Acoustic Energy Aelite 5.1 Acoustic Energy Aelite 5.1 Acoustic RANGE B&W VMI/AS1 B&W Mini Theatre RANGE FROM	.£799,95 .£449,95 £1894,95 .£ CALL .£849,95

VER IN ITAGOE	
KEF KHT1005	. £299.95
KEF KHT2005.2	.£599.95
KEF KHT5005	£ CALL
KEF Q7 AV	£ CALL
M&K RANGE	
Mission M30 AV Package	
Mission M3i AV Package	E CALL
Mission M Cube AV Package (ex stands)	£ CALL
Mission Elegante e82 7.1 Package	
Monitor Audio Bronze B2 AV	.£799.95
Monitor Audio Bronze B4 AV	£949.95
Monitor Audio Radius	
Wordaunt Short Genie	
Quad L-Series	
Wharfedale Diamond 9 HCP	
famaha YSP-1 Sound Projector	
·	
SUBWOOFERS	
8&W PV1	.£949.95
MRW DANICE	

B&W PV1	£949.95
M&K RANGE	
MJ Acoustics RANGE	
Monitor Audio RANGE	£ CALI
Quad L Series	
REL Q150E MKII (Brittex Black)	£499,95
REL Q201E (Brittex Black)	
REL Q400E (Brittex Black)	
REL Quake (Brittex Black)	
REL Stampede (Black)	
REL Strata 5 (Brittex Black)	
REL Storm 5 (Wood Finishes)	
Wharfedale Diamond SW150	
PI ASMA	

PLASMA	
Fujitsu RANGE	£ CALL
Hitachi 42PD7200 42"	
Hitachi 42PD7500 42"	£ CALL
Hitachi 55PMA550TE 55"	£ CALL
Panasonic TH37PE50 37"	.£ CALL
Panasonic TH42PE50 42"	£ CALL
Panasonic TH37PV500 37"	£ CALL
Panasonic TH42PV500 42"	£ CALL
Panasonic TH50PV500 50"	£ CALL
Pioneer PDP435FDE 43"	£ CALL
Pioneer PDP435XDE 43"	£ CALL
Pioneer PDP505XDE 50"	£ CALL
Toshiba 42WP46 42"	.£ CALL

LCD TV	
Hitachi 32LD7200 32"	£ CALL
Loewe RANGE	
Panasonic TX26LXD50 26"	
Panasonic TX32LXD50 32"	£ CALL
Sharp Aquos LC-26GA5 26"	£ CALL
Sharp Aquos LC-32GA5 32"	£ CALL
Sharp Aquos LC-32GD1 32"	£ CALL
Sharp Aquos LC-37GD1 37"	£ CALL
Sharp Aquos LC-37GA5 37"	
Sharp Aquos LC-45GD1 45"	
Toshiba RANGE	£ CALL

PROJECTORS	
Optoma H27 DLP	£ CALL
Screenplay SP4805 DLP	.£ CALL
Screenplay SP5700 DLP	
Screenplay SP7205 DLP	.£ CALL
Screenplay SP7210 DLP	.£ CALL
Screenplay SP777 DLP	.£ CALL
Sharp XV-Z91E DLP	.£ CALL
Sharp XV-Z200/201 DLP	.£ CALL
Sharp XV-Z2000 DLP	.£ CALL
Sim 2 Domino 18 DLP	.£ CALL
Sim 2 Domino 20-H HDMI DLP	£ CALL
Sim 2 Domino 30-H HDMI DLP	.£ CALL
Sim 2 HT300E DLP	
Sim 2 HT500 Link DLP	
ThemeScene H30A Cinema DLP	.£ CALL
ThemeScene H57 Cinema DLP	.£ CALL
ThemeScene H77 Cinema DLP	£ CALL

<b>REMOTE CONT</b>	ŀ	?	C	)	Ľ	S	,			
Marantz RC5400									£39	9.95
Marantz RC9500									£79	9.95
Philips i-Pronto RU1000 .									£139	9.95

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0% finance option is available on

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# Nationwide Store guide



**ABERDEEN** 01224 252797

• 57 CROWN STREET OPEN SUNDAY

BEDFORD 01234 272779

• 29-31 ST PETERS STREET

BIRMINGHAM 0121 233 2977

ARCH 12, LIVERY STREET

**BRIGHTON 01273 733338** 

• 57 WESTERN ROAD, HOVE

BRISTOL 0117 974 3727

• 92B WHITELADIES ROAD, CLIFTON

**BROMLEY** 020 8290 1988

• 39A EAST STREET

**CAMBRIDGE** 01223 304770

• 17 BURLEIGH STREET

**CARDIFF** 029 2047 2899

• 104-106 ALBANY ROAD

CHELSEA 020 7352 9466

• 403 KING5 ROAD

**CHELTENHAM** 01242 241171

• 14 PITTVILLE STREET

**CRAWLEY** 01293 510777

• 32 THE BOULEVARD OPEN SUNDAY

**CROYDON** 020 8665 1203

• 369-373 LONDON ROAD

**EALING** 020 8579 8777

• 24 THE GREEN OPEN SUNDAY

EDINBURGH 0131 229 7267

• 5 THE GRASSMARKET

**EPSOM** 01372 720720

• 12 UPPER HIGH STREET OPEN SUNDAY

**EXETER** 01392 218895

GLASGOW 0141 332 9655

88 GREAT WESTERN ROAD

**GUILDFORD** 01483 536666

• 73B NORTH STREET

HOLBORN 020 7837 7540

• 144-148 GRAYS INN ROAD

HULL 01482 587171

• 1 SAVILE ROW, SAVILE STREET

**IPSWICH** 01473 286977

• 12-14 DOGS HEAD STREET

KINGSTON 020 8547 0717

• 43 FIFE ROAD OPEN SUNDAY

**LEEDS** 0113 245 2775

• 62 NORTH STREET OPEN SUNDAY

**LEICESTER** 0116 253 6567

• 10 LOSEBY LANE

LINCOLN 01522 527397

• 20-22 CORPORATION STREET (OFF HIGH STREET)

MAIDSTONE 01622 686366

• 96 WEEK STREET

MANCHESTER 0161 831 7969

• 69 HIGH ST, CITY CENTRE

NEWCASTLE 0191 221 2320

• 19 NEWGATE STREET

NORWICH 01603 767605

29-29A ST GILES STREET

NOTTINGHAM 0115 911 2121

• 597-599 MANSFIELD ROAD

**OXFORD** 01865 241773

• 41 ST CLEMENTS STREET

PETERBOROUGH 01733 897697

• 36-38 PARK ROAD OPEN SUNDAY

PLYMOUTH 01752 226011

107 CORNWALL STREET

**POOLE** 01202 671677

• LATIMER HOUSE, 44-46 HIGH STREET

PRESTON 01772 825777

• 40-41 LUNE STREET OPEN SUNDAY

**READING** 0118 959 7768

3-4 KINGS WALK SHOPPING CENTRE

**SEVENOAKS** 01732 459555

109-113 LONDON ROAD

SHEFFIELD 0114 255 5861

• 635 QUEENS ROAD, HEELEY OPEN SUNDAY

**SOLIHULL** 0121 733 3727

• 149-151 STRATFORD ROAD

**SOUTHAMPTON** 023 8033 7770

• 33 LONDON ROAD

**SOUTHGATE** 020 8886 2777

• 79-81 CHASE SIDE

**STAINES** 01784 460777

• 4 THAMES STREET OPEN SUNDAY

**SWINDON** 01793 610992

8-9 COMMERCIAL ROAD

**SWISS COTTAGE** 020 7722 9777

• 21 NORTHWAYS PDE, FINCHLEY RD OPEN SUNDAY

**TUNBRIDGE WELLS** 01892 531543

28-30 ST JOHNS ROAD

**WATFORD** 01923 213533

• 478 ST ALBANS ROAD

WEYBRIDGE 01932 828525

43 CHURCH STREET, THE QUADRANT

WITHAM (ESSEX) 01376 501733

• 1 THE GROVE CENTRE

**WOLVERHAMPTON** 01902 312225

• 29-30 CLEVELAND STREET

OPENING HOURS: PLEASE TELEPHONE OR VISIT OUR WEBSITE E-MAIL: (insert store location)@sevenoakssoundandvision.cc.uk

# Who are Sevenoaks?

Established as Sevenoaks Hi-Fi in 1972, we have grown steadily onto one of the leading independent home entertainment specialists in the UK, earning a reputation for outstanding service, choice and value for money. In 1995, reflecting our commitment to the emergent new technologies in home cinema, our name was changed to Sevenoaks Sound & Vision. We now have 49 stores across the land stocking a broad range of exceptional equipment and accessories.

# How to shop at Sevenoaks

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# Going the distance



Digital Radio, you'd be forgiven for forgetting one of analogue's greatest strengths — the ability to pick up stations from all around the world. David Price auditions Sony's classic ICF-SW55 Short Wave radio receiver...

o much for new technology! In some conditions,
Digital Radio struggles to receive signals from a few miles down the road, whereas streamed internet webcasting is a brilliant idea whose time hasn't quite come – it's still work in progress...

So, despite what the government would have you believe, ye olde analogue radio broadcasting has very much to recommend it. It boasts far superior sound (on BBC Radio 3 FM, at least), a rich wealth of stations and — if you choose to surf the Shortwave band — even the ability to pick up stations from all around the world.

Trouble is, most people's concept of SW isn't a positive one. For the few who've ever heard it, it seems to connote strange wailing noises, weird 'Morse code' transmissions and

distant Soviet stations fading in and out of the ether...

Of course, some of this is true — SW doesn't exactly transport you right to the radio studio. It was never designed for fidelity, with signal robustness over long distances its one and only priority. But given a serious Short Wave receiver such as this, it's possible to unlock all that interstation squelch and scunge and make long distance radio reception a reality. And the great thing is that you can pick one up for surprisingly little outlay.

The wonderful world of DXing (long distance radio) has been around since the inception of radio transmission itself, but has traditionally been the province of the 'radio ham'. This breed of enthusiasts is passionate enough to put your average vinyl obsessive to shame — replete as they are with the

inevitable shed or basement covered in maps. charts, compasses and racks of technical looking equipment...

Doubtless much to these people's chagrin, serious Shortwave receivers have got smaller and smaller - yet no less powerful - to the point in the early nineties when products such as Sony's ICF-SW55 could pull in signals from the other side of the globe with ease, given a proper antenna. Sony founder Akio Morita's first transistor radio simplified and miniaturised radio listening some forty years ago, and the company's subsequent products subsequently did more of the same. The SW55 was a brilliant exponent of the art - rarely had SW been so

Most importantly, this is an extremely compact bit of kit. The SW55 measures just 125x195x35mm thanks to its very clever

construction. The single mono speaker is actually mounted inside the set, to the rear, the sound emanating through curved duct (looking like a letterbox, working a way quite akin to a loudspeaker port). This makes possible what some international radio newcomers may still find rather daunting - the complex, button-festooned fascia. Dominated by an array of keys and a huge 95x55mm LC display featuring a world map, UTC and local time readouts, alphanumeric station name (user programmed), frequency, mode, and signal strength, it's not easy to find your way around - for the first few times, at least. But because of the clever tuning system, you soon start getting where you want to go. Tuning is a breeze - you simply type in the frequency and press the execute button, simple as that. The Sony intelligently decides which band you want - type in 909kHz and it selects AM wide, key in 9995 it switches to upper-sideband as the default.

Obviously the unit will also autoscan and there's a great 'jog shuttle' thumbwheel with variable rate (i.e. slow or fast) for manual tuning too. Once tuned, you can store the station in a preset memory - in one of 25 electronic pages. Akin to a 'folder' on a computer, these can be named and a number of preset frequencies stored in each one. For example, in Japan the BBC World Service is best received from the Singapore transmitter on one frequency at one time of day and from a north American transmitter at another. You can make a 'page' called 'BBC WORLD' and allocate both frequency presets to it, so you can switch between them easily at different times of the day, but can also change between your 'BBCWORLD' page and your "VOA' (Voice of America) page at the flick of the 'page' button. Each 'page' stores one name and up to five frequencies (complete with bandwidth and mode settings), making a total of 125 channels. Clever stuff, although tweaky radio ham types will doubtless miss all the knob twisting...

Other clever bits include an extremely versatile timer, which can be set up for up to five stations, each with different frequencies and/or modes. You can select the on time to the nearest minute and the off-time up to 199 minutes later, which means you can program it to play, for example, BBC World Service news for 5 minutes and then Radio Moscow's music program, and then

# **WAVE GUIDE**

Thanks to its long distance ('DX') ability, Short Wave has been used for many decades as a multi-purpose means of international communication. Due to the vagaries of the earth's atmosphere, station broadcast frequencies and reception conditions often vary, so listening isn't always a simple case of pressing a station preset on a radio. Although many European stations can be pulled in by a standard telescopic 'whip' aerial used for FM, attaching a wire antenna is essential for distant and weak signals from poor signal areas such as Western North America or Australia which are many thousands of miles from transmitters. This done, listeners may still have to retune to different transmitters on different bands to receive the same station (i.e. the BBC World Service) at different times of the day. For more information on frequencies, books such as the 'Passport to World Band Radio' or the 'World Radio Television Handbook' are great sources of information.

Sound quality from SW is mever good — best likened to 96kbps MP3. Whereas FM is a short distance medium which uses large bandwidths to achieve the high quality audio, Shortwave is the opposite, relying om the ability to bounce off a layer of the atmosphere called the ionosphere which reflects the signal back to Earth like a mirror. As atmospheric conditions change, so SW signals vary in strength, necessitating a very sensitive and selective radio receiver. Countries nearest are clearest because they need to bounce off the ionosphere fewer times to reach the listener.

Because of the massive number of stations, SVV bands are crowded, with stations often using the same or adjacent frequencies, albeit in different parts of the world. These can sometimes bleed over each other, causing co-channel interference, stations very close on the band can mix, causing adjacent channel interference. At other times, the interference comes from utility stations transmitting for government, private or commercial purposes and often using non-voice transmission modes (i.e. Morse code). Aircraft, maritime and military also use shortwave. Static, from distant lightning storms can also interfere (most common during the summer in the hemisphere from where the broadcast is coming). Because sunlight affects the ionosphere, lower frequencies propagate best during darkness, higher frequencies during daylight, and around 9-13 MHz during half-light and perhaps also daylight and after dark. Here are the most commonly used broadcast bands:

2300 - 2495	120 Metres	(Tropical Band)
3200 - 3400	90 Metres	(Tropical Band)
3900 - 4000	75 Metres	(Tropical Band):
4750 - 5060	60 Metres	(Tropical Band):
5900 - 6200	49 Metres	(International Band)
7100 - 7350	41 Metres	(International Band)
9400 - 9900	31 Metres	(International Band)
11600 - 12100	25 Metres	(International Band)
13570 - 13870	22 Metres	(International Band)
15100 - 15800	19 Metres	(International Band)
17480 - 17900	16 Metres	(International Band
18900 - 19020	15 Metres	(not widely used)
21450 - 21850	13 Metres	(International Band
25600 - 26100	11 Metres	(International Band

switch over to a US station for a scheduled weather report after that. Frequencies for popular stations are already pre-programmed into some memory banks, including BBC, VOA and Radio Moscow.

The unit takes 4AA batter es, giving around ten hours life, although Sony supplied a dual voltage AC power adapter, the socket for which is on the side, alongside sockets for external aerial, external speaker, headphones and line out (giving stereo on FM). When new, the unit came packaged with an external wire antenna, useful for serious DXing, although obviously a permanent, roof

mounted aerial is best for this. Using an external antenna disconnects the internal ferrite rod and telescopic twig.

Sony's ICF-SW55 wins no prizes for sound quality – that was never the intention – but it's a brilliant entry into the wonderful world of Shortwave radio (and hey, it does FM stereo, MW and LW too!) at a highly affordable price. Cost new was £300 in 1995 (a bargain even then), it's readily available on ebay for under £100 now. And remember, come the big switch-off, this is one analogue tuner that will soldier on – SW shall go on forever.

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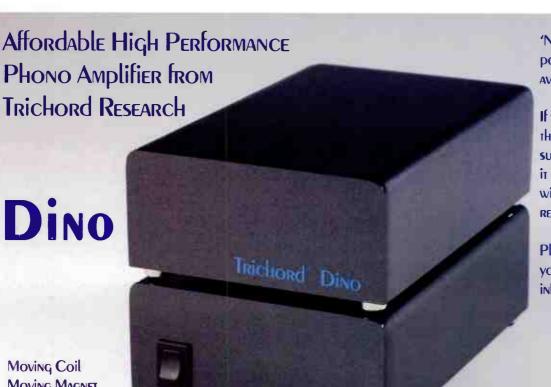
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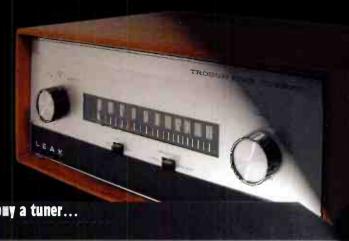
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# Tuner choice



Neel Keywood offers sage advice to those wishing to buy a tuner...



f you want serious sound, then right now ye olde analogue VHF/FM is still the only choice. Digital Radio (nee DAB) was once touted as "CD quality", but this claim is becoming less common now that a sufficiently large chunk of the buying public has heard it!

Indeed, the cat's now out of the bag on this subject; even in the European Broadcasting Union (EBU) DAB has strong critics and argument has broken out. DAB offers choice, having a swathe of stations not available on VHF/FM, and in fact sacrifices quality to do so; there is a direct trade-off between the two. DAB suits portable radios and cars (for which it was designed), but not good quality domestic hi-fi. All the same, you are likely to want both DAB and VHF, unless you prefer to use Freeview or Internet radio instead of DAB. Yes, with digital seeping in down your TV aerial, through the telephone lines and even drifting in on the ether, via broadband wireless and possibly your neighbour's 802b, there's no getting away from Digital Radio. These days you need a BSc just to sort out the options - and don't worry, if you are confused, so is everyone else - including the broadcasters!

For hi-fi purposes though we'd all like decent quality and this always means 'bandwidth', as Claude Shannon usefully pointed out - for digital as well as analogue. At present that means VHF/FM alone;

although bandwidth is available for digital broadcasts, it isn't being allocated. Let's look at the many digital radio options available today first.

# THE DIGITAL DILEMMA

All digital broadcasts are compressed, as sufficient bandwidth for lossless compression isn't available, so quality is always compromised to some degree. Internet radio usually uses mp3Pro, whilst DAB radio uses Stone Age mp2. Freeview and DSat use mp2 as well, but as both sometimes use higher data rates they can sound a little better than DAB. Generally,

you will get best quality from mp3Pro internet radio at 128kbps, which can sound quite sweet and clean - unusual for digital. Try www.live-radio.net or the excellent www.digitalradiotech.co.uk for information on all this. And remember that internet stations can come with pop-ups, stomped on by Microsoft's Service Pack 2 XP update, and an unwanted spyware payload as well, for which I recommend the free and excellent Ad-Aware SE cleaner from Lavasoft.

Mac OS Panther is getting recognised too, so Mac users shouldn't be complacent. But then Apple iTunes plays radio that both



Get stations from around the world via the internet, using Apple's i-tunes player, shown here. Alternatively, use Windows Media Player. Both are free.

aerial

vhf/fm

DAB

in

and

down-

Mac and Windows users can access for free. And of course there is the Windows Media Player. If you want quality, internet radio seems a poor choice, although www.tuner2.com picks pearls from the dross and is worth checking out. It's a fast growing sector and if you can be bothered to find a station you like from the myriad available, then this form of extreme narrowcasting can be very interesting and even esoteric. Try

www.techwebsound.com for example, for 1960s psychedelia that you never knew existed. Internet radio comes with playlists and info. Linked in with iTunes, you can even purchase some tracks online. Radio at this level has the power to revive an era, or a genre, by making it both accessible and available, something that sets it apart from one-way delivery systems, like transmitters on

Alternatively, if you have a wireless broadband router, check out the Slim Devices Squeezebox at www.multitask-computing.co.uk. It

are available, from a bewildering range of manufacturers, including the Sony VTX-D800 and Philips DTR500. both of which are quality units. Also, you may be interested in SetPal and newer Novapal technology, as used by Daewoo, Labgear and others: go

connected to Aux (or better still, via a digital input), to get DAB stations via Freeview. Of course, of you have satellite TV then again you can get many DAB stations at higher data rate than via DAB broadcasts, so connect up your satellite box

# "don't worry if you are confused, as so is everyone else - including the broadcasters!"

to www.novapal.com for a fascinating if a little technical look at a UK technology little recognised. This will interest those living far from transmitters, or experiencing other reception problems. Nokia also make well regarded Freeview receivers.

At around £100 or less, Freeview receivers make a lot of sense for audio use; as well as radio you get digital TV too. They are easy to use: just connect the audio outputs to the hi-fi and you have access to DAB stations, transmitted via digital

digital

output

instead. Satellite radio is Free To Air. so you do not need a Sky package.

It's pretty much accepted now that the mp2 encoding of DAB, known as Musicam, desperately needs improvement if sound quality of DAB is to be brought into the modern world and this is being discussed in the background, with AAC a future possibility. Meanwhile DAB struggles on, promoted hard in the UK by the BBC which has invested heavily in it. DAB offers hissfree reception and has the potential to sound good. However, it has been hampered both by an archaic compression system that is difficult to upgrade or replace, and by broadcasting policy that favours variety above quality, without reasonable compromise. As a result data rates are low and quality poor. This makes DAB best for portable radios and car tuners, providing they can actually pull in a clean signal, of

Other developments in broadcast transmission, such as DVB-H (Digital Video Broadcasting -Handheld) are now threatening DAB. Open dissension has broken out on the future of broadcasting as a result - and I haven't mentioned mobile phones, the cellular network and 3G! In the meantime, whilst debate builds in the background, VHF/FM remains a clear leader if you want to enjoy good sound quality. And no it won't be switched off tomorrow; Ofcom now say they cannot predict when this will be possible whilst there's so much disagreement and turmoil on the future of broadcasting.

### **Texas** RF amplifier Digital Analogue **DRE200** to to digital analogue digital analogue signal convertor converter convertor output processor

The anatomy of a digital tuner, in this case the RS200 module from Radioscape, found inside both the Arcam DT-91 and Cambridge 640T we review this month. Signal from the aerial is amplified and downconverted in frequency, processed digitally in the Texas DSP chip, then converted to analogue. A form of Software Defined Radio, this is the future of tuners.

receives internet radio and has an audio output for the hi-fi. At present internet radio streams at 28-128kbps, giving mediocre sound quality except at the highest rate. However, internet radio solves a lot of broadcasting problems (no transmitters!) and could deliver really good quality if it could move to 192 or 256kbps data rates, and AAC encoding, or something equivalently good. This isn't out of reach. It could well be the future of radio; many people think so.

Listening to radio via Freeview TV receivers is another option (see p22). In the UK, Freeview TV is attracting more attention than DAB and a wide range of set-top boxes

television. That Freeview commonly offers higher data rate and better quality than DAB is something that undermines DAB's position as a source of radio in the home. It also complicates the picture generally; for example, shouldn't hi-fi tuners have VHF and Freeview audio, rather than DAB? Or perhaps they should offer the full Monty, with TV output too? Instead, we have DAB tuners that offer VHF/FM, a by no means logical pairing for domestic audio...

An interesting and arguably more appropriate alternative to this arrangement is to use a good analogue VHF/FM tuner connected to your amplifier's Tuner input - see our reviews - and a Freeview tuner

# THE ANALOGUE OPTION

VHF/FM tuner choice has narrowed, high-end designs from Japan becoming rare. Long gone are 1970s super-tuners like Pioneer's TX-9500 MkII, Yamaha CT-7000 and Sansui's TU-9900. Analogue tuners like these were replaced by synthesiser tuners, like Hitachi's FT-5500 MkII from the mid-1980s, which eliminated tune errors (remember AFC?), as well as



Philips DTR500 Freeview receiver - higher quality radio than DAB with the high data rate stations. In future though, radio via TV channels will be the norm if DVB-H takes off.

mechanical tuning. Since then companies like Philips have managed to cram very high performance VHF tuner blocks onto chips, rendering discrete analogue tuners obsolete. Nowadays this is exclusively what you get when you buy a hi-fi tuner, manufacturers in effect packaging chipsets. If you are interested in a very high quality analogue tuner, then Marantz offer the ST-6000, Naim the NAT03 and Linn the complex and advanced Pekin at the top end of the market. Further down, price wise, exist less complex conventional designs from NAD, Denon and Creek (and Pure's DAB tuner, which has a normal analogue VHF section).

No matter how sophisticated, all conventional tuners need a strong signal from the aerial to render hiss inaudible - around ImV. When buying a hi-fi tuner, bear this in mind. Buying a more expensive model with better sensitivity figures affects this requirement little. In most areas of Britain you need an outdoor aerial to get a signal as strong as this. Which is why VHF is thought by some, if you believe DAB hype, to be 'hissy'. With sufficient signal it is in truth very quiet. For example, I tested a 1980s Hitachi FT-5500 MkII alongside the tuners this month (I use this tuner as a 'control' since it gives stable and advanced performance) and it manages -80dB hiss, which is extremely quiet. Sadly, for some reason I do not know, but likely to do with cost, modern VHF/FM tuners rarely give better than -73dB hiss. In use this is sufficiently low for them to seem pretty quiet, but it is close to the limit of audibility. You won't hear hiss in normal use, except when silences exist in a programme, not uncommon on Radios 3 and 4.

DAB overcomes this drawback, but ironically both the Arcam and Cambridge tuners tested this month challenge this ability, using an ultrasensitive and quiet DAB front-end. together with digital signal processing to achieve radically low VHF/FM "full quieting" figures that approach DAB performance. This was a surprise to me; I had to re-check many times before believing what the test equipment was telling me. These tuners need very, very little signal -27uV (millionths of a volt) - to give minimum hiss. That's around thirty times less than other vhf/fm rivals. You'll get this from most indoor wire aerials. The bad news is that, at present, the minimum level of hiss is painfully high, at -63dB (Arcam) 10dB worse than conventional immediate rivals in the group, meaning you will hear hiss no matter how good an aerial you use!

How do Arcam and Cambridge achieve such a performance? This brings me onto future tuner developments, being driven by the big semiconductor manufacturers like Texas Instruments. The big word here is Software Defined Radio, or SDR, which in curtailed form exists within the Cambridge and Arcam tuners; SDR has arrived in high fidelity already. Both are radical under the hood, but there's far more to come. Imagine connecting an analogue-todigital convertor (ADC) up to an aerial to turn its tiny signal into digital straight away. It's then processed by a computer. This is the basic idea behind SDR, all processing being carried out by a computer. At present the upper limit for direct Ato-D conversion is 80MHz or so, the start of the VHF/FM band, albeit at limited resolution. Higher speed ADCs are coming though; quality is likely to be well below hi-fi standards for some time yet all the same.

Both the Arcam and Cambridge tuners have a powerful Digital Signal Processor inside, the Texas DRE200, to number crunch the radio signal into audio. These are not tuners as

we know them. The block diagram published by Radioscape shows the quiet and sensitive front-end of their receiver module is used by both DAB and VHF/FM sections, which partly explains why the vhf section has exceptional performance figures. As direct conversion to digital from VHF frequencies is currently not practicable, a frequency downconvertor (divider) is used. An ADC is then used to digitise the r.f signal before it is number crunched by the DSP to extract VHF/FM data and turn it into digital audio for conversion by a DAC into analogue audio. This is a form of Software Defined Radio, meaning the Arcam and Cambridge tuners are a step up again in technology from all that has gone before - and I am talking vhf/fm here, not DAB.

It isn't all good news, as our tests show. Both produce the extended distortion spectra that characterise digital systems and, viewed on a spectrum analyser, this alone told me straight away I was dealing with digital processing, so pronounced is it. Distortion like this is readily audible and generally unpleasant. The all-analogue tuners, by way of contrast, have relatively mild distortion spectra, dominated by second and third harmonics which, subjectively, are relatively innocuous.

Then there's the noise problem, curable by the use of a better ADC I would guess. What you have to remember here is that Radioscape are DAB specialists. The module in both tuners is a DAB tuner onto which has been bolted a semi-digital vhf/fm section, about which they say little. A quieter, dedicated VHF solution may well be possible in the near future, using refined SDR techniques. It looks a very promising way to get quality VHF/FM radio, which will be available to us in the UK for a long time yet.

# Synthesiser



After HFW's feeding frenzy on classic, rotary tuning analogue tuners, David Price looks back at the long lost Hitachi FT-5500 MkII digital synthesiser design...

orget MP2 compression codecs - back in the eighties, a 'digital tuner' was an analogue one that had a digital display and a synthesiser RF chip to lock it on to the station. Even as early as 1980, there was nothing particularly new or clever about the 'digital tuner', as the likes of Aiwa had already been making them for several years.

Still, just as with digital watches and electronic calculators, the technology started expensive and filtered down to the mass market, so that by the mid eighties, everything that emerged from Japan Inc. sported a small fluorescent display repiete with 'Tuning' buttons — the joy of flywheel tuning, knob twiddling and pointers racing up and down a backlit dial had seemingly gone forever.

Of course, digital tuners were the future, and no one bemoaned the presets that came with them as standard, so the breed wasn't just accepted by the buying public, but welcomed. Shame about the fact that, with a few notable exceptions, digital synthesiser tuners were a foul souncing breed...

Compare a decent manual tuned model from the late seventies, such as Trio's KT-5500, with the sort of thing that was selling at a similar price ten years later, such as Sony's STS-700, and you might be in for a shock. Whilst the latter would lock on its station and stay there forever (unlike the former which might start wandering after an hour or two), the former would embarrass it in terms of tonality, soundstaging and general musicality.

The upshot was that, by the mid to late eighties, the average digital tuner sounded thin, one dimensional and spitty, but it had presets and auto-tuning; so that was alright then...

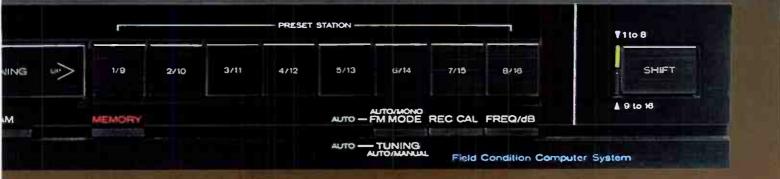
Audiophiles of the day rightly turned to the mighty Creek 3140, a brilliant (if rather home-made looking and feeling) device with exceptional fidelity. But it wasn't the

most sensitive of machines, and only really worked properly with a proper dipole aerial sitting on the roof next to your TV antenna and chimmey pot. For those in tricky country reception areas (and yes, they do exist, all you dwellers of London Town), there was only one option — the super-sensitive Hitachi FT5500.

As Michael Caine once reputedly said, not a lot of people know this', but back in the eighties Japanese giant Hitachi was something of a tuner specialist. Its very capable design team had shown early promise with the FT-5000, the company's first digital model from 1979. By 1983 the new FT-5500 had arrived, and soon after the substantially upgraded mk II version in 1984.

Resplendent in the obligatory eighties plack, with a dour fluorescent display and tiny, fiddly buttons (remember this was when full width, slimline products were all the rage in Japan), using it wasn't quite the 'festival of the senses' that was the Revox B760. But this was

# Music



surely missing the point, as the 'benefit' of synthesiser tuning was that you pressed a buttom and, errm, that was it.

Inside, the '5500 was far more flamboyant, thanks to Hitachi's 'Field Condition Computer System' tuning system. When you'd tuned to a station, one press of the FCCS button would have the tuner scanning 2.5MHz either side of the tuned frequency to find the best IF and RF settings, which could then be stored in one of the sixteen station presets alongside the frequency, so that each time a station was selected, it automatically chose the right IF and RF settings. This is one feature that makes the Hitachi brilliant for tricky reception conditions, and there are more...

Next, unlike a most every other Japanese tuner ever made, the Hitachi's digital signal strength meter was not designed to make showroom salespersons' lives easier, but users'. It boasted an exceptionally wide range (10-80 dB)

microvolt, equating to 21 to 91 dBf), which meant that if it wasn't getting a good signal it would tell you so, instead of lighting all its little signal LEDs in the cynical pretence of being 'sensitive'.

Ironically, it was far quiete- on weak signals than all its rivals arryway. despite the speaking in tongues of their signal strength displays. Thanks to a superbly designed front end, the Hitachi was one of the best tuners ever made at quieting weak signals, meaning that even in a basement flat with a piece of 'wet string' as an antenna it would often be less hissy than a lesser rival plugged in to an outdoor aerial pointing at the nearest transmitter. It also boasted brilliant selectivity in Narrow mode, meaning that LBC listeners fifty miles out of central London would not be interrupted by 'Roots Radio Dagenham 97.4

The downside is that, ironically, the Hitachi FT-5500 mk II is not a great sounding tuner. It sounds flat, sat upon, undynamic, dispassionate

and uninvolving But listen beyond that and you hear a very quiet, controlled, detailed acoustic that's totally devoid of hiss, whistles or any other FM nasties. In standard form, this tuner is not for those who want the best sounding FM, but for those who otherwise couldn't receive it.

The good news is that, first, they reputedly respond well to a little light tweaking. The audio output stage can be usefully upgraded, with improved op-amps, superior signal wiring and mains leads, and some light mods to the power supplies, whereupon the FT5500 opens up and gets warmer and more musical. The other happy thing is that, as things stand, Hitachi FT5500 mk Ils are both reasonably plentiful secondhand and sensibly priced too; you'd struggle to pay more than £100 for a mint, boxed example. For those who need (as opposed to want) a tuner that's the opposite of a Leak Troughline (i.e. it sounds mediocre but will pull in anything), this is brilliant bargain.

## The colouration's in the finish



### Not in the music





# Ugly, Beautiful

The only thing this high tech Digital Radio portable twosome have in common is the ability to record radio to SD card. Patrick Cleasby pits the funny faced PURE Digital The Bug against the more conventionally turned out Roberts RD-1...



hysician heal thyself. I can try and guide purchasing decisions for our beloved readership, but can be more guilty than most of the rash, unresearched purchase. In this case in point I was seeking to resolve a conundrum I've had ever since radio recording was added to Sky+ - there is no data transfer method to get those programs out and onto these useful portable digital music players we all seem to have now. We may have podcasting, but that's still currently mostly tripe - if you want the good stuff you have to trust to (mostly) the BBC.

So to avoid all that real time digital playout malarkey (and all the space and time needed to store and

edit those PCM streams before compression), it struck me that this new breed of SD (Secure Digital the more compact Panasonic competitor to Compact Flash) card recording devices should be ideal to basically blast stuff straight from card to iPod (or whatever).

I was (slightly) wrong, but of that, more later. Firstly I was majorly wrong in my assumption that going straight for the flagship DAB radio of leading manufacturer Roberts was obviously the correct answer. It wasn't. Rather than an assessment of the radio as a whole this is more an evaluation of its suitability for my specific requirement, but I think anybody contemplating buying one of these not inexpensive beasts will be interested in the recording capability

and needs to be aware of its limitations.

Essentially the results of my 'buyquick, repent at leisure' researches are that Roberts feel that their top of the range models appeal to a more elderly clientele who are not so up in the ways of digital jiggerypokery. They apparently cite this as the reason why they do not see fit to include a USB connection. But to a certain extent (updates aside - more later), who needs a computer connection when you have a transferable medium to move your files (or file as I was to find out) around?

The crux of this exercise is SD card technology, and at least the Roberts includes a 'free' (gee whiz, a 32MB SD card when I just spent



Superb flexibility and ease of use, but you've got to like the 'zany' styling.

PURE DIGITAL THE BUG £130 **PURE Digital** (C)+44 (0)1923 260511 www.thebug.com

- multiple recordings
- **EPG** functionality
- USB connection

#### **AGAINST**

- styling!
- mains only
- err, that's it!

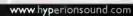




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(2001) med This would in fice pear to be an expensal addition, as the buffering technology which allows the Roberts' Pause Plus (pause and rewind live radio) technology to work requires a minimum of 5% of the card. (So if you buy a IGB card that's 50GB effectively wasted if you're a recorder)

So that was my first bit of set-up. SD card administration is several layers down in the radio's most cumbersome and unintuitive menu system. Several months later and I'm still never sure which way to turn the dial to go up and down in a menu! As you would expect, to get going there was very little else to do - DAB reception was reasonably clear and all stations were found in no time.

I cannot recall what my first attempt to record was, but I immediately realised the error of my ways - the timed record system only allowed one program. Even worse, even if you wanted to record say 'Front Row' daily (I do), no matter how large your card is, if you didn't swap cards every day it would merely sequentially overwrite the last one - no good if you want to go on holiday! Oops!

So, back to the drawing board. I was deeply unsatisfied, and decided that there was simply nothing for it but to go get me a 'Bug'. Now I didn't expect to like it - the styling is frankly ludicrous, and nothing about it (even the fact it came from Pure) suggested to me in advance that it was going to be a competent device, especially the 'Hey, we're funky' connotations of the Wayne Hemmingway affiliation and the dreadful down-with-the-kids style of the manual. How wrong I was (yet again).

Now The Bug doesn't come with an SD card, assuming the funky kids might want to use the optical out to record to MD/CD/Whatever while listening to something else (The RD-I can do this too). But that doesn't matter as large capacity SD cards are now getting so affordable (512MB for around £60, IGB for around £80). That's enough capacity to meet one of my original aims, which was basically to capture a whole day of BBC 6Music transmissions and filter out all those sessions they broadcast - you need never miss that John Peel Session version of Prefab Sprouts' 'Cars and Girls' again!

So armed with a 512MB card (which works equally well on each radio, and each will read each other's formatting - FAT16 not FAT32 PC

nint slot program meno Stare The Week, Front Rose Bac Row, Loose Ends, Kershaw, Mixing It - a full week's cultural roys can be captured regularly, as long as you don't let the card fill up. Both machines fare reasonably well if you run the record function up to the buffers, but equally, for whatever reason both have been known to leave you with a shortened. unusable. garbled file on occasion, such are the risks for the early adopter.

and fore family I was able to

that playing with The Bur's

As far as direct to iPod transfer goes I was again slightly disappointed - I am sure that back in the history of 3G iPods and early version 4 iTunes you were once allowed to take .mp2 files (the broadcast DAB format which is direct stream recorded to the SD card) across to your iPod, but in between times something seems to have blocked it - I must track back and find the optimum level to permit it. However iTunes will play them and can transcode them in the usual way (set import format, use 'Convert Selection to..' from the Advanced menu), to MP3, AAC, Lossless, whatever you want to archive to or transfer to your portable. Of course as there don't appear to be many direct .mp2 editors around (for Mac at least) if you want to edit your capture you will have to convert to .WAV or .AIF and use an appropriate sound editing application (Mac users should try the free Audacity application).

So I am now a complete convert to the cult of 'The Bug'. Even better, although the machines still appear to ship with v1.0 software, we are up to v1.2 on the web, and there is even a very interesting public beta of v1.3 which activates the functionality to take advantage of the recently agreed European standard DAB EPG data. Updating is a breeze, and even using

the PC-based updater in Virtual PC running on a Mac connected to The Bug via USB, goes without a single hitch. Superb! This version actually works perfectly well. You currently have to manually tune to the BBC's Test EPG data transmission, which downloads around 84 small files, stored on the SD Card, and you can then browse by date and Program and select for recording. The only bugbear (groan!) I have found is that if your nine slots are filled up manually the EPG selection cannot set up a program, but doesn't give you any indication of the problem.

EONEMI

I am finally content with my arrangement, and I really can't recommend The Bug highly enough, particularly as the web prices come down close to the £100 pound mark. Go out and spread the word!

VERDICT OOO £ Fine sound and a superb display, but hard to use and poor recording functionality **ROBERTS RD-1 Roberts Radio** ()+44 (0)1709 571722 www.robertsradio.co.uk

**REVIEW** 

G

- sound quality
- external antenna
- battery Operation

#### **AGAINST**

- not intuitive
- single recording
- obstructive menus

£200

# Podcasting House

The explosive growth of the latest iPod-related phenomenon prompted *Hi-Fi World's* own Pod man in residence to canvas the views of the BBC's Controller of Music and Radio Interactive, Simon Nelson. The future of radio, or simply twenty first century Citizens' Band? (Who else but )Patrick Cleasby pod-tificates...

odcasting (effectively
Digital Radio On Demand
for the iPod) by the BBC
seems to have taken off in
an incredible way, from
quiet beginnings with
Melvyn Bragg's 'In Our Time'. As a big

fan of that programme, I got into Podcasting early, about file three if I recall correctly, but then the iPodderX software I was using at the time ceased

working and started demanding money! I got back into it

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The shareware NewsFire application for OSM is an RSS reader, but includes a sweetly put together Podcasts window to play the .mp3 files or transfer them to iTunes seamlessly for iPod use.

when the BBC announced they were expanding their trials...and I found iPodder and then NewsFire (see glossary). With the advent of the new Tiger incarnation of the Mac OS, the latest version of Safari has in-built RSS capability and works as a Podcasting client as well. Wait for Redmond to catch up, (whither Longhorn?), but in the meantime if the Mac iPodder experience is anything to go by, PC die-hards should try that client in its .exe guise. That's enough tech-talk - let's hear the architect of all that is shiny and new in BBC radio, Simon Nelson, explain what's going on from a more general point of view:

### FROM STREAMING TO PODCASTING

Simon Nelson: Let me tell you what we're doing around this area. The first thing we did was launch the radio player. That's now been going for almost three years. We're now getting around ten million requests

for programmes a month – listened to on-demand, with several million people using it. Why that's fantastic for us is that we regard ourselves, the BBC, as among the best in the world at creating radio content. Well, alright, let's not get falsely modest, we think we're the best in the world. Now, to house all that content in linear schedules in a few broadcast brands I regard as nothing short of criminal, now that the technology enables something different.

So, the beauty for us is not only taking this content out of a scheduled environment, enabling people the convenience of listening to what they want to when they want to, but we can also take all of the programmes out of that brand context and offer them in a whole range of different ways to audiences. For instance, take all our jazz content that's spread across Radio 2, Radio 3, Radio Scotland, World Service and so on, and present it in one place for jazz lovers. Strategically there are other benefits for us as well, but it's a very liberating thing for us as a broadcaster and it's introducing new people to stuff they wouldn't otherwise have listened to from the BBC. But then of course you look at the next step, and it's how can we make this more portable, how can we make this reflect what's made radio so durable and successful over the years?

Downloading is coming along, but we decided that offering radio programmes for download is clearly a very controversial thing with many of our rights holders, so we have taken very careful steps with it. The first program we offered last year was 'The Reith Lectures', and they did extremely well, we got about 50 to 60,000 downloads for the series. 'In Our Time' was then the next thing we did, around October last year, and that very quickly grew to about 25,000 downloads a

week. For both of those trials we were inundated with feedback from the audience saying 'I would never have listened to this programme if you hadn't made it available in this way'. Then some of the bright sparks in my time start noticing the Podcasting phenomenon coming along, and they hooked together a solution for Podcasting in a very short space of time, and all of our sudden 'In Our Time' is being offered for Podcast. We suddenly have moved from offering streamed on-demand, to offering a Tivo-like service to someone's iPod or other MP3 player.

#### **ISSUES OUTSTANDING**

Patrick Cleasby: So are you going to move on to archive then, as well as current, there for a week, listen again stuff?

SN: I guess that's another level of complexity which has all kinds of BBC policy implications around it, so the BBC as an organisation is grappling with its overall on-demand strategy going forward as clearly this is a massive growing issue for television as well. Clearly our aspiration is to offer a load more stuff in this way, it's absolutely a way that technology is liberating both audience and broadcaster. But we still



Apple's Safari 2.0 browser supports RSS feeds and so can be used to track and download podcasts - just click on 'Read More' and the enclosure, in this case the .mp3 file, is downloaded.

have to tread carefully. Our ambitions are that we'd like to make loads of our output available, but we do recognise that our rights holders won't necessarily want things to be made available as permanent downloads, so we are exploring across the BBC the possibility of using Digital Rights Management to ensure that audiences can download programs, but at the end of the seventh day, consistent with the seven day window we've got on the radio player at the moment, the download stops being accessible.

PC: Why seven days? SN: It's trying to give the licence fee payer as much simplicity as possible, you can always get last week's episode, and that will be replaced after a week. You can look at it as, 'How far should the licence fee go to fund on-demand?' We could have paid a lot more money to extend it to, say, a month or a year and so on, but you have to make a judgement of what is the right level.

PC: Cost, as in hosting that many files and downloads? SN: Also in acquiring the rights. In the case of a speech program, for a lot of things we make we own the rights because we make them in house, but then there's a lot of stuff made by independent production companies - there's a lot of stuff that has other rights associated with it, so for instance if there's incidental music in a programme then that has a rights implication. If it's a comedy or drama, then you have organisations like Equity, Writer's Guild...

PC: So that's really why it's predominantly speech at the moment? SN: Yes, factual speech, or news/ current affairs. So even the further trial we've announced by and large it's that kind of output because it's less problematic, in terms of the rights acquisition. We've also got an enormous amount to learn in terms of the technical, editorial and distribution issues involved in making a higher volume of these programmes available. We want to do that piece of work so we can inform the debate within the BBC and then ultimately with our rights holders.

PC: So it's trial until the end of the year as it stands at the moment, but the way it's going surely it's just going to explode?

SN: I am hoping that the strategy process that I'm running at the BBC will be resolved before Christmas this year and we can move forward

with potentially a wider range of programs. We are also going to be putting radio programs into the IMP project - the Interactive Media Player which is the BBC's proposed solution for TV and radio programmes on demand, but offering them for seven days, after which they time out. We're hoping to do some trials on this later on the year?

PC: And that's going to be on what platform? SN: That would be an Internet proposition.

PC: Are you working towards ondemand functionality with consumer electronics manufacturers yet, or has that got to follow on once the internet principle's been proven? SN: It's definitely going on at the same time - we're having to develop strategies for PVRs and the radio equivalents that are coming along. Technology-wise we're trying to explore all the different options, and from a rights/ policy/ strategy framework we're trying to get something which will make us flexible enough for the changes that are coming.

#### WHAT'S NEXT?

SN: We're building a new application which simplifies things - it is all being unified as a portal which will pull together all of our MP3 offerings. This should be launched during May and all the additional trials which have been announced will be available in one place. It is by no means the full service offer that we'd

like to make available, but this is a very complex area for many of the stakeholders. We have to tread carefully, and in a way it's a tribute to the relationship we've got with many of our wider stakeholders - regulators, rights holders, contributors and so on, that we've been able to make these first steps. Rest assured, these are informing the next stage of our strategy, which if I have anything to do with it will be a more ambitious move into downloading, though we also want to be at the forefront of Digital Rights Management and rights protection for copyright owners.

PC: It's quite brave to have a public trial in this way, but it also demonstrates that if

#### WHAT IS PODCASTING

The managed downloading of programs created by both public and broadcaster alike, usually disseminated in MP3 form. Rather than being an original innovation in itself, Podcasting is an ingenious marriage of existing XML, RSS and MP3 technology - the only thing which is new is enabling an RSS news reader client to handle audio enclosures intelligently or building a new customised client.

Simon Nelson describes it in these terms: "It's like having a newspaper subscription for radio, you get your newspaper delivered to you every morning at your front door, you pick it up and you take it to work with you. We're now able to do this for radio programmes - anybody who has downloaded the application and ordered a radio programme gets a fresh copy delivered to them straight after it's broadcast, and take it to work with them. As a way of getting programmes to people who want to listen to them at levels of convenience we've never dreamt of before, it's fantastic. We're very keen to work out how we can make loads more of our output available".

you stick your neck out you can be very successful. SN: The success has definitely taken me by surprise for some of the people in my team

it hasn't- they

#### **EDITOR'S NOTE:**

Re: the term 'Podcasting': In the interests of editorial balance, and the outcry from Windows-obsessed readers about Patrick Cleasby's obsession with all things Mac, we'd like to point out that 'other MP3 players that played streamed media are also available'...

spotted this before me, quite frankly, but I've been absolutely staggered by the scale of the success. There's a huge amount of time and energy and newsprint spent on Video On Demand - I think that Audio On Demand is something that has been less well understood, less expected, but in its own way it's a phenomenon as well...

#### **GLOSSARY**

iPocder - Cross-platform Podcasting client - Including Linux!

iPocderX - Mac version of the early Podcasting client from Podcasting visionary Adam Curry

NewsFire - Excellent Shareware RSS (q.v.) client, with wonderful Podcast integration in version 1.1. Currently better than Safari (q.v.) for iTunes integration. Pay the man!

RSS - Really Simple Syndication - the descriptor for the practice of using .XML to refresh newsfeeds at your computer, obviating the need for news website checking. Podcasting links to feed into your client could be in the form of .RSS files

Safari - Open-source based internet browser which ships with Apple

Mac OSX - now includes integrated RSS (q.v.) capability in its 2.0 version which comes with Tiger (q.v.)

Tiger – The latest, greatest version (10.4) of the unbeatable Apple Mac operating system.

XML - Extensible Markup Language - a key internet technology which underpins RSS (g.v.) and thus Podcasting. Podcasting links to feed into your client may well be in the form of .XML files



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# Aerial views

#### Noel Keywood on everything you wanted to know about antennae...

o matter how sensitive VHF/FM tuners seem to be in their technical specification, for best sound quality they are all much alike, needing a good strong aerial signal of ImV or more. Unless you live close to a transmitter, only an outdoor aerial can provide this, although a loft aerial may suffice. Since aerials are £25 or so, more if you live far from a transmitter and need a big array, cost isn't great. The fitting charge will be stiffer, usually coming in at around £90 or thereabouts, depending upon difficulty. If you have a good hi-fi tuner you will find it's worth the investment though, as a good aerial brings a wonderful sense of clarity to FM reception that's especially noticeable with live studio broadcasts and chat shows. In this area radio can sound dramatic, having a less processed and more natural sound than you'll hear elsewhere, even from CD.

Aerial technology changes little. So even today, indoor aerials remain ineffective for FM (and analogue TV). An outdoor aerial will, typically, have three elements if you live 10 miles or so from a transmitter, increasing to five elements or more at 20 miles or greater. You need a Band II array, the rods (directors and reflectors) lie horizontally. For best results the aerial should be as high as possible, free from ground and building reflections, traffic and any other source of interference. It should

enjoy unobstructed line-of-site to the transmitter; if roofs are in the way an extension pole might well be needed. You can find the vhf/fm transmitter sites at www.bbc.co.uk/ reception/transmitters, and at www.mb21.co.uk (a real enthusiast's site). Both offer oodles of aerial advice, which I assume you can access and won't repeat here.

If you have an aerial, it likely needs replacing after 10 years or so. Also, if your aerial is that old, chances are that it is analogue, not digital, and coulc do with upgrading. In truth there is no such thing as a digital aerial. All radio signals, like electrical signals, are analogue; digital ones just carry a digital code. As a result, 'digital' aerials look much like analogue ones. However, digital transmissions have been allocated different frequency bands, usually higher than analogue, making the aerials smaller. Analogue VHF/FM goes out on Band II (88MHz-108MHz) whilst DAB is transmitted on Band III (174MHz-230MHz), so the aerial is smaller. DAB is vertically polarised, to suit car and portable aerials, so the rods lie vertically.

Tuners like the Arcam and Cambridge raise some interesting issues. They need a Band III and Band II feed. In Central London, for example, this means a Band II FM aerial pointing SouthEast to Wrotham and a Band III for DAB pointing South to Crystal Palace or North to Alexander Palace, the two

aerials being coupled (diplexed) into a single downlead. Radioscape tell me although rated as a 500hm input, normal 750hm aerials and downleads match their module well enough. If you run DAB alongside vhf like this, then the aerial issue gets a little complex.

Although DAB needs little signal, equally DAB transmissions don't travel as well as FM, being obstructed by large buildings, basements and such like. Consequently, there are plenty of dead zones where you may not receive it. Again, try and install an aerial high up; with DAB a small, simple aerial will often do.

Many DAB tuners are able to receive L Band transmissions. These are not due in the UK until 2007, although L Band test transmissions are currently being made from Crystal Palace and Leicester Square. Central London. L Band is high frequency and short range and no one quite knows whether it will ever be used in Britain as there's little perceived need. Also, by 2007 DVB-H may well have arrived, in which case DAB could well be sidelined, at least for quality broadcasting where bandwidth is needed.

Think of the aerial as your tuner's front end. If you want the best sound quality, don't ignore it. A good aerial will ensure you get fantastic sound quality from a good analogue tuner, as some of the best programme quality going comes from live VHF/FM radio.

#### 10000

tvaerials.com lists aerial manufacturers, like Antiference, Maxview, Triax, Televes, etc. www.mb21.co.uk is an enthusiasts site with copious transmitter data, great pictures including aerial shots (see Holme Moss) and even historic data.

wrightsaerials.tv is another site with a superb picture gallery and lots of detailed info on cables, aerials, faults, cowboys and much else.



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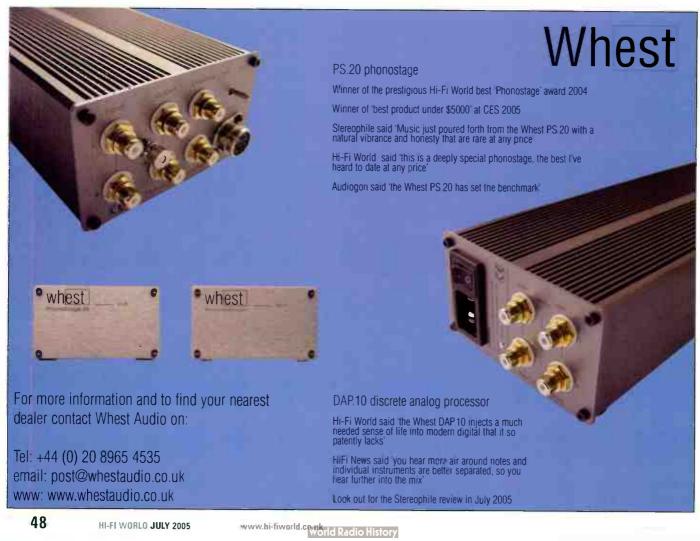
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# Radio Active



hat better time than a sunny Sunday afternoon in my own fair city of Bristol to test two of Sony's best personal radios? My mission, if I chose to accept it (and I did), was to complete a five mile meander around the city, listening in a variety of different reception conditions...

The stroll started on 'the Downs' and as I walked down towards Blackboy Hill the first problem surfaced with the analogue SRF-S84. As I proceeded down the hill, Radio 4 FM faded out, forcing me to retune from 93.7 to 94.3MHz. The Digital XDR-MI of course remained looked on to Radio 4 with not one word of complaint, Advantage DAB.

The MI's best feature seemed to be its beautiful paper-white backlit LC display, showing he name of the station you're tuned to - very welcome considering all the DAB music networks seemed to be playing Steve Harley and Cockney Rebel's 'Come Up and See Me' ... Double advantage DAB...

As I descended down towards Whiteladies Road, I was struck by the difference in sonics between the two products. Using Sennheiser's superb MX-550 in-earphones, the listening was done on a level playing field' (the supplied earphones with both radios are rubbish, so they're not worth discussing), but the analogue Sony was far richer and warmer. By contrast, the DAB design sounded better detailed but colder and more anaemic. FM pulls one back...

The further I walked into town, the more ridiculous the XDR-M1 seemed. It's almost as bulky as a packet of cigarettes, and a lot heavier. I

had to put it in my inside jacket pocket, which it 'weighed down' uncomfortably, just like those old late-nineties mobile phones used to. By contrast, the featherweight \$84 clipped on to my trouser belt, and all but disappeared. As far as personals go, the MI felt like carting an old Uher Report 4000 open reel portable around, compared to a Sony Walkman cassette... Deuce!

As I reached the bottom of Park Street, I dived left down a back street, which is my usual shortcut for Broadmead Shopping Centre. The S84 started emitting the odd whistle and hiss, not really intrusive you understand, but the MI suddenly went bananas. A very loud unmuted chirp emanated, then a click and the signal muted. Hey presto, no Radio 4 - or 1.2.3,5,6,7 for that matter! The S84 continued to work merrily, despite the odd fuzzing noise whenever I walked in certain directions. Then the MI piped up again, but this time it sounded like I'd tuned into one of Dayros's

speeches

...in which David Price goes out and about with two very different Sony personal radios, the spanking brand new XDR-M1 DAB and the more traditional analogue SRF-S84...

being broadcast to the Daleks. I'm sure Roger Bolton never used to sound like that ... Advantage analogue.

Walking around the docks, the DAB signal was back, and I was enjoying the great wealth of station choice from the BBC, as all the commercial music stations on DAB proved eerily similar to Smashy and Nicey's Radio FAB, "not 'arf, great mate". I suppose it was nice to hear some eighties oldies, for a few seconds at least, but then again I never did like Tina Turner's 'Steamy Windows' or Phil Collins' 'You Can't Hurry Love' the first time round. Back to analogue, and now there was nothing on that interested me. It's at times like this that analogue listeners would kill for BBC 7. This was the equalizer; the verdict - deuce, but a narrow draw for DAB. When you look at their respective prices. though, this score doesn't stand.

SONY

108

102

96

92

MEGA BASS

STEREO

AM

160

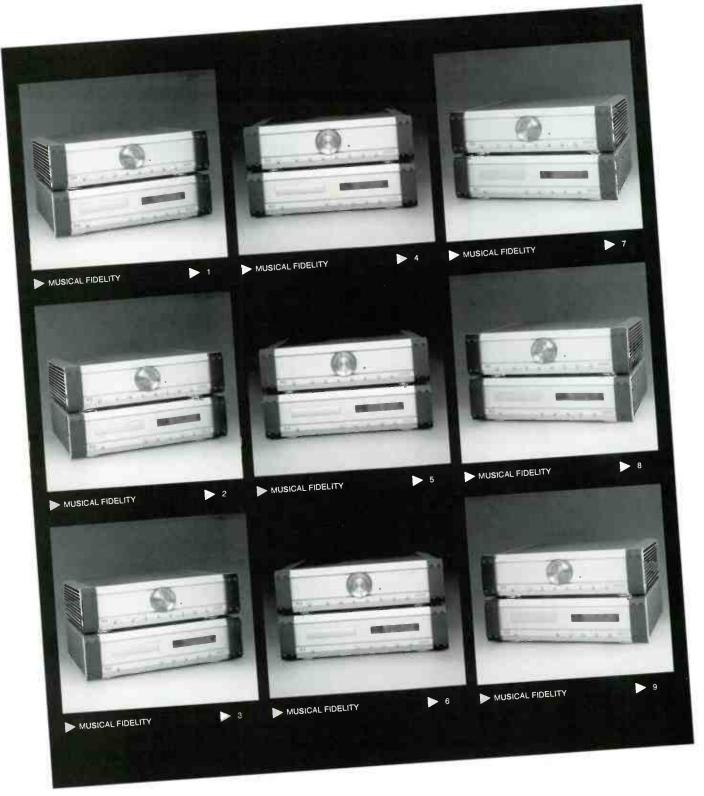
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53





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KIRSTY MACCOLL

## KITE

1989 (REMASTERED 2005)

ometimes you hear of a pop star death, and if you had some special connection to the artist, the news cuts you to the quick. You remember where you were heard it. Many will recently have felt this with the death of the mercurial Crowded House drummer Paul Hester, and for me Kirsty MacColl's death at the very end of 2000 was also one of those times.

I had spent much of that year driving around to the strains of MacColl's brilliant V2 swansong 'Tropical Brainstorm', marvelling at its assuredness, I had seen a masterful performance at The Forum that summer, and it just seemed so cruel that an artist so in control of her muse and so personally happy should be snuffed out in such a way.

It just so happens that a number of re-release initiatives have coincided to hit us at the same time. The majority come from EMI who have re-released the two albums Kirsty recorded for the Virgin label either side of the turn from the eighties to the nineties, 'Kite' and 'Electric Landlady'. They have also licensed material from the three other albums Kirsty released, along with previously unreleased material and that from singles deals, to make an exhaustive 3CD compilation, the self-explanatory 'From Croydon To Cuba...'.

There is also a DVD compilation of promos of the same name. At the same time ZTT, who released the criminally unnoticed 'Titanic Days' in the mid-nineties, have re-released that album with a second disc of extras. If you asked me I would say the sundry bonuses would mean any

sensible tasteful person would need all of these, but if you had to pick one it would be 'Kite'.

So much time had passed since the Polydor album
'Desperate Character' (which some rate even higher than 'Kite'

— I have not heard it as to my knowledge it has never been released on CD and thus I can't comment!) that 'Kite' had the feel of a debut. As Kirsty s ex-husband, producer Steve Lillywhite remarks in his short sleevenote, he certainly feels that it was the most cogent album they did together, and I have to agree.

MacColl was coming off the success of the 'Fairytale Of New York' single with The Pogues, a few amusing French and Saunders appearances which included some of these songs, and a number of sessions on some pretty heavy hitting artists' records, including Robert Plant, Talking Heads and obviously The Smiths and Morrissey. At the time it was this background which pulled me to the album, bearing as it did much of the sublime guitar work of the maestro Johnny Marr (and two co-writes), and as a CD bonus, then and now, a cover of The Smiths' 'You Just Haven't Earned It Yet Baby'.

But there is so much more to 'Kite' than that unique way with a vocal and self-harmonising multi-layered backing. This is an album whose most successful single was a cover (of The Kinks' 'Days'), but what it really demonstrates beyond question is that Kirsty MacColl was an excellent, individual songwriter. She was also a great selector of collaborators, and the backbone of this record, as with so many of her

others and the live appearances she started to make, having got past her stage fright in the midnineties, was lanky guitarist. co-writer, co-arranger and co-producer Pete Glenister. David Gilmour turns up on 'No Victims' and Talking Heads 'Naked' guitarist Yves N'Djock was poached from those sessions.

This new edition of this fantastic record has been carefully prepared, but as so often suffers from that reprographic look which is patently inferior to the original. The original inner sleeve shots and thanks credits are also completely missing, along with the musicians' credits. Minor quibbles perhaps, but the choice to include single mixes rather than the rest of the excellent B sides which spanned across the four singles from the album ('Freeworld', 'Days', 'Innocence' and 'Don't Come The Cowboy With Me Sonny Jim', which were all available on 3" CD singles at the time) is also strange. The only previously unreleased addition is a demo version of the Marr co-written "At The End Of A Perfect Day'. The new Abbey Road mastering doesn't tame what was a fairly bright. eighties-sounding d sc in the first place, but does add a modicum of extra bass solidity and mercifully doesn't overdo the digital compression.

Well worth an upgrade for the completists who have the original CD and singles but want the demotrack.



ing resonance modes readily, further isolating the Katana's internals from the outside world"...lnca uses "a multi element chassis with extruded 4mm thick aluminium side cheeks, profiled... to break up resonance which could form in a solid slab of aluminium, with an 8mm thick aluminium front panel, and a base plate made from two sheets of material, aluminium and copper, bonded together to form a multi layer composite. The copper was placed on this base plate to form a highly effective RFI/EMI shield..." The front plate is split into the main 8mm section and then a further curved 8mm plate delineated from it to form ar attractive frame for the drawer front and display. The loading drawer is smooth and solid in action.

Inside there is a Phillips VAM 1202 CD transport complete with 10mm thick solid copper slab attached to the base plate. A huge R-core transformer with copper shielded

capacitors. The Katana has a Burn Brown PCM 1732 upsampling DAC (up to 24/96) and HDCD capability.

The top features a raised crescent shaped podium containing Play-Pause, Next, Back, Stop and Eject buttons. At the back are phono sockets, balanced sockets, electrical/optical digital-out and IEC mains socket. The Katana uses large coned rubber feet which lift it clear off the equipment support. This initially makes the Katana look odd but also accommodates easy access to the power switch located under the left front side. There is an attractive wood-bodied remote completing the package.

#### CYRUS CD6

The £600 Cyrus CD6 is housed in the famous, iconic non-magnetic alloy Cyrus casework. Cyrus state, "the non-resonant nature of the alloy minimises microphonic effects, while its non-ferrous composition provides an effective shield from external

shielded base plate is secured to it from underneath. The front is a cutout C-section panel folded four times to form locations for the green backlit LCD display, power-standby button. (slightly noisy) disc loading drawer and operation buttons. Silhouetted, the Cyrus is low slung and discretely attractive with finely crafted heat sinks at the rear and an engraved Cyrus logo above.

Inside, the Cyrus features a toroidal transformer, slotted sideways, feeding eight regulated power supplies. Its transport is an "Integral Isolated Loader Mechanism with monolithic glass laser assembly". The DAC utilises a "24 bit current output with integrated digital filter" from Burr Brown. There is an anti jitter circuit that has "High accuracy reclocking (that) eliminates timing errors". The analogue stage uses a "Low noise filter (which) provides a flat response across (the) audio band". The circuitry also uses star earthing



which "Minimises power supply effects on audio signal".

At the back, the casework extends and lowers like a cowl at a slight angle at the top, covering the black rear plate. There are two sets of phono outputs, optical digital out. phono sockets for Cyrus's MC Bus system connection and an IEC mains socket. The CD6 comes in silver or satin black with system remote and is upgradeable to the 8 series. It measures 78x215x360mm and weighs 3.1kg.

#### **SOUND QUALITY**

Starting with the Cynus, and ELO's 'Twilight' had an excellent treble; it was sophisticated with excellent timing. 'Twilight' sounded slightly midforward with vocals, out Jeff Lynne's voice was crystal clear and well resolved. Bev Bevan's drums and percussion were well rounded and dynamic. Keyboard swathes were vibrant while the instruments had good decay. On 'Xanadu' with Olivia Newton John, there was a strong believable groove from the bass and her voice was stunningly holographic, (rightly) sweet but not saccharine. The instrumental separation was also good with epic cinematic feel from the violins. On 'Rock And Roll Is King', there was superior timing, and excellent vocals, which were clear, incisive and expressive. The Cyrus was able to separate the organ sounds from the classic twang of the rock and roll tuned guitars, while guitar mejodies were expressive and tuneful. 'Calling America' had gooc spatiality, was slightly mid-forward, but with excellent timing and tuneful bass. lacqueline duPre's breath-taking cello on Elgar's 'Adagio Moderato' had really nice timbre; it was deep and emotionally extended. The sound was nicely rounded while the first crescendo had real powerful presence. The final crescendo swelled and enveloped the listening rocm, providing delicacy and dynamism in equal parts.

Zoot Woman's 'Nobody Knows Part I' was vibrant, energetic and had tuneful bass. The sound was expansive - the synthesisers projecting well into the room. The Cyrus's slight midforwardness was there but it did not lend an artificial or sterile presentation. On 'Nobody Knows Part 2', the Cyrus conveyed the (New Order) Gillian Gilbert-style massive

synthesiser swatnes brilliantly. As 'Nobocy Knows Part 2' faded and merged into Zoot Woman's radiant version of Kraftwerk's "The Model', the Cyrus controlled the energetic bass swings and superb arrangements to this classic amazingly. There was good timing and bass tunefulness and the deep-toned piano melody in the middle had my head involuntarily bobbing up and down in agreement. John Lee Hooker and his National Steel Guitar on 'Rockim' Chair' was arresting - it was wonderfully atmospheric - his unique, primordial guitar playing sliced through the silences convincingly. Hooker's latevintage and magnificently aged-cognac vocals had affectingly im-room impact. The Cyrus ably intimated the most important end-vocal coda of 'Rockin' Chair', when he sings 'no, no, no, no' with the appropriate emotion that his rendition deserves.

Moving to the Inca Design Katana, and ELOs 'Twilight' was not as immediately attention grabbing as the Cyrus, where Jeff Lynne's vocals were not as projected compared to the Cyrus. However the Katana did things differently and with extended listening, it procured a fine balanced



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36	Audiogram MB1- Amp ifier	£205.00 £219.00
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61	Jadis Orchestra - CD Player	£899.00
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sound with plenty of presence. The timing was good but not quite as adept as the Cyrus. On 'Xanadu', Olivia Newton John's vocals had a more internalised presentation; she was still sweet sounding though. The bass was more fluid and lyrical than the Cyrus, while the whole sound was smoother. On 'Rock And Roll Is King', there was more presence in the midrange, while every strand was in balance.

lacqueline duPre's 'Adagio Moderato' had a stunning midband and was really enjoyable. The sound was sweeter and delicate, while the important crescendos were more emotional than the Cyrus. The Cello sound was excellent, expansive, fluid and emotional superior to the Cyrus. Zoot Woman's 'Nobody Knows Part I' had deeper bass and a warmer balance, though the vocals remained behind the Cyrus, 'Nobody Knows Part 2' had deep and tuneful bass, with plenty of good impactful resonance, while the huge synthesiser swathes in the mix had a very nice midband.

The excellent version of the Model had interestingly, a positively grittier performance when compared to the Cyrus and the piano sounded completely different - being more natural. John Lee Hooker's 'Rockin' Chair' had more texture to the National Steel Guitar's strings but the sound was less incisive than the Cyrus. Timing was good but was slightly behind the Cyrus, while Hooker's amazing vocal was slightly lighter and less echo/reverb was revealed.

#### CONCLUSION

This is interesting; we have two players at the same price, both with excellent, original design and superb build quality, yet offering different aesthetics and sound. The Cyrus has stunning vocal ability, treble and timing, while the Katana has a gorgeous, fluid midband and bass. They also both offer superb value for money, yet you have a choice between size, design and sound. The ultimate decision depends on how you like your music reproduced - warmer, deeper bass and fluid midband with the Inca Katana or affectingly emotional vocals and excellent timing from the Cyrus?

#### **MEASURED PERFORMANCE**

Cyrus have given this player a fairly pronounced roll down through the upper part of the audio band, enough to give it a softer sound than most other players, so the CDE will give an easier presentation from CD than is common.

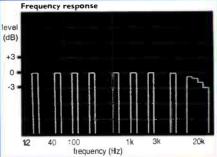
This player was as linear as they get throughout CD's dynamic range, producing distortion levels down with the lowest, managing 0.004% at -30dB and a very respectable 0.18% at -60dB, contributing to a 111dB EIAJ dynamic range figure. Channel separation values were high and output normal at 21.3V.

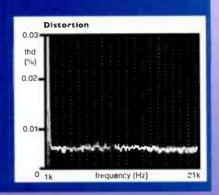
The CD6 will have a characteristically warm and smooth sound, more so than most players, measurement shows. Likely a good choice for those who find CD too bright. NK

Frequency response	4Hz - 20.75kHz		
Distortion			
-6dB -60dB	0.0007% 0.18%		
-80dB	4.3%		
Separation			
1kHz	111dB		

20kHz







#### VERDICT COOLS

Stunning timing and delicious treble, allied to that gorgeous iconic industrial design make this an extremely convincing mid-price package.

CYRUS CD6 £600 Cyrus Audio Ltd. (\*) +44 (0)1480 437 715 www.cyrusaudio.com

#### FOR

- excellent vocals
- design, build, finish
- upgradeability

#### **AGAINST**

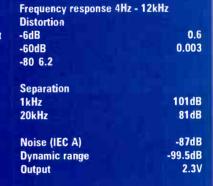
- noisier loading tray

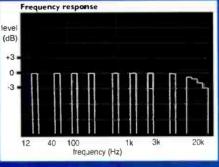
#### **MEASURED PERFORMANCE**

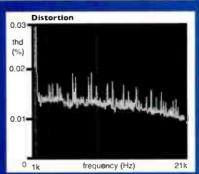
Like an earlies player this one was refused to process a short impulse for our frequency response test, a sign that it will almost certainly present upper frequencies differently to most CD players. Slower non-impulsive sine wave sweep showed, as expected, strong filtering that reduced output at 20kHz by -3dB - much more than usual. However, with output at 10kHz only -0.5dB down in practice a large number of CDs will sound normal enough in basic balance; those with extended treble energy - much modern Rock will however sound quite obviously muted. Tilting a response like this can specific discriminatory effects expect warm smooth violins, for example, but dulled cymbals and high hats.

Distortion levels were disappointingly high as modern players go, measuring 0.6% at -60dB against 0.2% of the best, and comprising high order quantisation components. Noise was higher than usual too. EIAJ dynamic range was inevitably limited, measuring 99.5dB, around -10dB down on the best. Jitter was fairly well controlled, random nonprogramme related peaks hitting just 50pS.

This player has been designed to offer to presentation quite apart for the norm. It will sound warmer and seemingly smoother than most, less crisp but without brightness or sheen. The presence of noise and quantisation products is a worry though. NK







## VERDICT £ Beautifully fluid midband and fulsome bass, plus original and striking styling

bass, plus original and striking styling, make this an excellent buy.

INCA DESIGN KATANA £600
Inca Design
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(Active Distribution)
www.incadesign.com

#### FOR

- excellent midband, bass
- design, build, finish
- fluid, warm sound

#### **AGAINST**

- vocals

# Gold &

If the rest of Mission's new model range are anything like as good as the e82, then the competition had better start worrying, reckons Dominic Todd...

n all my years of hi-fi writing, I've reviewed all sorts of weird and wonderful 'speakers but never, to my knowledge, any that were gold! In all truthfulness, as ghastly as this might at first sound, our review pair of Mission e82s actually looked a lot better in the flesh. Fear not though, for if fifties retro bronze chic is still not your thing, then the sumptuous seven coat lacquer finish is also available in other, more conventional, hues.

Look past the superbly applied lacquer and you'll find an equally well-finished cabinet. As is the fashion these days, the cabinet is tapered, giving it the effect of being smaller than its actual internal volume. Sound quality should also improve through the more effective break up of standing waves and increased rigidity. Speaking of which, the Mission rates remarkably well here. What Mission call a "Grania", enclosure turns out to be constructed from several layers of MDF and fibreboard, of various grades, all sandwiched together. The differing materials all work to effectively damp the sound at different frequencies, with even the glue used playing its part. In addition to this, a vertical brace strut and several ring braces ensure this has to be one of the most rigid speakers in its class. To increase stability, a machined plinth is factory fitted, although "machined" from what exactly Mission don't say! Nevertheless, the result looks great and has all the hallmarks to make for a low colouration sound.

Rather more conventional, at least in appearance, are the drive units. Mission uses what is known as a d'Appolito configuration whereby the treble unit sits between the mid range and bass drivers. The treble

itself is made from a manmade material called Viotex that helps the e82s reach a claimed 30kHz top end. The single mid and four bass drivers share the same construction. Essentially a fibre cone, the polymer matrix and lacquer coating give the "Paramid" design its light cone weight and high rigidity. Although small in size, Mission claim that the combined surface area of the four bass units equals that of a 10" cone and, therefore, that bass should be stronger than appearances suggest.

As you'd expect from a 'speaker that's also designed very much with the multichannel market in mind, the drivers are magnetically shielded. Internal cabling and crossover components are of good quality, although the quality of the crossover fixing leaves some cause for concern. On our well travelled pair the crossover block had sheered off its mounting which, even when affixed properly, looked none too stable. This aside, the 'speakers are solidly built and, all importantly with a quality of finish this high, robust enough to fend off all but the most serious of knocks and scratches.

#### **SOUND QUALITY**

Mission claim a distance of 30-80cm is needed from the rear wall, and after much experimenting I found that about 30cm was ideal for my room. If you go much further than this, you'll





# delicious

notice the bass disappearing fast without much in the way of compensation from the staging. From the moment the bells chimed in Daftpunk's 'Aerodynamic', I knew the Missions were going to offer a highly detailed and transparent performance - and so they did. Generally I found the balance to be highly explicit and slightly forward, but not uncomfortably so. The lower-mid range was solid and punchy, but beyond this, real bass was lacking. Mission may quote the e82's as having the bass cone area of a 10" woofer but, in practice, this is not how it sounds. Imaging is truly first rate. The combination of rigid, marrow enclosures with small diameter cones usually bodes well for a true, "out of the box" sound, and this is exactly how the E82s sound. In addition to this, the separate strands of the music are separated with dexterity and the upbeat urgency of the music never once lacked pace.

In some respects the Missions can be quite music dependant. As an example, although the lack of bass had been an issue with Daftpunk, it didn't really effect Sheryl Crow's 'My Favourite Mistake'. Rather than being synthesised, here the bass came purely from a bass guitar and the E82s gave it all the authority and grunt you could ask for, without it sounding over egged. Vocals were superbly placed and resolved, being pulled forward from the mix; well textured and free from sibilance. During the listening of this track, and the following ones, I couldn't help but think that Mission had struck a great balance. The music

remained precise yet fluent, fleet of foot yet not harsh and colourful without being coloured.

Switching to the funkier and bassier sounds of The Brand New Heavies once again called the E82's bass performance into question. Put simply, for this size and price of 'speaker there wasn't enough. The great timing still made the listening fun, but this was fun in the manner of an accomplished stand mount 'speaker, rather than a medium sized floorstander. Personally, as a fan of stand mounters, I rather liked the balance, but anyone expecting the sort of dynamic clout and bass extension usually on offer from a floorstander, could be disappointed. Still, the e82's performance shone. Percussion was crisp and well defined, with fine decay and good leading edge definition. The main vocalists were given space and body, whilst the backing vocals were respectively layered well behind the main singers. Despite the lack of bass weight, the dynamic contrast was as strong as it always has been with the brand. Mission have a well-earned reputation for exciting sounding, punchy 'speakers and the E82 was no different, though still refined with it.

Whilst, as always, I reviewed the 'speakers without the front grills in place, I did reattach them at various points whilst listening to Jeff Healey's 'My Life Story'. This is something I always do, but it doesn't usually doesn't attract comment, as differences are so subtle as to not warrant concern. In the Missions' case, however, things are a little different. Whilst the grille cloth looks nothing out of the ordinary, I can only assume that it's the thick metal frame and/or foam end cheeks used that impedes the sound so. Either way, this is one case where the grilles

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#### SECOND THOUGHTS

I think OT has been a tad harsh on the e82s. Being a tall, slim tower design, it's not like they were ever going to have swingeing, seismic bass, was it? Rather, Mission has done what Mission do best, which is to make a speaker designed to work in real, boomy rooms with all sorts of domestic imponderables to content with (i.e. women). ATC SCM35s are lovely, but I doubt they'd work in your average British listening room anywhere near as well.

Designer Peter Comeau agrees. He told me he'd love to use a single 12" bass unit but, "we'd never sell any". The reason for this is fashion; a few anoraks at Hi-Fi World (and Mission, by the sound of it!) may well yearn for nineteen seventies-style serious cone diameters, but the dictates of the modern marketplace, small rooms, AV integration, fashion and spouse acceptance make in an extremely acquired taste, and thus not commercially viable. Nor is a slim tower profile necessarily to improve imaging. Peter told me he's not convinced that this is the case either it's all about making a modern, stylish looking product.

And that's certainly the case with the e82. It's a gorgeous looking loudspeaker (if you like the modern idiom) and stunningly well finished to boot. Placed on the end of my World Audio K5881 tube power amp (and Peter Comeau is a huge valve and vinyl fan, incidentally) aspirated by a Marantz CO63 KI DP, these speakers turned in a stunning performance for the price. Missions have a traditionally 'forward' and engaging sound, and this was a brilliant match for my super smooth ancillaries; I found no lack of bass whatsoever and no small number of abilities elsewhere.

To put things into perspective, we'd just finished listening to my reference Quad ESL-989s (with **Townshend Maximum Supertweeters)** when we plugged in the e82s. Instantly, the Missions impressed with superior rhythmic insight, and taut and tuneful bass and excellent (albeit smaller scale) imaging. What struck me was how finessed they are compared to the cheaper 782s, which sound thin and strident and rough by comparison. Obviously, the e82s are twice the price, but it seemed the extra was easily worth it. Overall, to my ears, these is an excellent real world loudspeaker; an extremely intelligent compromise between real life and real music. I loved them - my only real criticism being the colour; I'd have preferred Triumph's 1979 'Cashmere Gold' colour instead of the richer rival Rover hue... DP

Most price rivals are parked either side of the e82 £1,690 tag, but competition is not short at £1,500. Perhaps the safest bet of all is B&W's 704. Although more conventional in appearance than the Mission it's still a well finished and solidly constructed 'speaker. Like the e82 it sounds open and spacious, but with a little more weight to the bass. At times it may not be quite as involving as its rival, but refinement is never an issue. If you're prepared to spend a little more then ATC's SCM35s (£2,000) are well worth checking out. Although nothing special to look at, in terms of detail retrieval and sheer recording honesty nothing at this price comes close unless, that is, you'd consider a stand mount 'speaker. They also have a much more 'physical' sound than the Missions. Although you'll need to budget for stands, too, Acoustic Energy's AE1 Mk3 (at an identically priced £1690) are just as engaging as ever. Small, they may be, but bass weight and dynamic scale are closer to the E82s than you'd have thought possible. They also image exceptionally well and, although revealing, the baby AEs won't grate like some metal coned 'speakers can.

really should be taken off for all listeming that isn't anything but casual. Naked again, and the sound opened up with fine transparency and all the detail and precision that I'd come to expect from the E82s.

Whilst Missions have never been noted for their performance with Classical music, the company's offerings are changing in that respect, and the e82 is no different. With Mahler's Eighth, the Missions gave good scale to the multitude of choirs. Furthermore, as well as the spacious acoustic, the '82s had the knack of making sense of the extremely complex score - an area where previous Missions haven't always excelled. String tone was less aggressive than before and yet the brass still had the bite and vitality from the old days. In short, composure was matched to

excitement to form the basis of an extremely compelling sound.

Mission's e82 has all the makings of a class leading 'speaker. The only real concern centres on the bass response. In itself, it's not bad in terms of weight, but perceptions or rather, expectations, lead one to think that it should be stronger still. If you want real bass weight, or have a larger than average sized room, the E82 probably won't suit - which means you'll be missing out on one of the finest 'speakers around this price. For staging, transparency and sheer engagement few come close. Best of all, all this is achieved with a tonal colour and refinement that would have been alien to big Missions from the past. Factor in the stylish good looks and super finish, and this is one 'speaker that cries out for an audition. Very impressive.

#### VERDICT 🌏

Beautifully finished, explicably detailed and vibrant sounding, although can sound bass light in some systems.

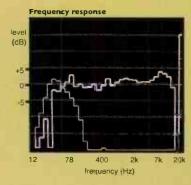
- super detailed and open
- engagingly musical
- exquisite build and finish

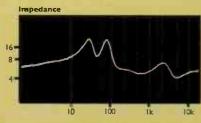
#### AGAINST

- music dependent - light bass

#### MEASURED PERFORMANCE

Measurement shows the 682 owell engineered all round, but it we share the recent years bright. The recent pastey — not a poor size. NR







ART Audio ART Loudspeakers Audio Analogue Aurum Cantus Audio Physic Audionet AVI Bel Canto Black Rhodium

Blue Note Border Patrol Custom Design Croft GamuT Goldring Graaf Hovland Isol-8

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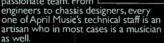


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#### Loudspeakers

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JM Lab Micro-Utopia be with stands
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Wilson Benesch ACT 1 in Cherry
Wilson Benesch Actor

Triangle Antal ES	£595
ATC SCM 50 ASL boxed	£3295
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Sugden Masterclass Phono Stage (£1299)	£795
Pro-ject 2.9 wood + Ortofon 510 cartridge	£350
Michell Orbe SE boxed as new	£1595
Tom Evans 'The Groove' phono stage(£1900)	£1250
SME IOA, boxed	£2495
Nottingham Analogue Spacedec	£695
Michelle Orbe SE, boxed	£1395
EAR 834P de-luxe phono stage	£495
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Miscellaneous	
Totem Beaks acoustic resonation tuner, try them you won't believe what they can do for your speakers - work with any flat top floor stander or bookshelf. (£150)	£69
Isotek 2k cube, boxed, silver (£1500) ISOL-8 2k Cube mains cond (£1500) Townshend Super Tweeters (£800) Magnum Dynalab DTS (£1000)months PS Audio P600 power plant (£2600) Stax SRS 4040 tube system Ecosse Legend SE Im interconnect	£795 £995 £650 £595 £1695 £695 £195

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# Totally Wired

Speaker cables can make or break the performance of a loudspeaker. While some loudspeakers can be unfussy about cables, most require some form of sympathetic tuning to get the best out of them. So Channa Vithana assembled four diverse designs at different prices...



Microphonic Audio

#### **MICROPHONIC AUDIO** ORIGINAL £4/M

The Original Loudspeaker Cable is supplied as plain sleeved (stranded) wire, eschewing ostentation. Microphonic Audio say a 'Sonic Matching' technique is used for both their interconnect and speaker wire. They say, "when we designed the interconnect we found that removing one strand from the design created a very forward midrange sound while adding one strand created a distinctive dry, solid bass sound. Several months later we found that adding or removing one strand or wire from a speaker cable design we were working on created exactly the same distinctive sounds. It was then that we realised that we had found a larger, yet sonically identical version of

the interconnect. Strangely enough, we couldn't recreate the distinctive sounds from any other size of wire, confirming that the match was perfect". The cable is made from 16 gauge (s.w.g) oxygen free copper at 4N (99.99%) purity. The outer jacket is formed from polypropylene

With 'Ya Gotta Try...Harder' I was very pleasantly surprised. What came forth was superb timing and excellent speed conveying the muffled horn break with great nimble tunefulness snaking its way through the middle. The changeover from muffled horn to flute was the best of the group without a discernable splitsecond pause, it was just seamless. The vocals on 'I Wont Back Down' had real depth with holographic distinction. However the bass wasn't

> the strongest of the group, but the more than

delivery.

Microphonics made up for it animated, crisp and controlled

#### True Colours

#### TRUE COLOURS INDUSTRIES **ANACONDA BI-WIRE** £11.99/M

These loudspeakers cable from Irish based TCI are attractively finished in a nice dark blue using a flat profiled design. They can be ordered with factory fitted banana crimp plug terminations at £80 per set. The cable

cores enabling bi-wire and each core features 4x19.2mm silver plated oxygen free copper. The blue outer jacket is described as super-thylene which is a form of low density polyethylene at 2.1 mm thick. The cable is 25mm

With 'Fair Enough' there was treble sophistication, producing a wonderful silken quality with the aspect on smoothness. I did notice some midrange prevalence highlighting upper bass and instrumentation over the main vocals. Tom Petty's background vocals on 'I Won't Back Down' came over more strongly than Johnny Cash's. The piano on 'Ya Gotta Try...Harder' was fantastic with a really nice tonality. In comparison with the other cables however, the Anacondas weren't as adept regarding timing of vocals and instruments, consequently sounding a little slower.

#### **AUDIOQUEST TYPE 6** £66.65/M

Each cable on the Audioquest has six internal solid signal conductors per channel in a circular array. They say, "electrical and magnetic interaction between strands in a conventional cable is the single greatest source of distortion, often causing a somewhat harsh, dirty and confused sound". These conductors use what Audioquest calls LGC 'Long Grain Copper' for a smooth and pure surface. The positive and negative

#### VERDICT \*\*\* £ MICROPHONIC AUDIO ()+44 (0) 1246 281 643 www.microphonic-audio.com

- excellent value
- less is more
- speed, timing

#### AGAINST nothing

#### VERDICT \*\*\*

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- excellent silken treble
- smooth

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The Sorieging Solid XR has become our reference equipment support, its novel use of balsa end grain shelves and tensioned shelf suspension give it a neutral presentation that lets equipment perform without added artifice. 4 tier version available from £600 (Stop press: new Economy version now available from just £300)





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Author Since Night MMII A superb range of single ended 300B zero feedback amplifiers starting from just £2 250 for a power amp or £2 500 for the line level integrated version. Alvesome 18W parallel sill gle ended mono-blocks also available from £3 495. Excellent Premier MM valve phono stage also available £650.





Music first Airo a TVC pre amplifier instead of using resistors to control the volume the TVC uses stepped transformers. Incredible transparency without any of the dynamic compression found in conventional passive preamplifiers. Copper wired version £1 500. All silver wired. £2,750.

Opus Continuo Reference tumtable with Cantus parallel tracking tonearm. Designed to compete with a master table the Opus sounds exceptionally musical. Combination procured costs £3 200 including The Continue 1 and usic



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runs are sheathed in a black flexible braid and then further covered in a soft braided silver-blue/black jacket because they can take advantage of the vibration damping advantage of a softer insulation. The termination uses silver banana crimp plugs. Helpfully Audioquest has added highquality colour coded metal sleeved splitters indicating the amp-end and speaker-end - as the Audioquests are directional. These cables are easily the best built and finished of the group - a first class premium product. The price remains the same for single or bi-wire which is very reasonable of Audioquest and can be made up to custom lengths with terminations to suit.

The Type 6s provided a very high resolution sound with good timing and an especially good ability with the bass, enabling powerful, controlled low frequency performance. Vocals on 'Fair Enough' were produced with tangible, expressive and emotional sophistication. The heavy acoustic of 'I Won't Back Down' was also tangible, with the menacingly plucked guitar strings counterbalancing the silence to provide heaps of atmosphere. The treble was discerning, critical and perfectionist so it won't reveal bad recordings in a sympathetic light. The timing on the percussive break in 'Ya Gotta Try...Harder' was very good, if not quite as seamless as the Microphonic Audios.

### BRILLIANCE HI-FI PRODIGY £100/M

These cables are substantially built with two conductors at the amp-end and bi-wired four at the speaker-end. They are made up of a balanced coaxial construction using Teflon insulation over plain copper conductors. Each Teflon shielded copper conductor measures 5mm diameter and is paired up in an oval configuration to have an overall

into a splitter made of polythene shrink wrap and then completed with banana plugs. Brilliance Hi-Fi evaluates their cable through electrical measurements, commenting that, "the electrical characteristics of the Prodigy cables are impressive with a capacitance and inductance of only 161pF/m and 0.22uH/m respectively, making them ideal for longer length applications". They do state however that Prodigy cable maybe unsuitable for some amplifier manufactures such as Naim and if unsure, to check with the amplifier company. They are available single wired for £200/2m or bi-wired as reviewed for £385/2m. Additional lengths cost £32 and £64

The Brilliance cables had the most neutral sound of the group, with an entirely unflappable ability regarding the extremes of the frequency range. They were tight, focussed and disciplined without losing out on the emotion from thrilling pieces like 'Ya Gotta Try...Harder'. With the distinctive and divergent vocal deliveries of both 'I Won't Back Down' and 'Fair Enough' the Prodigy remained completely neutral, only communicating what was on the recording. In fact everything was in its right place regarding musical structure with a near perfect balance of instruments and vocals, nothing projected or recessed. Excellent, but so they should be at this price!

per extra half metre respectively.

#### CONCLUSION

This group proves that, by and large, the more you spend the better the sound gets, but with some notable exceptions. The cheapest Microphonic Audio Original cable is outstanding. Although not the best looking, at only £4 per mono metre it sounds stunning, with the best

not the best outright; that honour goes to the Brilliance Prodigy which has the most neutral sound, which was

initially

Audioquest Type 6

underwhelming
but soon began to
beguile. It could handle
all the divergent music
thrown at it with a balanced
authority, never emphasising one
aspect over another. For high-end
systems it should be an interesting
and worthwhile alternative to
premium priced established brands,
as it gives nothing away to them.

The Audioquests had easily the best build, finish and design allied to a very high-quality sound with excellent bass and resolution. However they are revealing and thus most discerning about the music and partnering equipment used, which has to be top notch for a successful union — so they're a mid priced cable for systems with high end sources.

Last and least, was the TCI
Anaconda, which was a fine cable in
isolation, but when you consider
what the rest of the group could do,
struggled. Actually, I really and truly
liked the silken treble of the
Anaconda, its great strength.
However, it was slightly midband
dominant and timing was behind the
others, so would be best suited to
bright, toppy and fast systems to
bring them into balance. Worth
considering for specific system
matching issues, and excellent value
too.

#### Brillance Hi-Fi Prodigy

dimension of 12mm x 6mm including the black outer 2mm nylon flexible braid.

The signal cables are terminated out

timing of the group and an uncluttered and consistently enjoyable sound. Considering the ridiculously low price, and the fact that they can stand up straight in the company of cables costing twenty times as

Of course, they're

# VERDICT Audioquest (C) +44 (0) 175 368 0868 www.audioquest.com

#### FOR

- construction, design
- high resolution, finesse

#### AGAINST

- poor quality recordings

# VERDICT Brilliance Hi-Fi (C)+44 (0) 7963 117 341 www.brilliancehifi.co.uk

#### FOR

- unflappable sound quality
- neutral

#### **AGAINST**

- price

#### MUSIC USED:

Johnny Cash 'I Won't Back Down' (from 'American III Solitary Man', 2000)

Both Nielsen Chapman 'Fair Enough' (from 'Sound and Water', 1997) - The

Councy Jones/ Sammy Nestico Orchestra 'Ya Gotta Try...Harder' (from

Basie And Beyond', 2000)

# New coming

my samples were finished in a light

and Sienna (?) are alternatives.

In this loudspeaker you

get a

Maple artificial veneer, but Black Ash

It's tough on the (High) street for new loudspeakers in the British market, but Noel Keywood tries PSB's Image 25s, and thinks they might just make it...

t the end of a winter, as cold winds still blow from the North as a reminder that it's not all over yet, the screen wallpaper on my Mac slowly switches between Miami beach shots, with aqua blue water and thronging crowds, as a pleasant reminder of better places to be. Somehow I can't help thinking there's a parallel here with the situation PSB loudspeakers are getting into: a UK market thronging with loudspeakers, all trying to get seen and appreciated. So welcome to the water, PSB!

There are plenty of strong UK brands trying to get heard too, and making a strong showing. I'm reminded of a friend with a fine speaker line, made in China, but unable to get reliable UK distribution. For him the sharks in the water took the form of distributors but I'm taking no sides here! Anyway, if the PSB 25s I've been using for some months now - in between those of a small throng stretching down the hallway - can get heard, then they stand a good enough chance of being bought by anyone wanting a lively sounding Rock speaker that gives a good account of itself. PSB like to point out that they engineer their own loudspeakers - it does help - and this in most areas feeds though to a well balanced modern standmounter that comes to you for just £249, one with its own sound that may well appeal.

The Image 25s are well titled. They look the part, with smoothly finished silver-grey moulded front baffles and eye catching silver cones. These are of injection moulded, metallised polypropylene, with a rubber surround. The centre dust cap is a bullet shaped plastic moulding. The cone appears to have radial machine marks, as if it has been turned on a lathe, a nice effect. I suspect this comes from the mould.

Above this bass/midrange unit sits an aluminium dome tweeter with a correctional phase plate over its front. So the PSB25 is a conventional two-way, weighing in at a liftable 15lbs (6.8kgs) apiece. The cabinets of convincingly modern face, gently contoured and evenly finished, with a dappled top plate around the tweeter, to disperse surface waves. that speaks of modern technology. At the bottom of the cabinet lies a large front facing port. It's usual - and wise - to put this on the rear panel, for

reasons I will explain later. Instead, the rear panel carries input terminals alone, a single pair that do not allow bi-wiring. The next models up in PSB's Image range, the floor standing T45s, do have bi-wire terminals though, so the 25s carry a small penalty here. Here are a pair of conventional two-way reflexes then, well built and convincingly finished, but normal enough in basic layout and principle. These days, however, two-ways have been honed to give great results, so simplicity is no arbiter of quality.

#### **SOUND QUALITY**

Measurement speaks volumes about a loudspeaker, and I've been doing it long enough to be able to sense how a model will sound, to a fair degree

of accuracy. Sometimes it doesn't quite work out how I expected, especially when some major hidden effects, or is that defects, act to alter things, for example over-damping (rare) or strong colouration (not so

The PSBs put in a strong showing in the higher audio ranges and in use they are, sure enough, a loudspeaker with a brightly lit

strings as they both dart and dance in Tannhauser, Lower strings and woodwind could at times provoke some box 'boof' from the port, showing why it's best to put this contraption on the rear panel. Large orchestral works fared well with the PSB25s, having both order and scale. Prevailing sheen apart these loudspeakers have good insight and well delineate complex arrangements into discernible strands. The 32ft Principle Bass and 16ft Contra Bass pipes of the organ at the Basilica of Saint-Sernin didn't quite make it into the room, as Peter Hurford worked his way through intriguing works of Gesar Franck, but the PSB25s gave a fairly firm and fulsome rendition of the organ's low frequency output. Moving to the taxing dynamics of Christine Aguilera's 'Can't Hold Us Down' showed the PSB25s hold together well enough and can deliver material like this. Bass thrummed a little

occasion,

struck with these 'speakers. Vocals were clear and smooth, nicely separated and well placed on the stereo stage. Imaging was as clear as you might expect with the tweeters plentiful output, and stage depth plentiful. Back to steel strung guitars, Riding with the King and the PSBs sailed through this hurdle with aplomb. Clapton and King were spot lit, their voices ringing out with a fine sense of darity Guitar strings twanged satisfyingly and the whole performance moved along apace. By way of contrast other loudspeakers could sound a bit roumded and soft in comparison. But there were times that the PSB25s wore a pair of beach shades that could upset the locals, being unable to spin Kula Shaker's 'Knight' on the Town - a pair of Mordaunt: Short MS12s were smoother operators here.

These 'speakers have balance and bandwidth. From a reasonable size cabinet bass goes low, the midband is tidy and insightful, whilst further up the band there is a forwardness that many like; it pushes detail out and makes for an explicit presentation -very hi-fi. The PSB25s don't major on subtlety but they are an engaging Rock speaker that manage Classical too; just don't spin Kula Shaker.

SB IMAGE 25 antirook

value for money.

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presentation. In the overture of Wagner's Rienzi violins had a distinct and vibrant sheen that brought them forward, bringing a sense of insight and detailing to the delivery, but massed strings played with vigour in music like this, had a metallic sheen that was a bit removed from the sound of gut on rosin that is to be expected. This was where the PSB25s, not unsurprisingly considering the tweeter, veered most from reality. A metal dome tweeter with phase plate

to cancel intrinsic peaking isn't going to give a smooth, laid back delivery, especially when it is run flat up to 20kHz. This is as assured as Germans getting to the deck chairs first. But horns were crisply delivered amd rasped convincingly, whilst a kettle drum rumbled solidly in the background, lending weight to proceedings that you'd both expect and wish for with Wagner.

The PSB25s do light up the stage, underlining the sheer vigour of

but was generally tight enough and well controlled. Pushed hard in the higher frequencies the tweeter at times starts to spit and it was with this CD the effect occasionally made itself known. Time to reach for Steve Earle and get some forceful Pedal Steel guitar through the 'speakers. In fact it was the ring of rim shot and the hiss of struck tambourine that showed up the role of the tweeter in reproducing Esmeralda s 'Hollywood'; the ballad of Billy Austin, with its lacerating transients showed how fast and vivid these speakers are. Pushed hard they hold the line, bringing fast transients and strong insight to Rock like this

Moving on to 24/88.2 from The Corrs, and 'Breathless' underlined the good basic balance

#### MEASURED PERFORMANCE

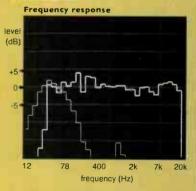
The metallized barrandrange come of this lone aponice displays some small response undulations in the upper rechard break to review that han it is lettle extension, but then most cones exhibit this. In add expect a disripation of the same the metal densi twenty for a passe size ever the front to embody its response and the worked well anough order measurement, over off any However, the is a modern design with full expension in the form a physical with full expension in the form a physical metallic contraction in a modern design with full expension in the form a physical successful the form a physical contraction.

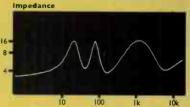
Further down the made hand the FSS25 has a little lift from around 300Hz down to 150Hz, which will add so no extra body to vocals:

District 160Hz output remains amorously fact and even right down to 160Hz - quite a result for a compact list depender. Some are managing this now, but not many, I would expect quite many amorously and neight controlled bury, accompanied by a peed cases of limit at times. With port output at 40Hz the PSB25 is likely to give quite a good account of viself, managing depth without wallow i support.

Surethinity was high at 19dff. Imped by a law 5.5 day overall impedance figure. The lends peaker dip to its OCR of 3.7 blanc at 200 fg and SVRz no it will dominal current at times but V.1 please angles are not high, as rate of change of Z is love. As a loud this is a color speaker, but good sonaidely recess villatio will our have to be originally as accessively.

This specifies will almost certainly strend make brightly life forward, fast and detailed, and with clean five box also capable of innexed depth for box also. It's an impressive set of properties for Rock; violes way choose to reproduct alsowings. MK





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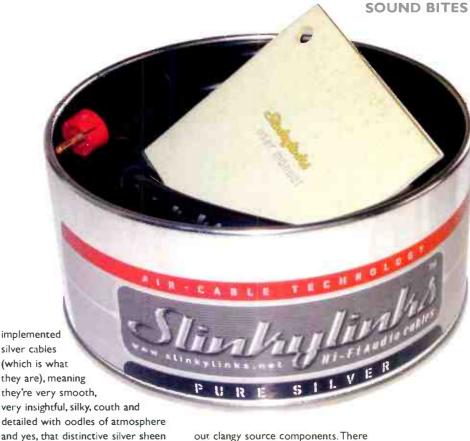
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#### SLINKYLINKS RCA PHONO INTERCONNECT

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Packaging is always an issue with interconnects, because as a general rule of thumb, the more elaborate it is, the worse the cable. But while Slinkylinks come in a cute little metal box looking like an open reel tape tin, nothing seems to be sacrificed in respect of sonics. The company claims no snake oil or visits to the fridge freezer - rather, Slinkylinks are said to be high quality silver cables wrapped almost entirely in air. The thinking is that air is free of any dielectric effects, so by placing the silver conductors in oversized plastic tubes, excellent sound can be achieved. Finally they all have low mass connections with Eichmann Bullets RCA terminations. Sound is superb; we were genuinely impressed with how favourably these compare to the far more expensive (and gorgeous) Chord Signature RCAs. They simply sound like well



out clangy source components. There is no ideal cable of course, but Slinkylinks perform very strongly indeed even in the very best high end systems at a reasonable price. An essential audition. For details, click on www.audio42.com

#### KRYSTAL KABLES TITAN MAINS LEAD £66/m

In a world of stupidly priced mains cables, here's an excellent, entry level high quality copper lead that works well, yet is sufficiently inexpensive to allocate more funds to your source component or amplifier.

Construction quality of the Titan is good, but lacks the showy pretension of pricier rivals (lurid day-glow dielectrics, silly plugs, etc.).

Even powering Meridian's £16,000 DSP7000 active loudspeakers (a single one metre IEC terminated lead per speaker), the Titan was well up to the job, in no way impeding these high end behemoths' sound. Of course, cables at £200-300 offered obviously superior performance, but at one fifth (or less) of the price, they did amazingly well. They have a tidy, open, detailed, crisp and engaging sound,

adding no edge or glare. In absolute terms, there's a slight lack of ultimate air and space, but this would only be a criticism of designs at twice the price. Bass is tight and articulate,

across the upper midband and treble

characteristic never detracts, and will

act to balance cheaper (copper-heavy)

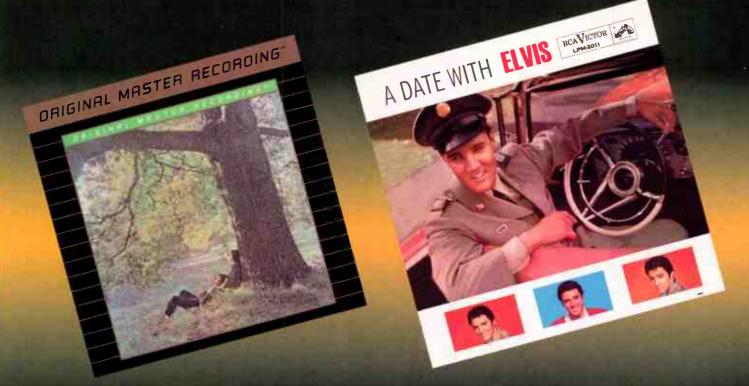
elsewhere in the system, or smooth

- in this case very, very subtle This

interconnects or speaker cables

midband smooth and even and treble detailed and insightful. An excellent, affordable, real-world product. For more information, see www.krystal-kables.com





# JOHN LENNON PLASTIC ONO BAND MOBILE FIDELITY/CAPITOL

Mobile Fidelity's famed, half-speed, vinyl masters were recently reintroduced onto the market with a resounding 'hurrah' from the audiophile community. After the initial batch of four albums were welcomed, the second barch has now hir the shelves which features an album by John Lennon - his Plastic Ono Band release. A collection of raw, painful experiences, the album was recorded whilst Lennon and Yoko Ono were undergoing primal-scream therapy with Dr. Arthur Janov in California in 1970, a method of expressing personal pain, starting with repressed memories from infancy. And, by golly, this album has oodles of pain plus heaps of anger. Just listen to 'Mother', 'My Mummy's Dead', 'God' and 'Working Class Hero'. For Lennon, it was a pivotal album because it marked a new direction for him as an artist. Featuring Billy Preston, Ringo Starr and Klaus Voorman, this album gives you a sense of Lennon finally baring his real soul in public.

The technology behind this remastered LP is pretty intense too. Utilising its GAIN 2 Ultra Analog proprietary cutting system designed by Tim De Paravicini, with consultation from Stan Ricker, a veteran mastering engineer, who is renowned for his development of the half-speed mastering process, the Mobile Fidelity system only uses original master recordings as the source. Those master tapes are then played at half speed during the recording process. Playing the tape back at half speed

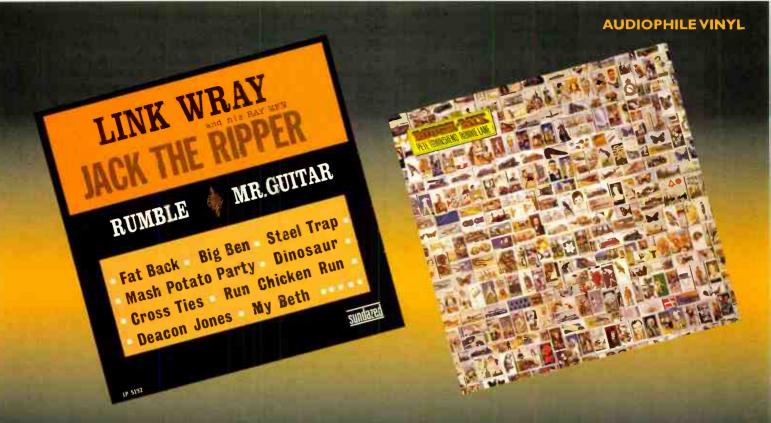
solves many inherent 'tape playback' problems that this source contains, such as lag in signal input in the tape pre-amp and those in the playback head. At half speed, the signal is cleaner as it passes through the system, especially for brass instruments. Also, it is not apt to cause any kind of power supply or slew rate distortion. A Studer tape machine with customized reproduction electronics and handcrafted cutting amps is used along with an Ortofon cutting head on a restored Neumann VMS-70 lathe. Lacquers are then plated in a specialised process that protects transients in the musical signal. This means that initial playback might reveal a few pops and clicks. The more you play the vinyl, however, the better it will sound because the stylus actually polishes the grooves, eradicating the initial noise. A musically intense album, more effectively presented with an excellently mastered and produced vinyl record, on 180gm vinyl, this is a superb release.

# ELVIS PRESLEY A DATE WITH ELVIS SPEAKERS CORNER/ RCA VICTOR

The year 1959 was a tense period for RCA. The reason being that its star and main money making machine, Elvis Presley, was doing time — in the Army, in Germany. In order to comfort all his fans during his forced absence, the record bosses produced an album with a smartly uniformed Elvis on the cover, smiling widely to let his faithful followers know that

he'd be back soon. There was even a special calendar made, which was printed on the rear of the gatefold, taking up the entire rear side, so Elvis fans could count the days when their hero would be back in the musical fold! Despite being potentially cringeworthy, this little ploy was very successful as a marketing angle. The final album became extremely collectable. In fact, pirate copies were made to cope with the demand, some of those are still doing the rounds today. The details of the musical content was, at the time of its release, an in-house secret, at RCA. Yet, in fact, the company repackaged some of his unreleased pre-Army tracks and some songs from both 'Jailhouse Rock' and 'Love Me Tender'. then threw in some Sun Records singles (which hadn't been released to the American mainstream yet).

The tracklist was a corker, however. All of them well played, with some great backing including the bluegrass classic 'Blue Moon Of Kentucky' twisted to Elvis' characteristic rockabilly sound. Also, his 1954-55 renditions of 'Milkcow Blues: Boogie', 'Good Rockin' Tonight' and 'Baby Let's Play House' placed on this 1960 album, for example, were raw and energetic. In fact, a lot more vital than his last pre-Army LP release, the King Creole soundtrack. Thus, many Elvis fans were getting to hear the old, mid-'50s, Elvis for the first time and were able to compare it to the 'new', 1960 version. As is common with the German outfit, Speaker's Corner, this 180gm vinyl album is a true replica, arriving without any modern-day extraneous labels or



text. The only barcodes and the like only appear on the shrink-wrap, for example. For purists, this is the road that all audiophile re-releases should roam down, as opposed to Mobile Fidelity, for example, which likes to proclaim its technology all over its sleeves. This is a welcome re-release of an important Elvis album.

#### LINK WRAY AND HIS RAY MEN JACK THE RIPPER SUNDAZED/SWAN

The importance of Link Wray to rock is often talked about by those he influenced - Bruce Springsteen, Lemmy from Motorhead, Pink Floyd's Dave Gilmour and the rest. Yet Wray still lacks the public recognition he deserves. Possibly because, while everyone else in rock'n'roll at the time was trying to get as clean a sound as possible, Wray was poking holes in his amp with a pen and getting that truly nasty fuzztone. He used simple chord progressions on his guitar, was one of the first guitarists to experiment with feedback and became known for his 'power chord'. His first single, 'Rumble', present on this album, is a seminal recording that would influence many rock guitar players in the years to come. Pete Townsend declared that, "He is the king; if it hadn't been for Link Wray and Rumble, I would have never picked up a guitar." The record climbed to number 16 in the US charts in the summer of 1958, although some radio stations banned it because they thought it might incite gang wars Wray's image, performing in a black leather jacket with somewhat of an

Elvis-like sneer on his face, didn't help in that respect.

The reproduction of this rare LP, from 1963, present on 180gm vinyl, has been sourced from the original Swan mono master tapes...and it shows. This album's title track, "Jack The Ripper', recorded in 1962, originally recorded on Wray's own Rumble Records and released or Swan in 1963 is absolutely deadly, as deadly as a car chase - which is what. it became the soundtrack for, in Richard Gere's version of the film, Breathless. Wray was always looking for different ways of recording: imnovations in recording technique, if you will. In the latter's case, Wray's amp was recorded at the end of a hotel staircase for the maximum echoeffect. The excellent mastering on this reissue displays all of Wray's recording innovations, tweaks and twists to the full, providing the music with a quiet recording base to work from and enough room to allow the inherent energy in Wray's work to do its stuff.

# PETE TOWNSHEND & RONNIE LANE ROUGH MIX CLASSIC/ATCO

This collaborative effort, released in 1977, between former Who songwriter and guitarist, Pete Townshend, and former Small Faces and Faces songwriter and bass player, Ronnie Lane, also features Eric Clapton on assorted guitars, The Who's, late lamented, John Entwistle on bass, Charlie Watts of the Stones behind the drums and the late lam Stewart on keyboards. Centred mainly around acoustic guitars, there

is same dazzling finger work from Townshend and Clapton throughout this album. Rough Mix's atmosphere is fairly easy going and somewhat relaxed, which brings some good performances from all concerned. Lane performs well, his quavering voice is most effective on the ballad ditty, Annie, and the blues-y April Fool. Lane was diagnosed with the debilitating disease, multiple sclerosis, soon after this album was completed. However, according to Townshend, Lane was ill when this album was being made. Townshend includes some excellent, anthemic Who-style rockers for good measure such as the upbeat My Baby Gives It Away and Heart To Hang Onto.

The original releases for Rough Mix were pressed by both MCA and Polydor. The mastering, completed via Doug Sax was subsequently adopted as the principle reference and used as a reference for the remastering by Bernie Grundman. Comparing those early releases to this new Classic rerelease in enlightening. The MCA version sounds distinctly dreary and unexciting although the Polydor version is more impressive yet still lacking in dynamics. The Polydor mix loses that essential freedom and openness compared to the Classic release. As this Classic release also utilises the same, original master tapes, the principle culprit seems to have been problems at the pressing stage of the final process for both MCA and Polydor. Something that, with its Quiex SV vinyl formula and due care and attention, Classic has rectified, resulting in the best release of this album yet seen.

CONTACT: Vivante +44 01293 822 186 www.vivante.co.uk

# Picture perfect

...in which geek poster boy Patrick Cleasby tries Apple's iPod Photo 60GB - and for some inexplicable reason, rather likes it...

ow I may get teased for carrying four iPods around [when CV, PC and I went to dinner with Linn's Brian Morris, Patrick pulled out no less than four of these things at the dinner table, as one does... Ed.], but in truth a couple of those were Shuffles for the children. But I fail to see what is wrong with using a maximum capacity 40GB 3G in conjunction with what is currently the only way to get more capacity than that (on an iPod) which is the 60GB Photo. In truth, much like many of you I am not overly concerned with the Photo capabilities, just the ability to cram a stupidly large album collection in the best quality possible on the most capacious iPod around, leaving the old one for the singles collection! When I explain this to people of a similarly 'High Fidelity' persuasion, they tend to go, "Brilliant, I should do that!"... [yes Patrick, keep taking the tablets - Ed.]

There is actually more to it than that. It depends on the uses to which you put your iPod, but personally I am constantly shuffling the contents to allow for large data transfers, needing to record interviews with a Belkin voice recorder et cetera, and having more than one on you can get you out of interface, battery life and plain non-working scrapes.

And it is this last one which concerns me the most – for the first time ever there have been hints of bugginess in the iPod Photo experience. For me these include unwillingness to start a voice recording on Voice recorder insertion (hurrah for the backup 40GB!), and the fact that the 4.7.1 iTun's upgrade made all that lovel color of the start in the suppression of the start in the start in

origins and move towards still Photo and (God help us) even likely video uses, there has to be a concern that the next generation had better learn from the slight niggles with the Photo and get back to (almost) flawless performance.

So what is good about the Photo? Well, despite the extra circuitry, sonically it retains the minor improvements in the standard 4G iPod over the preceding range. (Sennheiser MX500s were used throughout for listening tests). An interesting comparison was to take the idiosyncratically recorded 'King of The Jailhouse' from Aimee Mann's excellent new 'The Forgotten Arm' album and step through some different play back options. As it was available on a four track pre-release iTMS sampler I first tried the .m4p file (128kbps) on the old 40GB 3G. The sonic result was slightly plasticky and short on real life, particularly in the reverbs and the sublimely recorded vocal. The old style drums right, piano and supporting guitars left mix gives plentiful opportunity to scrutinise individual instrumental handling, and switching to the lossless .m4a file encoded from the CD there was a marked improvement in bass fidelity, and the sharpness of instrumental placement.

The real revelation was switching to the same pair of tracks on the iPod Photo - even the downloaded lossy file somehow seemed to reveal the natural sound of the recording better than either of the files on the 3G. Even so the bass was missing its fullness, as you would expect, and so the leap to Lossless was worthwhile to restore the full frequency range. At this juncture it should be pointed out that no time during six moreness of lossless files almost exclusively has this machine struggled to licep up with the lossless bitrate. hereas the old 3G still frequently a up when trying to olay

evidence, and I have heard isolated reports of people saying their 4G still has the problem – I can only assume these are damaged or defective units – as far as I am concerned the fourth generation (including iPod minis)



cracked this issue (which was probably only bothering us lossless-loving audiophiles anyway!)

So how does it cope with that other affliction of such great concern to serious audiophiles these days, the practice of overdoing dynamic range compression when mastering today's CDs? The last month's standout main offender is, incredibly depressingly, the otherwise excellent third comeback album from The Gobetweens 'Ocean Drive'. This album has gained many five star reviews, and does indeed contain some of the best songs from both Robert Forster and Grant McLennan in recent times, but the master has been compressed. into oblivion, presumably at the



mastering stage (although the rot could have set in earlier than that) by repeat offender Jon Astley. As things have progressed with Lossless I have noticed empirically that if the bit rate column in iTunes shows a consistently greater than 1,000kbps bitrate. you can bet your bottom dollar the audible result will be lousy. The Lossless codec can simply not reduce the data as much if it is maximised. and so the packed data rates are high. Music which retains its dynamics will have tracks of varied Lossless bitrates anywhere between 700 and 900 kbps.

And so it proved with 'Ocean Drive' - my first listen was in the car from the iPod and even then I could tell something was awry. Lead of track, Robert's 'Here Comes A City' is (as mastered) an uptempo mulch how do the iPods cope with it? On the 30GB the jangly guitars sound all artefacts and artificiality, the snare drum is an undistinguished mess and the whole sounds like a one-level, undynamic ditty. On the iPod photo it is still apparent that it is wrestling with poor source material, but it does make the overall experience slightly more enjoyable - the vibe is still flat as a pancake, but at least the instruments are slightly more discernible and more free of those crippling artefacts. The first Grant track 'Finding You' should be a spare, atmospheric acoustic strum but once again it just sounds flat and unnatural on the 30GB. The 40GB once again makes slightly better work of this delicate track, it almost sounds like human beings playing real instruments and singing!

It is ridiculous if we start having to try and seek out specifically those particular devices with circuits which struggle to make something listenable out of some of the atrocities being foisted on us by the record industry, but at least it can be said that Apple are still concentrating on audio considerations and honing their player. So overall, on audio performance, still an ever-improving winner,

There is little to be said about the external appearance of the 60GB Photo, as it looks identical to a current 4G model. Until you switch the screen on. I actually found it difficult to get used to not having that familiar Chicago font

monochrome screen for a bit, but I
would hazard a guess that
by 5G all of that
will be forgotten

will be forgotte and everything may be going colour. Certainly if you're a capacity freak thinking about buying one of these now be advised that announcements of the availability of Hitachi's clever small disks in an 80GB variant around the end of the year and the hint that Apple will be taking most of them suggests that a 20GB bump up is not unlikely.

But the 60GB Photo may well be worth seeking out if it gets cheaper when the new models surface there is an increasing tendency for the newer releases to contain fewer and fewer of those useful accessories. Even this top flight model now omits the remote control which came with the 3G 40GB, but it does contain a Photospecific Dock with a composite video out connection for showing those lovingly prepared, AAC soundtracked slideshows on your TV (if you can be bothered - I can't I'm afraid...!). One major advantage of the 40GB/ 60GB pairing is that both end up the same thickness (i.e. too thick and heavy for most people these days), so you can always cheat if you can't lay your hands on the right dock...

The iPod Photo answers one of many people's anti-iPod quibbles convincingly - if used for music-only purposes it quite easily managed to exceed the stated 15 hours playback time using 128kbps AAC straight out of the box, and it still can. With the added variable of photo storage the quoted figures on tracks stored can rapidly become meaningless, but 15,000 tracks at 128kbps really is quite excessive for all but the most insane collector isn't it? When they can make something that can hit that many tracks in Lossless quality I will finally be happy...

I wouldn't imagine that
everybody is going to be in the
market for an iPod Photo —
personally if they offered the same
capacity without the Photo
functionality I may have been minded
to go for that — but at least the
Photo allayed my fears that the audio
side of the machine might get
forgotten among all the bells and
whistles — it will be interesting to see
if it also survives the inevitable
addition of video functionality.

VITAL STATISTICS: Size: 104x61x190mm Weight: 181 g Screen size:5.08 cm diagonal

#### SYSTEM REQUIREMENTS:

PC 500Mhz or higher with USB 2.0 or Firewire Windows 2000 SP4 or XP Mac with built-in Firewire OSX Version 10.1.5 or higher (10.3.3 recommended) iTunes 4.7 or later (4.7 supplied)

#### VERDICT

Boringly predictable though it may be, it is still impossible to give less than full marks for the clear market leader. Let's see if what Sony have got coming can do anything to budge it before the end of the year sees higher iPod capacity, highly likely video features — what will no doubt have to be called 5G...

### APPLE IPOD PHOTO 60GB £309 APPLE

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#### FOR

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#### **AGAINST**

- hint of bugginess
- increased complexity
- feels big

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# Comfort Zone

Channa Vithana settles down to life with a new pair of Sennheiser HD485 headphones...

elf evidently, the single most important aspect of any pair of headphones is comfort. In this respect, the HD485 does not disappoint considering the £59 price tag. In extended listening it's almost as snug as the HD650s, which is impressive indeed. While the HD650s fit perfectly around the ear with soft but wellweighted pads, the 220g HD485 is nearly as good.

The HD485s are open-backed, have 320hm impedance and frequency response between 16-24,000Hz. They have a single detachable 3m OFC (oxygen free copper) chord with gold-plated 3.5mm minijack as standard into both the head unit and signal pick-up end. A supplied gold-plated screw-in adapter suitable for 6.3 mm sockets is a delight being superior to the standard plug-in type supplied by others - because it offers longevity by preventing strain on both the plug and adapter when frequently changed over.

They are well made (partly in Germany and then in China) and designed with high-quality materials for the price. The plastic chassis is finished in a smooth grey-green silver with nice details such as tactile extrusions denoting the lefthand side and tiny soft discs to the ear minimising contact headband. cunningly crafted headphone holder is included that can attach to a work surface or table minimising damage/strain to wiring, is

Connected to a £520 Naim Headline2/NAPSC headphone amp/

more practical and looks great.

power-supply comb nation, and fed from the tape-out socket of am Exposure XXIII preamp, the HD 485s offered quite remarkable sound for the price. They have great speed and dynamics, embodying the music played with a lightness of touch yet a great structural solidity too. Most impressive is the way they provide a low coloration/low distortion sound; much like the HD650s..As good headphones do not have the problematic of room resonances, and acoustic balance to contend with, the

away from the often splashy high-frequencies that can afflict 'standard' loudspeakers.

The HD485s impart greater resolution without hampering the timing and "hythm which is quite amazing really as this is what superior headphones do - usually at a much higher price! For instance, Motley Crue's version of 'Anarchy In The UK' which usually sounds compressed and dynamically shut-in via standard loudspeakers becomes dramatically different. Gone is the audible

comoression and hackneyed musical stance – now, by rights, both exhila-

rating and Kraftwerk's demanding: Soundtracks' that can trouble conventional loudspeakers but these were also banished by the HD485s. After a full day of running-in, the D485s remain a little rward in comparison a pair of six-year ld (semi-closed) Technics RP-F800s which cost £50 when new. The Technics present a smoother and more forgiving response but an added dominant midrange with slightly sweeter vocals. The Sennheisers

counteract with a more emotional and incisive response, better comfort, bass tunefulness, superior resolution and spatiality in comparisor. The HD485s embody the familiar high-quality Sennheiser sound with a principally neutral balance and superior timing, they offer superb

# VERDICT

Beautifully constructed, comfortable and engagingly musical and precise, these headphones represent outstanding value for money

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The amplifier has very low humand for simplicity it is builton a printed circuit board. Astrong steel chassi is fronted by a 3 mm and is ed front panel and attractive brushed a luminium effect knobs. The reare five line level in puts, plus one monitor input, with a tape out put included, all controlled from the front panel.

Attherearisamainsswitch/IECpowerinput,earthpost,phonosockets,and4mmbannana socketsforloudspeakers

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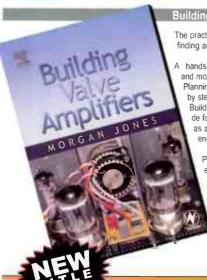
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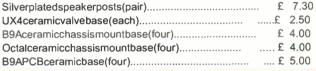
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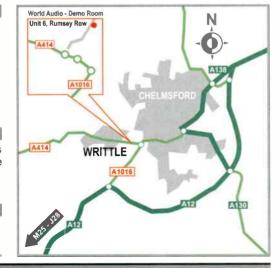
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"there are tuners everywhere nowadays, but for the time being hi-fi still means one thing: analogue."



# noel keywood

n the past, a tuner issue would contain. well, tuners - buy not any more though... The stable, predictable world of analogue broadcasting left through the back door some time ago and its legacy, huge transmitters and a monumental infrastructure, are under threat. We can't talk 'tuners' any more, because when it comes to receiving radio, everything does it - even your telephone and television! Okay, we're not talking quality here, but at the same time this could change, and with threats to 'switch off analogue' we also can't ignore the alternatives. So our tuner issue turned out to be a lot different to those that have gone before - and what we have left out would fill many magazines!

Whilst I am bemused by the trouble broadcasting finds itself in, as new technologies like DVB-H cause turmoil and the mobile phone and internet impose other realities, this month I was intrigued by the Arcam and Cambridge tuners we've reviewed. Whilst everyone is talking digital these two products quietly introduce something entirely new to high fidelity - the software VHF/FM tuner. And curiously it comes as an afterthought, a technology now possible using the latest silicon chips, but not one anybody has got round to considering yet - until now that is. Radioscape, DAB techies to the core and responsible for the software, told me that having, "written the stack" for the VHF part of their DAB module they were sufficiently impressed to consider doing a dedicated software tuner. To which I said "yes, please!". This would mean an SDR VHF/FM tuner engineered in Regents Park, Central London, close enough for me to reach with a test transmission from Maida

Vale, which would go something like "when can I have the first review sample..?"

For Radioscape, this means getting sufficient interest from manufacturers to make the exercise worthwhile and being able to overcome a few problems. Assuming they go ahead, which I would say was very likely, we could then see a new breed of VHF/FM tuner hit the market that would - surprisingly - be streets ahead of even the best analogue designs. The great irony here is that they would challenge the main strength of DAB, providing minimal hiss even with a weak signal, whilst trouncing them for sound quality. Being a bundle of silicon chips, a tuner like this would be compact and totally in touch with modern expectations.

DAB radio isn't easy to engineer. What I hadn't realised until Radioscape's senior engineer pointed it out to me on the phone from a sales trip to China, is that DAB isn't really digital; the carrier modulation system is analogue. This is much like PWM in amplifiers. So in a DAB tuner, to process the data you must have an Analogue-to-Digital (ADC) convertor to turn the radio frequency signal to digital. Having done this a computer (DSP) does the donkey work of sorting it all out before digital is turned back to analogue through a DAC and then fed to the output terminals. All of which is fairly handy, as it means the basic parts needed for a software FM solution are in place, and to get it instead of DAB just means writing software for the DSP, in effect.

Radioscape know I'm no DAB enthusiast and are normally a bit guarded about saying too much to me, but I sense a wind of change blowing in broadcast may well be disturbing even the ducks in Regents Park.

As broadcasters militate for even lower data rates on DAB, to be able to cram even more stations into a DAB ensemble (the space allocated to a group of stations), the pretence that DAB is a quality medium fades. It is slowly becoming, of its own volition, a medium of mass programming, and no more. With other broadcast schemes looming, particularly DVB-H, short for Digital Video Broadcasting to Handhelds, the idea that perhaps DAB is best seen as suitable for portable radios and cars, whilst VHF/FM offers both quality and audience, is gaining traction. Ofcom now say a date for analogue switch off cannot be set with things as they are, so it's not all over yet. This means there's plenty of reason to develop a good Software Defined VHF/FM tuner, and such a tuner will give fantastic results it appears, from my measurements of Radioscape's RS200 module.

High fidelity usually requires a little more effort than other regimes, and in this case to reduce hiss Radioscape confirmed to me that such a tuner would likely need a better - read more expensive - Analogue to Digital convertor inside, because more digital "bits" mean less noise. A lot of effort is being put into this area nowadays, fuelled by the need for sophisticated transmission techniques, so suitable high speed convertors, like the 14bit Texas AD\$5500, exist, but are costly. All the same, I sense that this is a fascinating possibility and the days of analogue super-tuners aren't necessarily over yet. The mobile phone, TV and internet will have to wait before they can take over. There are tuners everywhere nowadays, but for the time being hi-fi still means one thing: analogue.

"Digital Radio brings a vast number of new networks pumping out the same focus-grouped selection of mediocre music at stultifyingly low bitrates..."



# david price

ooking at the BBC's Digital Radio website (www.bbc.co.uk/digitalradio/) is something of an eye opener. In a bid to convince us that the inevitable 'switch off' of analogue (and thus the making of all our existing radio hardware obsolete), it claims four key "benefits" compared to ye olde analogue - 'More Choice', 'Better Reception', 'Ease of Use' and 'Scrolling Text'.

Although apparently innocuous enough. the notion of more choice shouldn't go unchallenged. 'Choice' is a mantra that is banded around willy-nilly by politicians of all sides these days, in regard to schools, hospitals and just about anything else that slips from their tongues. But it's often deceptive - and more about rebalancing existing compromises than offering something truly new. Indeed, choice is largely a chimera in Digital Radio, because anyone who's invested in the new format will know that - a few welcome BBC channels aside - what we've got is a vast number of new networks, all pumping out the same cursory, focusgrouped selection of mediocre music at stultifyingly low bitrates (96kbps if we're lucky).

These great new stations amount to little more than unimaginative variations on the wretched commercial local radio stations you hear in convenience stores and garage forecourts. What of the BBC networks? Well, it certainly has made an effort with the likes of BBC 7 and 1 Xtra, but that's nothing it couldn't have done ten years ago on analogue, had the political will been there. And then there's the small fact that many of the Beeb's Digital output is actually available on analogue anyway, and often – farcically – with superior sound.

It's all so sad. Did someone at the radio authority really think that what the world needed now was a vast number of lumpen, towest-common-denominator stations, whose output is endlessly interrupted by station 'idents' boasting to be 'your best soft rock music station'...? This sort of thing has worked wonders for the bank balances of the likes of best selling artists, but Digital Radio has brought little to party in terms of quality – even if the quantity has increased by what feels like one hundred fold.

'Better Reception' is another example of wishful thinking in the extreme, especially when you read that "DAB offers pure, clear sound". The reception issue is an ongoing saga of gargantuan proportions. The great Digital Radio rollout - where new transmitters are being opened seemingly every month - is to be applauded, but still can't compensate for the fact that vast amounts of non-urban Britain still can't get DAB properly, easily and without resort to aerial gymnastics (hanging bits of string outside top floor windows and preying that the wind is blowing in the right direction)... Worse still, within officially sanctioned reception areas, anyone who's tried to stroll out and about with a personal digital radio (i.e. 'Walkman'), only to have their ears fried as the signal rebuffers itself amidst a chorus of loud digital chirps and pops whenever they go near a tall building, may need more convincing about the reception issue.

The "pure, clear sound" promise is one that's eerily reminiscent of Philips' biggest ever case of 'foot in mouth' disease, but even worse still! If audiophiles got the hump about uncompressed 16bit PCM back in 1983, it takes little imagination to guess the reaction to the very same compressed by a factor of

twenty by an antique lossy audio codec. Come on BBC, you must admit that the spectacle of hearing a live human voice reduced to a Dalek sound-alike is not a glorious one? Even assuming you can receive the signal perfectly, then surely you'd concede that it's not even up to the fidelity of radio via Digital TV, a system that's designed to something completely different — i.e. pictures!

As for 'Ease of Use', well I can't really complain - except to say that anyone who's used a modern FM RDS EON (Radio Data System: Extended Other Networks) tuner (and most products around now have this) won't find DAB noticeably easier to use. In fact, some would say that scrolling through a list of umpteen classic rock stations in order to find your beloved Radio 3 isn't an advance, particularly if the signal then starts going absent without leave, and then has to rebuffer itself down to sub-telephone levels of sound quality. You could even argue that the old classic analogue FM tuners we test in this magazine are more user-friendly, thanks to the huge tuning knoo, massive backlit dial and superb signal strength and tuning meters. And as for 'Scrolling Text', well that's true enough - it's a shame that the novelty's already worn off though, what with it having been available from RDS EON FM tuners for nearly a

Does this do it for you? Are you now logging online, poised to purchase your first Digital Radio? Well, of course gadget freaks will love it — it sure has 'high tech' novelty appeal to the average punter in the street, used to his or her cheapo 'transistor radio' or car stereo. But does it really bring anything substantial to the party? And more to the point, does it warrant the great impending analogue radio switch off? I think not.

# "manufacturers must beware of following so-called consumer demand too blithely..."



# dominic todd

ebate will always rage over the golden era of hi-fi separates. For many, though, the most successful decade has to be the nineteen eighties, if for no other reason than many manufacturers kept it simple. Out went fancy displays, equalizers and features you'd never use and in came minimalism. With hi-fi judged with a greater degree of subjectivity than ever before, only the stubborn couldn't help but notice that it was, in most instances, the case that the fewer the gewgaws the better the sound.

Such an approach was epitomised by many a turntable. The Rega Planers were, and still are, delightful sounding by the very nature of their simplicity. Whilst not quite so mechanically basic, decks such as the Linn LP12, Roksan Xerxes and Pink Triangle also won mightily, both in the magazine reviews and in the showrooms, over complicated designs such as Revox's B291. Yes, the Revox was a delight to use, but it's parallel arm and complex electronic control system meant that something had to give. Despite costing a whooping £630 in 1988, a similarly priced Sondek/LV Plus would have beaten it hollow in terms of sound quality. The eighties meant it was game over for overly complex turntables like the Revox and, with the odd exception, they were never to be seen again. Look at today's most successful selling brand of turntable, Project, and you'll still see that same commitment to simplicity.

In the case of 'speakers, much the same is true. The eighties saw the multi-drivered monsters that so encapsulated the seventies being driven into the sidelines. Whilst a few of the brutes lingered on, it was simple designs such as the Wharfedale Diamond, Epos ES14 and Celestion SL6 that really

caught the attention of reviewers and buyers alike. Again, this is still a philosophy that holds true today. Whilst cabinets have become ever more rigid and drive units more sophisticated, the majority of designs are still simple, yet effective, two-way models.

Move on to amplifiers, though, and the story is rather different. Again, the early '80s saw a marked push towards minimalism and to great effect. The Rotel RA-820 may have lacked even tone controls, but it proved to be an instant hit with sales figures to match. Further up the scale, the likes of the Cyrus I and 2 and Naim Nait took on the establishment and won. What these, and amps' from the likes of Exposure and Musical Fidelity, all had in common was a purity of engineering that eschewed gimmicks such as remote, tone controls and, even in some cases, a headphone socket, As with turntable and 'speaker design, the benefits to sound quality were palpable and became principles that lasted. By the early nineties even the major Japanese were switching from their favoured buttonfestooned designs to more elementary designs that focused upon sound quality. The likes of the Pioneer A400/A300 and Marantz PM40/30 would probably never have existed without the template set by the Brits nearly ten years beforehand.

Yet, recently, I've started to notice a shift away from the minimalist amp' and, as a result, a reduction in sound quality. This trend was brought to my attention by a recent group test in which the two amps' that impressed me the most were both of the 'back to basics' breed. Whilst no one could find major fault with either the Arcam A80 or Cyrus 6vs, it has to be said that

neither could engage the listener as much as the Creek A50i or winning Exposure 2010S. Sure, both of them were generously featured and came with the system remote control and logic control that's popular these days, but neither could match the Creek or Exposure. Coincidence? I think not. Whilst, to be fair to Arcam, they haven't followed the ultra-minimalist route since the launch of their Alpha range, Cyrus have done something of an about turn. They aren't alone, either. A good deal of amplifier manufacturers have increased feature counts, claiming that it's through customer demand.

Whilst there may be commercial sense in this, manufacturers must beware of following this 'demand' too blithely. Remember, the outcome of one of the most highly market researched car designs resulted in the unspeakably awful Ford Escort of the early nineties. This was a product that reflected exactly what the public said they wanted but totally lacked any innovation or sparkle whatsoever. Thanks to the marketing might of Ford, it sold well, but probably not as well as it could have done, had it been a little more single-minded in its approach. So, the lesson to all amplifier manufacturers is that whilst complex electronics and high feature counts may be all well and good in the homecinema market, the best sounding stereo gear should still be kept simple, thoughtfully engineered, and sensibly priced. Get this right and the resulting sound quality will be good enough to convince people that there is still a good reason for sticking with stereo. As other areas of the market have proved, what was right for hi-fi in the eighties is still right for hi-fi today.

"the notion of High End is that it has high prices, and the customer is believed to expect to see more when he pays more..."



# ljk setright

here is no fun at all in attending hi-fi shows. They are invariably held in unsuitable premises — are there indeed any suitable premises? — and attended by dense, unsavoury crowds of people milling about with no real aim but seemingly desirous of finding themselves flabbergasted by something or other. All is confusion and noise, noise too often of a most appalling kind.

The last show that I attended, at Heathrow early in April, was slightly different. This one proclaimed itself a highend show: the standard of dress was no higher, the music played in most of the demonstration rooms was still junk, but at least we were spared the brash presentations of the mass producers. Certainly the greatest disappointment was with the class of music chosen by most exhibitors to display the prowess of their exhibits: most of it was of no great compass, no great dynamic range (most of it was pretty loud most of the time, which is apparently what The People are supposed to want), nor any great intellectual demand. Nobody played any atonal music, any minimalist music, any romantic tone-poems, any brass band suites, any chamber music. Those whom I had the temerity to ask, when they invited suggestions, had not brought any string

If Big Noise was the abiding theme, there was also a noticeable tendency to show off Big Apparatus. No doubt the notion of High End is that it has as a corollary high prices, and the typical customer is believed to expect to see more when he pays more. Some of the most improbably, even implausibly, hefty equipment on show was produced by Musical Fidelity (most particularly their huge vinyl-transcriber), but I wonder whether in their case it is so much a matter of what they

think of their customers as what they see in themselves. Their proprietor, the splendid Antony Michaelson, is a big chap, and very strong: indeed, his handshake is currently being used by the British Standards Association in establishing criteria for granite-crushers. Maybe his big machines simply reflect his own personality.

Maybe the record-player is to be excused on the grounds that the 12-inch LP cannot be retrospectively reduced in diameter; but all the other massive amplifiers and things strike me as out of harmony with our times. In this era of miniaturised electronics, what I should like to see is a full set of hi-fi separates none of which (turntables apart) is bigger than half a pound of butter. With their little wooden-cased separates twenty years ago, Moth had the right idea, though perhaps not the resources with which to carry it out to high-end standards.

Amidst all the racket, and doubtless the racketeering, there were impressively pleasant things to be heard. The first that I found gave me a fleeting sense of fellow-feeling with Mr Editor Price, for it was the Wilson Benesch loudspeaker which has been named The Curve. There does not appear to be anything novel about its principles, except that it is beautifully made using proper engineering materials; it is correspondingly costly, but it really does work well.

Being clever is another way of making things work well, which brings me to the speakers made by PMC, the Professional Monitor Company. These are all transmission-line affairs, which demand long and painstaking development to perfect the proportions, dimensions, and materials, of that column of air which is The Line, starting behind the 'speaker driver and finishing at as great a distance as possible from it. By clever work, including a good deal of folding, PMC have contrived to fit a 5ft column of air into

a dinky little box suitable for stand or bookshelf mounting (they also offer a wall bracket) and they call it the DBI+. In essentials it has been around for quite a while, but recent improvements (including a new tweeter) have earned the DBI its +, and I was surprised by its quality and depth of sound.

One of the nice things about transmission lines is that they encourage a very slow and progressive roll-off at low frequencies. In consequence there is real bass to be heard even from this little box, with such clarity in the upper registers that nothing gets lost anywhere in the musical gamut, even when the volume is turned down.

There are new approaches to such problems being investigated elsewhere, such as by Aeon Acoustics in beautiful North Yorkshire. Their acoustic-control panels, incorporating intricately folded tubes (only about a hundredth of a square inch in cross-section) containing free air, have proved to do marvels in cleaning up the performance of conventional 'speakers: there was an article in *HFW* about them not long ago.

While the firm's Simon Carrington was explaining to me his scheduled developments of this material, I became aware that I was hearing music. His conversation remained clear, yet the music was clear too, as pellucid as it comes, not loud nor ever lost. It came from a pair of Aeon Signet 'speakers, which I had dismissed without a hearing as just another boring speaker made in a funny shape. In truth it was nothing of the sort: the driver cones incorporated triple concentric star-forms of that clever tubing. Once again I had found a speaker which lost nothing in clarity or in definition when playing quietly; more than that, I had found at last another speaker which - unlike anything I had heard since Linn's late and lamented Isobariks - did not sound like a loudspeaker. Salvation!

# "many will ask what compressed, low bitrate, low sampling rate Podcasting has to do with hi-fi...?"



# patrick cleasby

t is a sad fact that when trying to track the changes on the bleeding edge of technology, no sooner have you committed something to print than it is immediately contradicted by events in the real world, sometimes even sooner. Take this month's SD card recording DAB radio face-off (written earlier this month) – I offhandedly referred to Podcasting as having nothing interesting to offer, and then promptly proceeded to get hooked in again by the prospect of further trials from the BBC.

Many of you may well ask what all this compressed, low bitrate, low sampling rate spoken word stuff has to do with hi-fi. I would take the point, but it does seem that this recent development is an indicator of which direction the 'On-demand' (as the BBC's Simon Nelson is fond of calling it) future of broadcasting is going to go in. Hi-fi may predominantly be an area in which consumer electronics devices (or electronic esoterica, take your pick) are employed to deliver the best possible audio reproduction, but the fact has to be faced that computers will not go away and pioneering developments such as the BBC's Podcasting trials will only hasten the march towards computer/ hi-fi convergence. Hopefully increasing bandwidth capabilities will mean that the quality is able to be improved once the music programmes arrive.

While it was not my intention to take Mr. Nelson to task for his past history as one of the architects of the BBC's DAB offering, it was impossible not to ask him of his current day view on the legacy his early

moves left in terms of the paucity of DAB radio data rates. I don't have space for the whole conversation, but it boils down to this - he was fairly unrepentant - 'There's no question that some hi-fi enthusiasts that the DAB quality isn't as good as they get from FM for some of our services - that said, I'm no audiophile, but I've done tests and I found DAB to be a superior listen to my ears. We took a strategic decision years ago that the thing that was going to sell DAB was more choice. I know it's not a lot of comfort to those people who do feel we made the wrong choice, but the takeoff of the DAB market I think is vindication of that strategy'. So he's not going to budge - amusingly though he did offer this, 'I've often wondered about going more on the front foot with this, but it's not an argument I can win with many people....I do have slight audiophile aspirations, one of the most cutting things that was ever written about me on one of these anti-DAB pressure groups was 'Simon Nelson, bit-rate-monger extraordinaire and allegedly owner of a £100 Alba midi system'. I have Arcam and Denon and stuff like that -I'm a bit higher up the chain!'

Other announcements which rendered previous witterings moot this month included the confirmation that Sony BMG have actually committed the pointless and wilful Dual Disc down-conversion of a title which was previously available as a BMG DVD-Audio, which I hinted as being likely last month. Britney Spears' fine 'In The Zone' DVD-A would have been ideal for release as maybe a down-sampled MLP Dual Disc à la Usher. But no, they had to rework it as a

Dolby Digital Dual Disc. If we had never experienced the joys of MLP this would have been quite novel as a surround music product, but after SACD and DVD-A it is such a retrograde step. I fully expect the last mainstream Sony SACD to be the about to surface, long in development 'War Of The Worlds'. I never thought I'd say that I wish they'd get back into it, (whither SRV's 'Couldn't Stand The Weather' in surround? Long completed, presumably destined for good old Dolby Digital 5.1 if anything at all...), but I really do.

Meanwhile my unkind (to Dire Straits) contention of 'Brothers In Arms' as something we have maybe heard enough of is not enough to stop its imminent release as a 20th Anniversary SACD. I for one am quite keen to listen again (it's been a long time unusually for me I have never owned the CD!), particularly to hear how they have managed to deal with taking a 16bit digital recording (albeit a legendarily good one) into the high resolution digital world. Those with patience may be interested to hear that in keeping with the bi-partite handling of Knopfler's solo hi-res releases, MK's manager tells me that there are plans to follow the European SACD with either a CD/DVD-Audio double pack or a Dual Disc (if the boss man decides he is happy for his baby to be released in that form) in the US in a few months. It would be interesting if Bob Ludwig repeated 'The Nightfly' trick and kept this seminal digital recording in its original sampling rate, rather than working from analogue tape and using a higher sampling rate transfer à la 'Kamakiriad'. We shall see.

# world classics

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!

# DIGITAL

CAMBRIDGE AUDIO CD11986 [£1500] Inspired Stan Curtis redesign of Philips CD104, complete with switchable digital filter. Lean but tight and musical performer.

# **CAMBRIDGE AUDIO**

1998 [£200] CD4SE

A touch soft in the treble and tonally light, but outstanding in every other respect.

### LINN KARIK III

1995 [£1775]

The final Karik was a gem. Superb transport gives a brilliantly tight, grippy dynamic sound, albeit tonally dry.

#### **MARANTZ CD73** 1983 [£700]

A riot of gold brushed aluminium and LEDs, this distinctive machine squeezed every last ounce from its 14x4 DAC -super musical



#### MARANTZ SA-I 2000 [£5,000]

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



#### 1988 [£995] **MERIDIAN 207**

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

# **MUSICAL FIDELITY**

2002 £4000 **TRIVISTA** 

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

#### **MERIDIAN MCD** 1984 [£600]

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



## **NAIM CDS**

1990 [£ N/A]

Classic Philips 16x4 chipset with serious attention to power supplies equals grininducing sonics.



### SONY CDP-101

1982 [£800]

The first Japanese CD spinner was powerful and involving. Brilliant transport more than compensated for 16x2 DAC, and you even got remote control!

# SONY CDP-RI/DAS-RI 1987 [£3,000]

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



#### 1984 [£890] SONY CDP-701ES

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 paperbook-sized remote control.

#### 1983 [£340] YAMAHA CD-XI

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

# COMPACT DISC **TRANSPORTS**

# TEAC VRDS-TI

1994 E£6001

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



#### 1997 [£8,000] **ESOTERIC PO**

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

#### KENWOOD 9010 1986 [£600]

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

# **DACs**

DACMAGIC

**CAMBRIDGE AUDIO** 

1995 [499]

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



### DCS ELGAR

1997 [£8500]

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



# **DPA LITTLE BIT 3**

1996 [£299]

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



# **PINK TRIANGLE**

DACAPO

1993 [£ N/A]

Exquisite; the warmest and most lyrical 16bit digital audio we have ever heard. Clever plugin digital filter modules really worked!



# OFD DIGIT

1991 [£90]

Budget bitstream performer with tweaks aplenty. Positron PSU upgrade makes it smooth, but now past it.

# **TURNTABLES**

ARISTON RDIIS

1972 **[£94]** 

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

PIONEER PL12D [1973] 436
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

**DUAL CS505**Simple high quality engineering and a respectable low mass conearm made for a

brilliant budget buy. Polished, smooth and slightly bland sound.

GOLDRING LENCO

88/89 1963 [£15.6S] Simple, well engineered middleweight with soft, sweet sound and reasonable tonearms. Good spares and servicing support even today from specialists.

LINN AXIS

1987 [£253]

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

For many, the Brit superdeck; constant mods meant that early ones sound warmer and more lyrical than modern versions.

Beguilingly musical but now off the pace.



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

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



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

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

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



ROKSAN XERXES 1984 [£550] Supposedly the first to 'better' the 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.

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-dimensional sound, ultimately limited by the tonearm.

# **TONEARMS**

**AUDIO TECHNICA** 

ACOS LUSTRE GST-I 1975 [446] The archetypal S-shaped seventies arm; good, propulsive and involving sound in its day, but ragged and undynamic now.

AT 1120

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

ALPHASON HRI00S 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 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 inoffensive sound.

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 LVIII version worth seeking out.

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



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

# INTEGRATED AMPLIFIERS/COMBOS DELTEC 1987 [£1900]

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

### ROGERS A75

1978 [£220]

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

EXPOSURE VII/VIII 1985 [4625]

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



SUGDEN C51/P51 1976 [£130]

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

# YTL MINIMAL/50W MONOBLOCK

1985 [41,300]

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

# A&R A60 1977 [£115]

Sweet and musical feature-packed integrated; the Audiolab 8000A used its blueprint to great effect.



CREEK CAS4040 1983 [£150]

More musical than any budget amp before it; CAS4140 loses tone controls, gains grip.

AUDIOLAB 8000A 1985 [£495] Smooth integrated with clean MM/MC phono stage and huge feature count. Extremely reli-

able, too. Post '93 versions a top used buy.



MCINTOSH MA6800 1995 [£3735]

Effortlessly sweet, strong and powerful with seminal styling to match.

SUGDEN A21 1969 [£ N/A]

Class A transistor integrated with an eminently likeable smoothness and musicality. Limited inputs via DIN sockets.

# MISSION CYRUS 2 1984 [4299]

Classic eighties minimalism combines arresting styling with clean, open, lively sound. Further upgradeable with PSX power supply.



MUSICAL FIDELITY AT 1985 [£350]

Beguiling Class A integrated with exquisite styling. Questionable reliability.



NAIM NAIT 1984 [£350]

Superb rhythms and dynamics make it truly musical, but tonally monochromatic. Fine phono stage, very low power.

NAD 3020 1979 [£69]

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



MYSTTMA3 1983 [£300]

Madcap eighties minimalism, but a strong and tight performer all the same.

ROGERS CADET III 1965 [£34]

Sweet sounding valve integrated, uses ECL86 output valves, even has a half useable phono stage, sweet, warm a good introduction to valves



ROTEL RA-820BX 1983 [£139]

Lively and clean budget integrated that arguably started the move to minimalism.



AUDIOLAB 8000C 1991 [£499]

Tonally grey but fine phono input and great facilities make it an excellent general purpose

AUDIO RESEARCH SP-81982 [£1,400]

Beautifully designed and built high end tube preamplifier with deliciously sweet and smooth sound. Not the last word in incision or grip, but that didn't matter to those who aspired to it.

## **CONRAD JOHNSON**

MOTIV MC-8 1986 [£2,500]

Minimalist FET-based preamplifier from the Yank valve specialists is brilliantly neutral and smooth with a spry, light balance in the mould of Sugden high end stuff. Something of a curio, but worthwhile nonetheless.

CROFT MICRO 1986 [£150]

Budget valve pre-amp with exceptionally transparent performance.

# LEAK POINT ONE STEREO

1958 FE N/AT

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-I 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 NAC32.5 1978 [£ N/A]

The Salisbury company came of age with this, their classic high end pre. Brilliantly fast and incisive sound that's a joy with vinyl but a tad forward for digital.

LECSON AC-1 1973 [£ N/A]

Amazing styling courtesy of Allan Boothroyd can't disguise its rather cloudy sound, but a design classic nonetheless.



QUAD 22 1958 [47

The partner to the much vaunted Quad II monoblocs - cloudy and vague sound means it's for anacrophiles only.

QUAD 33 1968 [£43]

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

# **POWER AMPLIFIERS**

LEAK STEREO 20 1958 [431]

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



LECSON API 1973 [£ N/A]

Madcap cylindrical styling alluded to its 'tower of power' pretensions, but it wasn't. Poor build, but decently clean sounding when working.

MARANTZ MODEL 9 1997 [£8000]

Authentic reproduction monoblocs still more than cut the sonic mustard. Highly expensive and highly sought after.

**MICHELL ALECTO** 1997 [£1989]

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

LEAK POINT ONE, TLIO, 1949

TL12.1 Early classics that are getting expensive. Overhauling is de rigeur before use, using original parts if possible. Surprisingly crisp

and musical sound, that's far more modern than Quad IIs. Deeply impressive when in



**MUSICAL FIDELITY** 

1996 [£1000PR] **XA200** 

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



# **RADFORD STA25 RENAISSANCE** 1986 [£977]

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



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** 

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

1968

[£55]

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

PIONEER M-73 1988 [£1,200]

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



# **PHONO STAGES**

CREEK OBH-8 SE 1996 [£180]

Punchy, rhythmic character with oodles of detail makes this a great budget audiophile classic. Partner with a Goldring G1042 for an unbeatable budget combination.



# **LINN LINNK**

1984 [£149]

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

**MICHELL ISO** 1988 [£ N/A]

This Tom Evans-designed black box started the trend for high performance offboard phono stages. Charismatic, musical and punchy - if lacking in finesse.

# TUNERS

**MARANTZ ST-8** 1978 [£353]

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



CREEK CAS3140

1985

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

**NAD 4040** 

1979 [£79]

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

NAIM NATO3

1993 [4595]

The warm, atmospheric sound is further proof of Naims 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** Series I an interesting ornament but limited

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



YAMAHA CT7000

1977 [£444]

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

**OUAD FM4** 

1983 [£240]

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



REVOX B760

1975 [£520]

More of a semi-pro machine than a domestic bit of kit, the Revox offers superlative measured performance although the sound isn't quite as staggering as the numbers. Fine nonetheless, and surely the most durable tuner here?

NAD 4140

1995 [£199]

Brilliant affordable digital tuner has a smooth, detailed musical sound plus sensible realworld facilities.

ROGERS T75

1977 [£125]

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

SANSUI TU-9900 1976 [£300]

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

SONY ST-5950 1977 [£222]

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



**TECHNICS ST-8080** 

1976 [4180]

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

# **ANALOGUE RECORDERS**

YAMAHATC-800GL 1977 [£179]

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



AIWA XD-009 1989 T£6001 Aiwa's Nak beater didn't, but it wasn't half

bad nonetheless. Massive spec even included a 16x4 DAC!

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



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



**REVOX A77** 1968 [£145] The first domestic open reel that the pros

used at home. Superbly made, but sonically off the pace these days. B77 better, but couldn't match the Japanese.



#### SONY WM-D6C 1985 [£290]

Single capstan transport on a par with a Swiss watch, single rec/replay head better than most Naks. Result: sublime.



# DIGITAL RECORDERS

SONY MDS-JE555ES 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.

SONYTCD-8 DATMAN 1996 [£599]

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

# LOUDSPEAKERS

ACOUSTIC RESEARCH

ARI8S 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 [488]

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.

### TANNOY WESTMINSTER

1985 [£4500]

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



JR 149 1977 [£120]

Infamous cylindrical speaker that was ignored for decades but now back in fashion! Based on classic KEF T27 / BI 10 combo as seen in the BBC LS3/5a. Doesn't play loud, needs a powerful transistor amplifier, but rewards with fine clarity in imaging,





SPENDOR BCI 1976 [£240]

Celestion HF1300 tweeter meets bespoke Spendor Bextrene mid-bass unit - and the result is a beautifully warm yet well focussed sound. A little bass bloom necessitates careful low-stand mounting, but these prove that the seventies did have some fine designs after all!

#### OUAD ESL57 1956 **Г£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.



[£785]

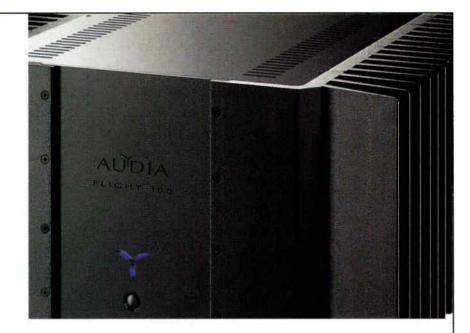
Three way Bextrene-based floorstander (complete with castors!) gave a truly wideband listen and massive (500W) power handling. A very neutral, spacious and polite sounding design, but rhythmically well off the pace. The quintessential nineteen seventies loudspeaker.

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.

# To hear the fine detail you some times need a little **muscle**











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# MAGNEPLANAR SMGA198X [£800]

Technological loudspeaker with genuinely musical abilities; fast, smooth, open, dry.



# MISSION 770

1980 [4375]

Back in its day, it was an innovative product and one of the first of the polypropylene designs, warm, smooth, clean and powerful sound.



# MISSION 752

1995 [£495]

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

# HEYBROOK HBI

1982 [£130]

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



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



# **LEAK SANDWICH**

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 electro-



# 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!



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Arcam CD82T CD Player (2Yr G/tee)	£399.00	Naim NAC102 Preamplifier S/H (1Yr G/tee) (1175.00)	£799.00
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Arcam FMJ AV8 Preamplifier THX Ultra (2Yr G/tee) (3149.00)	£2190.00	Naim NAC 82 Preamplifier S/H (1Yr G/tee) (2500.00)	£1575.00
Arcam FMJ P7 7 Channel Amplifier (2Yr G/tee)(2599.00)	£1795.00	Naim 250 Power Amplifier S/H (1Yr G/tee)	£895.00
<b>B&amp;W 703</b> Speakers - Cherry (2Yr/Gtee)	£1399.00	Naim XPS Power Supply - New casework(2100.00)	£1575.00
B&W Nautilus Signature 805 - Tigers Eye (2Yr/Gtee) (2500.00)	£1675.00	Naim NBL Speakers - Beech (2Yr G/tee)	£3795.00
<b>Denon AVR 2803</b> AV Amplifier (1Yr G/tee)	£399.00	ProAc Studio 125 Speakers Maple (2Yr G/tee) (999.00)	£699.00
Linn Ikemi CD Player - Blk S/H (1Yr/Gtee)	£1495.00	Pioneer DVR3100* DVD Recorder/Player (1Yr/Gtee) (349.00)	£219.00
Linn Majik Phono Amplifier S/H (1Yr G/tee) (945.00)	£625.00	<b>Sugden CD21</b> CD Player (1Yr G/tee)	£759.00
Linn Kairn Pro Line Preamp S/H (1Yr G/tee)(1400.00)	£599.00	Sugden A21a Integrated Amplifier (1Yr G/tee) (949.00)	£675.00
Linn Trikan Centre Spkr - maple (2Yr G/tee)(549.00)	£299.00	<b>Sugden A21p</b> Power Amplifier (1Yr G/tee)	£575.09
Linn Exotik Preamplifier (2Yr/Gtee)	£1350.00	Vibe Zeta SubWoofer (2Yr G/tee)	£399.00

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# world standards

These are the best products we've heard that are currently on sale in the UK, complete with the date they were originally launched and their current retail prices. Watch out for regular updates...!

# **TURNTABLES**

ANTTI/ARM ONE/IQI 1998 £725
Redesigned Systemdek IIX now off the pace, but the arm and cartridge are both star performers.

LINN LP12/ LINGO 1973 £2100
The quintessential belt drive superdeck offers a beguilingly musical midband at the expense of lumpy bass and nebulous imaging. Latest Lingo brings a new lease of life, with even more punch and polish.

MICHELL TECNODEC 2003 2575
Superb introduction to Michell turntables on a budget. Top quality build and elegant design make it the class of the mid-price field right now.

MICHELL GYRODEC SE 2002 £870
Its beauty is more than skin deep - superbly build and finish allied to clever design equals class leading performance. Latest DC motor with 'Never Connected' PSU make it all the more unassailable.

MICHELL ORBE SE 2002 £1916
Cost-no-object evolution of the Gyro adds
massy acrylic platter and two-stage isolation.
Fantastically capable all rounder with commanding, powerful, detailed sound that gets
the best from almost any arm and cartridge



PRO-JECT DEBUT II
PHONO SB 2002 £170
Fuss-free all in one starter turntable, com-

Fuss-free all in one starter turntable, complete with built in phono stage. Not a star performer, but a fine midi system upgrade all the same.

**REGA P3**Great entry level audiophile deck with fine bundled tonearm. Tweakable, and responds well to careful siting on a Base platform.

REGA P25

Until the TecnoDec, the best mid-price turntable package. Fine build and elegant styling. Clean, open sound but limited at frequency extremes in absolute terms.

SME MODEL 10A 1995 £3333
Exquisitely engineered deck and arm combo, but dry and clinical sounding compared to rivals. Accomplished performer with classical music, nonetheless.

## CLEARAUDIO REFERENCE 1996 64,070

Fine bass articulation and power allied a stunningly open and atmospheric midband and beautifully etched treble makes this one of the very best sounding turntables at any price. Michell's Orbe offers marginally more impactful bass, but can't touch that amazing mid. Exquisite.

ORIGIN LIVE AURORA
GOLD 2004 £1,470
Seminal 'entry level high end' deck showing
Mark Baker's characteristically obsessive
attention to detail. The result is an extremely
wide open and natural sounding machine that
lacks the Michell GyroDec's slightly 'mechanical' nature – along with some of its scale and
accuracy. Ideal for those seeking that classically beguiling vinyl sound.



GOLDRING GR-I 2004 £140 Essentially a Rega P2 built down to very low price and bundled with a decent Goldring MM, this is cracking value for money. Head and shoulders above its immediate rivals, it offers a surprisingly musical and detailed sound that will stun those new to vinyl – which is precisely what it was designed to do.

THORENS TD190 2003 £290 Ease of set up and use, allied to fully automatic operation mean that, although hardly the last word in performance, this deck is most certainly a model of convenience.

ROKSAN RADIUS 5 2003 C750
Fantastic value allied to intelligent, interesting and 'out of the box' design makes for a wonderful entry-level superdeck. Open and musical sound is more inviting that Michell TecnoDec rival, and the bundled Nima Unipivot arm is a superstar.



MICHELLTECNOARM A2003 £399

John Michell's brilliant reworking of the Rega RB250 theme, using blasting and drilling techniques usually seen in motorsport! The result is the best sounding arm at £400, and as good as most at four times the price. Runs SME V very close in all except bass, and betters it for musicality, Stunning.

ORIGIN LIVE AURORA 2003 £1600 Cleaner than a Linn LP12 and warmer and more mellifluous than a Michell GyroDec but lacks the latter's incision and dimensionality. When fitted with an OLI arm, this package is all many will ever want...

CLEARAUDIO REFERENCE 2003 £4,000
The company's best value vinyl spinner; good enough to get the best from almost any tonearm and cartridge combination. Brilliantly open and neutral sound; superlative pitch stability; stunning build and styling — Michell Orbe does most of this at half the price,

# **TONEARMS**

TECHNICS SL1200/III 1973 £395 Slick build makes it a respectable performer, although the cheapo arm limits it - fit a Rega RB250 and it's suddenly a serious mid-price machine.



HADCOCK 242 SE 2000 £649
Latest of a long line of unipivots, with added mass, revised geometry and better finish.
Musical like few others at or near the price.

LINN EKOS 1987 £1700
Subtle mods over the years, including revised bearings and the recent new wiring has kept it a serious contender in the superarm stakes. Lacks the SME's slam, the OL's clarity or the ARO's emotion, but has a feisty musicality all of its own.

ORIGIN LIVE
ILLUSTRIOUS

2002 £1570

A modern superarm with battleship build.

Extremely strong, even and open sound in the mould of the late, lamented Zeta, plus



fine tonal colouring. Exquisite.

NAIM ARO

1987 £1425

Charismatic unipivot is poor at frequency extremes but sublime in the midband; truly emotive and insightful.

**ORIGIN LIVE SILVER 2502001** 

This fully developed and expertly fettled Rega boasts a superbly even, transparent and tuneful sound. Gives away only a small degree of finesse and dimensionality to top arms.

**REGA RB250** 1984

Sold through Moth Marketing, this is capable far beyond its price point, with a tight, lean and detailed sound. Responds brilliantly to Origin Live counterweight modification, and well to rewiring.

**SME 309** Entry level SME complete with cost-cut alu-

1080 €767 plience ensures maximum information

minium armtube and detachable headshell. Tight, neutral sound with good tonality, but lacks the IV's pace and precision.

**SME SERIES IV** 1988 £1127 Offers nine tenths of the SMEV's magic at

just over half price. Exquisitely built and finished, and a design classic. Faces stiff competition these days, but lovely nevertheless.

SME SERIES V 1987 £1614

The so-called Best Pickup Arm in the World isn't, but comes close. Vice-like bass with incredible weight, ultra clear midband and treble. Does everything except beguile the listener.

# **CARTRIDGES**

ORTOFON KONTRA' B 1999 €720 Surprisingly articulate performer by Ortofon standards. All the brand's usual polish and detail allied to real vim. Loves making music!



AUDIO TECHNICA AT-110 1984 £29 Great starter cartridge that's refined, detailed and musical beyond its price.

**DYNAVECTOR DVIOX5 2003** A distant descendent of the classic Ultimo IOX, this has warmth and sweetness in spades, allied to a punchy bass. Beats G1042 comfortably.

**GOLDRING G1042** 1994 €135 One of the best MMs going, with sweet and extended treble and punchy, muscular bass.

LYRIA LYDIAN BETA 1998 An altogether more beguiling listen than the MC30S, although not quite as incisive. Superb all rounder, nonetheless.

**SUMIKO BPS** 1995

Charismatic performer with rhythm aplenty, but in other respects way off the pace lacks smoothness and sophistication of the DVIOXS.

LYRA PARNASSUS DCT 1997 £1895

Jonathan Carr's masterpiece is a brilliantly lyrical and fluid performer, with a deliciously sweet tone and immense subtlety and polish.

ORTOFON MC25FL 1994 Strong budget MC with a cleaner and more detailed sound than the Dynavector; more

sterile and less emotive, however.

ORTOFON MC30 SUPR' 1995 Beautifully clean and detailed device with real

finesse, albeit a tad mechanical sounding.

DYNAVECTOR DV20X-H2003 6395

The best modern budget MC combines deliciously sweet sound with fantastic get-upand-go. High output version works a treat with valve phono stages too.



MUSIC MAKER 1999

When mated with a good quality arm, this hand finished high-output pick-up gives an ear-boggling account of itself. Very high comretrieval. An absolute (grain orientated) gem.

SHURE VISXMR 1994 The most musical MM yet made - brilliantly

dynamic and punchy in the classic Shure mould, yet refined and tidy too.

**KOETSU RED 2004** 

Although the new Koetsus have lost some of their 'romance', you'll not hear a more lyrical and emotive performer. Startlingly 'analogue' nature makes rival Ortofons and Clearaudios sound frigid.

ORTOFON KONTRA

PUNKT C 2004 £1,000

The most secure tracking MC we've heard; its super clean, fast, detailed and neutral sonics make it a brilliant partner to warmer sounding turntables.

# **DIGITAL DISC PLAYERS**

CREEK CD50II

2004 Extensive revisions make this an altogether more beguiling machine, and one of the best at its price. Extremely musical sound that's surprisingly upfront for a Creek design. Excellent mid-price purchase, with only its Marantz rival to challenge it.

CYRUS CDR 2003 €1000

Highly incisive, engaging, grippy and dynamic sound, but needs careful matching to smooth ancilliaries. Optional PSX-R adds bass and dimensionality.

LINN GENKI 1999 €995

Undeniably fast, lithe, musical and fun - but some won't take to its dry, wry character. Works best in all-Linn systems, where it really rises to the challenge!

ARCAM FMI CD33T 2003 €1.300

Superbly detailed midband allied to excellent bass extension makes this a powerfully musical machine in the best traditions of Arcam CD spinners. Nothing to criticise at the price, everything to recommend it!



**LINN IKEMI** 1999 £1950

Has the brilliant focus and clarity of the previous Karik III with a dose more tonal richness and polish. More grip and poise than most at any price - still superb!

6800 MARANTZ CD17 II 2002 Oft-overlooked middleweight boasts a truly beguiling sound with lots of tonal flavour. Sits awkwardly between the £600 and £1000 price points, where some brilliant value buys reside, though.

NAIM CDX2-XPS2

2003 £4950

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

NAIM CDS3 2003 £7050

The most polished Naim CD to date; tremendously capable and musical, but lacks the Rotweiler quality of the cheaper CDX2-

PHILIPS DVD963SA 2003 £400

Creamy CD sound allied to superb SACD and DVD video playback makes this brilliant value for money.

**REGA PLANET** 2002 €498

Rhythmic and beguiling performer, although lacks the warmth of tone needed to better its Marantz rival. Superb ergonomics and design, nonetheless.

MARANTZ SA-17S1 2003 £1400

Brilliant CD playback comes close to the best at any price, while SACD performance is almost as convincing - superbly warm and three dimensional nature makes listening a joy. However, the lack of DVD-Audio decoding and poor feature count makes it look middling value compared to some of the universal players here.



**REGA IUPITER** 2002 £1000

A Planet on steroids, this machine adds depth and breadth to its baby brothers already impressive sound. Good, but facing stiff competition.

MUSICAL FIDELITY TRI-VISTA21 DAC

2003 €1.200

Superbly neutral and expansive sound makes this offboard digital-to-analogue convertor an excellent upgrade to any mid-price CD player - fed by a decent transport, few 16bit players at any price come close.



**CAMBRIDGE AUDIO 640C** 

2003 €250

Tremendously well-rounded yet engaging sound makes this the best budget silver disc spinner by far. Build quality is excellent at the price, and the styling bang up to the minute. Blistering value for money.

CREEK CD50II 2004 €699

Extensive revisions make this an altogether more beguiling machine, and one of the best at its price. Extremely musical sound that's surprisingly upfront for a Creek design. Excellent mid-price purchase, with only its Marantz rival to challenge it.

**DENON DVD-2200** 2003 €499

Superb do it all mid-price player; fine DVD-A and SACD sound allied to excellent video performance will be all many could ever want. Ultimately it's a little bright and mechanical sounding, but you have to go into high end territory to truly better it. Stunning value.

92

#### PANASONIC DVD-S75 2002 €120

Real ability and fine measured performance for an unbelievably low price. Impressive in its own way, if not truly audiophile. If you just want a cheap DVD spinner with DVD-Audio as a bolt-on goodie, this is the one.

#### PIONEER DV-868AVI 2003 £799

Pioneer's most accomplished mid-price machine to date this hoasts full DVD-A/SACD playback, a welter of facilities and the all-important HDMI video and I-Link audio digital outputs, making it nigh-on future-proof. Factor in fine - if not outstanding - sound and superb pictures and it's practically impossible to fault.

#### SONY SCD-XB790 2003 £250 Quite unlike any other budget Sony CD spinner we've heard, here's a very 'analogue' sounding machine that's smooth and warm and even. Factor in fine SACD playback and this machine is a brilliant budget buy - unless

you want DVD-Audio that is, which it lacks.



#### ORELLE CD100EVO 2003 £1,200

Extremely engaging and musical sound, but maybe a tad too bracing for some tastes. Superb aesthetics complete an attractive package.

#### ARCAM CD73 2004 £400

The best all rounder at the price; unfailingly smooth and couth sound allied to fine build and attractive styling makes this a worthy upgrade to entry-level designs.

#### **ARCAM DV78** €800 2004

We've not found a more capable 'real world' DVD player; peerless picture and CD sound at the price, although lack of universal playback will deter some.

#### ARCAM FMI CD33 2004 £1,300

Consummate smoothie with an unusually organic and natural sound, but lacks the command of some rivals, Its all round sonic, aesthetic and ergonomic polish will endear it to

# **CAMBRIDGE AUDIO**

AZUR 640C 2004 €250

The best budget CD spinner we've heard; warm and satisfyingly musical; fine build and aesthetics and that remote control make for unarguable package at the price.

#### DENON DVD-A11 2004 £1,600

Classic Japanese 'battleship' DVD universal machine does practically everything superbly, with no obvious weak points except the undistinguished CD sound. Top value.

# EXPOSURE 3010 2003 £1,200

One of the most 'analogue' CD players, second only to the Shanling. Wonderfully beguiling balance leaves you looking for the tube output stage.

# LINN CLASSIC MOVIE

SYSTEM DI 2002 £2,500

Superb ergonomics and performance from this one-box beauty. The best 'home theatre in a box' you can buy..

#### 2004 £6,500 LINN UNIDISK 1.1

Surely the ultimate universal DVD player; superb in every department, but its CD playback shines brightest considering it's not a bespoke Red Book machine.

## MARANTZ CD7300

2003 £350

Superlative build and styling for the money, and the sound is as good as you'll get below £600. Smooth, detailed and engaging beyond its price.

## MUSICAL FIDELITY X-RAY V3

2004 €900

Striking looking mid-price stormer with very even, accurate and even sonics; perfect for those seeking detail and neutrality over character and/or colour.

#### NAIM CD5I 2004 €825

The most engaging mid-price CD player on the market, but with a surprisingly velvety sound. Delightful build and iconic styling make this one of Salisbury's true classics.

### PIONEER DV-8681

The best mid-price universal player right now; CD sound is respectable, SACD and DVD-A impressive and the video truly special. Does everything very well for the price.

### SHANLING SCD-T200C 2004 £2,150 Superb SACD player with tube output stage;

arresting looks and truly special sound; be sure to go for 3DAcoustics version for best sound and UK aftersales support.

#### SONY SCD-XA3000ES 2003 £600

Surprising mid-price SACD spinner with multi-channel capability; sweet sound; not the best at the price but certainly the most versatile.

# SONY SCD-XA9000ES 2003 £1,600

Slick, beautifully built high end SACD player with very transparent, if rather dry, sound. Unexpectedly sweet CD playback but not the most gripping at the price.

#### STELLO DP-200 2004 £1,495

Brilliant do-it-all upsampling DAC preamp with headphone output and phono in. One of the best digital to analogue convertors around, allied to mind-boggling flexibility.

# **DIGITAL RECORDERS**

#### APPLE IPOD 40GB €399

Genre-defining best of breed, thanks to supreme ergonomics and build allied to fine sound.

#### PIONEER PDR-609 2001 €200

Brilliant value CD recorder that makes excellent recordings from its digital inputs. Half decent digital converters, too.

#### PHILIPS DVDR880 2003 £370

Poor CD audio playback, but makes great DVD video recordings and boasts fine ergonomics. Top AV value.

#### **SONY RCD-W3** 2002 €250

Usual superb Sony ergonomics make for nononsense budget buy. Fine direct digital copies, but analogue input poor. Middling sonics, but there's a digital output!

# YAMAHA CDR-HD1300E2002

HD means MD-style ease of editing, but compromises recording quality ever-so slightly. Add decent CD replay and it's a fine all rounder nonetheless - top value.

# 

#### **ONKYO MB-SI** 2001 £1100

An interesting machine complete with MP3 functionality, but high price, fussy ergonomics and over-smooth sound make it mediocre value against the Yamaha.

# **PHONO STAGES**

CREEK OBH-21SE 2003 €250

Musically enjoyable yet highly refined for the price - a superb buy. Gives the Dino a real

### 1993

Classic tube design with a deliciously warm and expansive sound - shame about the loose bass and veiled treble!

#### 2000 LINN LINTO €900

A musical and incisive performer, with more speed than the Delphini at the expense of detail and tonal colour.

#### OED DISCSAVER 1995

Rhythmic, bouncy sound via battery, although it's bright and forward. Great value, but £100 more on the X-LP is well worth it!

#### TRICHORD DINO 2002 £299

Great all rounder with switchable MM/MC. Fast, fluid and smooth like no others at the

# TRICHORD DELPHINI 2003

The very latest 'Never Connected' variant is easily the best, bringing velvety smoothness to an already refined and engaging performer. Neutral to a fault - some will mourn the passing of the charismatic ISO.

### MUSICAL FIDELITY XLPSV3

2003 £249

Fine all rounder at the price, which a satisfyingly full bodied sound that's smoother than the Creek but a tad less engaging. Only Trichord's Dino, with its easy upgradability for just £50, reflects badly on this fine bit of

### PROIECT PHONOBOX LE2004

Great little box that improves on most bundled phono stages found in budget integrated amplifiers, adding detail and definition and a measure of smoothness too. If £100 is all you're prepared to spend, then do it happily on this, but you'll get obviously better results from the £250 brigade.

# WHEST AUDIO PS.20

/MSU.20

2004 £1,000

Disarmingly clean, smooth, open sound makes this the very best phono stage we've auditioned to date, but some will still prefer the gutsier feel of the Trichord Delphini.

# GRAHAM SLEE ERA GOLDV 2004 £460

Wonderfully warm, open and musical nature makes this an essential audition for those wanting a top value mid-price phono stage.

# **AMPLIFIERS**

# ARCAM DIVA A65 PLUS 2002 £370

Classic budget Arcam fare - decently sweet and open with sensible facilities and plenty of power.



#### ARCAM FMI A32 2001 £1150

For those who value serious power and labyrinthine facilities over outright clarity or grip. A very impressive all rounder with an unusually muscular power amp at this price.

# AUDIO NOTE OTO SE 2000 £1199

This baby tuber is beautifully sweet and creamy, but lacks solid-state's clarity, detail and incision. Low, low power means speaker

# AUDIO NOTE SORO SE 2000 £1699

Wonderfully out-of-the-box sounding tube middleweight is all about sweetness and fluidity. Limited power and loose bass, but little the worse for it.

CYRUS 6

2003 **4600**  **NAD C352** 2004 €300

Classic NAD mix of smooth, punchy sound with plenty of watts and sensible, real-world facilities; a great introduction to real hi-fi.

2004

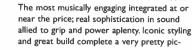
€825

ability and stunning style and build. CYRUS 8 2003 **/800** NAIM NAIT 51

Unusually warm and lyrical for a solid-stater, with decent power and punch. PSX-R adds dynamics, detail and dimensionality.

Cracking do-it-all mid price design, bringing

svelte sound, good connectivity and upgrade-



NAIM NAC282/NAP200 2004 £4,000 Wonderfully taut bass, lightening midband and incisive treble makes for an enthralling

listen; this cracking combination looks great

PRIMA LUNA PROLOGUE I 2004 £800 Unlike almost every other budget tube integrated we've tested, it's nicely built, decently powerful and engineered well enough to let the benefits of tubes shine out load; sweet, open, liquid. Cracking value.

STELLO S200 2004 £1,495 Oodles of smooth, clean power with plenty of pace and pleasing subtlety too. Factor in exquisite build and a low price and this is true audiophile bargain.

# **AV AMPLIFIERS**

and is superb value too.

**DENON AVR-2803** 2003 £650 Superb mid-price 7.1 channel extravaganza with nearly all the decoding power you'll ever need. Powerful, open and clean sound (at the price) makes it capable with music. and superb on movies. Fine ergonomics and great build makes this receiver hard to beat as an all-rounder.



NAIM AV2/NAP

150/NAPV 175 2002 £4,190 Brilliant audiophile multichannel pre-power amplifier combo; not as good with music as a two-channel Naim set-up at the same price, obviously, but surprisingly close. Elegant control layout plus a strong, clean and brilliantly engaging sound make this a serious crossover product. Ultimately lacks power compared to similarly priced Arcam gear, but is more musically involving.

PIONEER VSA-AX5I 2004 £1,000 The ability to hook up to Pioneer's DV-868i via i-Link (nee FireWire) means that this multichannel AV amplifier can do all the digital conversion onboard makes the a very special product, which when used with the aforementioned DVD spinner sounds better even than the sum of its parts.



# **HEADPHONE AMPLIFIERS**

SUGDEN HEADMASTER2003 Unusual combined preamplifier and headphone amplifier, this boasts a surprisingly smooth and open sound which suffers only when compared to preamps at twice the

MUSICAL FIDELITY X-CANS V3

2003 €249 Mr Michaelson's best headphone amplifier to date, with an extremely open and explicitly detailed sound plus serious bass wallop and the ability to drive any phones to very high levels. Errs towards brightness with some headphones, so match carefully and use smooth cables.

# **PREAMPLIFIERS**

CREEK OBH-12 2000 €220 Brilliant value budget passive, giving little away in sonics to far more expensive designs. Connectivity and build aren't great, but what do you expect at this price?



MF AUDIO PASSIVE PRE2003 Novel and effective pre with switchable gain via a transformer, and balanced operation. Open and incisive sound, yet makes most active rivals sound edgy by comparison.

NAIM NAC112 2002 2660 Affordable admission ticket to the Salisbury high end experience. Detailed and dynamic, if tonally rather lacklustre.

LINN LK 140 2000 6800 Dry and grey sounding, but decently dynamic and musically engaging all the same. A worthy

worker in a budget Linn system. MUSICAL FIDELITY

A308 CR 2003 €2400 Superb transistor behemoth, worth partnering with any high end CD player or preamp. Oodles of grunt served up with poise and purpose.

MARANTZ SM-17 2001 £700 Useful budget power amp with plenty of clean transistor power. Not the most transparent, but sweet and clean all the same. Fine build completes a great value package.



NAIM NAP150 2002 £795 Driven by a decent source and a NAC112, this gives highly enjoyable results - providing you like the Naim sound! Taut, fast and feisty despite its relative lack of power.

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

CROFT TWIN STAR 2003 €1750 With a taste of the best of both tube and transistor, this latest update of the Croft classic is a truly endearing experience.



MERIDIAN 551 1994 1895

Evergreen middleweight is a serious performer even now. Tonally a tad dry, it's still very smooth and svelte with bags of power, detail and grip. Class act.

SUGDEN A21A 1993 £1020

The most musical amplifier at the price, bar none. Delicious Class A sound is smooth, sweet and wonderfully transparent with true tonal colour. Low power, so match carefully,

AUDIO RESEARCH VSI552003 £2,895 The Naim NAP250's tubular alter ego; oodles

of power allied to a strong bass and smooth open midband makes this a brilliant all round amplifier. Lacks the subtlety and finesse of the low powered single-ended brigade but makes up for it with sheer brio.

**CREEK ASOIR** 2004 **£550** 

Consummately smooth yet engaging sound makes it a serious player at the price, but don't expect Creek's traditional sumptuousness. Fine value nonetheless.

MONRIO MC207 2003 £1,100

Powerful, muscular sound allied to real finesse makes this unusual integrated an essential audition at the price.

MARANTZ PM-17MKII KI MODIFIED 2004 £1,500

Gloriously offbeat do-it-all design with a truly warm, smooth and three dimensional sound. Think of this as a latter-day Audiolab 8000a with a good deal more colour and finesse and you'll have its measure. Lowish power output at the price, but fine real world speaker driving ability.

UNISON RESEARCH S6 2002 £1,625 Tremendously musical and lithe sound with

real finesse and subtlety too. Very slightly upper mid forward encourages careful partnering with ancillaries (Revolver R45s are ideal), but overall fantastic value for money.



**ORELLE SAI00EVO** 2003 £1,200 Fine build, exquisite design and a wonderfully lucid sound make this an essential audition at

the price. MUSICAL FIDELITY X-150 2004 £800

Brilliant shoebox-sized powerhouse is sweeter and more mellifluous than Nait 5i, but less taut in the bass. Oodles of power, striking aesthetics, sensible facilities and great build make this a rare bargain

price.

**GRAAF GM20 OTL** 2003 £3,300

Awesome output transformer-less valve power amp gives dazzling speed and incision, with an ethereal soundstaging and delicious filigree detail. Tremendous punch belies its humble 20W power rating. Factor in one of the most exquisite finishes this side of an Aston Martin and it's very hard to say no...

### SUGDEN MUSICMASTER2003 £1,300

Quintessential Class A Sugden sound is not warm as many expect, but extremely neutral and open with real tonal colour. By comparison, tubes sound bloated and standard solidstate hazy and brittle. Superb when partnered with efficient loudspeakers like Revolver R45s, but many will find it underpowered.



# **LOUDSPEAKERS**

**B&W CDMI NT** 2002 £750

Fine clarity and imaging allied to pleasing warmth and great rhythmic cohesion make these standmounters an essential audition.

CASTLE CONWAY 3 2003 £930 Superbly smooth and crisp performers, with

a big hearted musical sound. Ultimately coloured though, with a slow, plummy bass.

**CYRUS CLS70** 2001 €800 Charismatic performer with a fast, tight and

open midband, but lacks cohesion and scale.. KEF OI 2003 €250

Highly polished and articulate standmounters at the price, but demand good ancillaries for best results.

KLIPSCH HERESY II 1997 £1100 An outstanding high sensitivity loudspeaker with midrange and treble horns coupled with

infinite baffie 12" bass driver. Effortless, fast and accurate.

**LINN NINKA** 2001 £995

Major on rhythms and dynamics, making them an involving listen. Reasonably refined, too - but tonally disappointing.

**EPOS ELS-3** Plenty of brio and a decent degree of refine-

ment makes this budget baby a fine value



MISSION 782SE ₹900 2003 Bright and tight design capable of brilliant

speed and grip, at the expense of warmth. Demands high quality, high powered ancillar-

MONITOR AUDIO B4 2003 £350 An unusually smooth and lucid performer at the price, and its 3-way design means it drives rooms well. Fine engineering, but build

and finish so-so.

**REVOLVER R45** 2003 £899

Wonderfully easy to drive floorstanders that are a dreamboat for tube amplifiers, and great for party-minded transistor users too. Great attack transients, fluid and musical bass and midband and couth treble make them

W'DALE DIAMOND 8.1 2001

Still the best baby budget standmounters around. Tight and grippy thanks to Kevlar drivers, but invariably limited in the frequency



MORDAUNT SHORT 9142082 €300

Warm, detailed and articulate performer, but a touch loose in the bass and veiled up top. Fine partner for budget valve amps.

**NAIM ALLAE** 2002 €1990

Taut and grippy like few others, this speaker majors on transient speed. Surprisingly smooth for a Naim box, with nicely etched treble. As always, tonally dry.

**QUAD ESL-988** 2001 £3400

Wonderfully neutral and self-effacing with sublime imaging and projection. Treble tacks extension, bass lacks weight - although the pricier 989 answers the latter resoundingly.

PERIGEE FK-IL 2002 £5000

Charismatic Aussie ribbon design with deliciously open mid and treble, allied to fine bass weight. The right room and ancillaries essential. Engaging, musical and powerful sound. Superb.

**TDK S-80** 2002 €90

Ingenious NXT multimedia sub/sat system has a wonderfully even and open sound - like baby electrostatics.



MARTIN LOGAN CLARITY

2003 £2,895

Supremely transparent and open with brilliant depth perspective and image projection. The midband is up there with the very best at any price, while the bass and treble integrate well but don't especially shine. Dynamically limited, with middling bass punch, but that's not the point - that deliciously fluid and intricate midband wins great respect.

TANNOY EYRIS DCI 2003 £699

The combination of dual concentric treble/midband drivers plus supertweeters make for a very spacious and expansive sounding loudspeaker, albeit one that's a little bright and loose in the bass. An excellent mid-price design well worth auditioning.

MONITOR AUDIO GR60 2002 £2,295

In some ways, these come close to Yamaha's legendary NS1000Ms, thanks to their tremendous clarity, great transients and 'fullfat' wide bandwidth performance. Bright and clean, but never fatiguing or uncouth. A truly accomplished all rounder that gives a real taste of 'super-fi' at a reasonably affordable price.

### TOWNSHEND MAXIMUM

2003 £800

Another brilliant niche product from Max, these ribbon aspirated supertweeters add space and atmosphere to any good high end loudspeaker, and more surprisingly perhaps make things more fluid and musical too. Superb affordable esoterica.

KEF Q4 2004 €400

Hard to argue with the value of this small footprint floorstander; very couth, even, dimensional and detailed sound works well in confined spaces and large rooms alike.

**ELAC FS207.2** 2004 €1.000

Deeply capable mid-price floorstanders, distinguished by superb JET ribbon tweeter which is unmatched by class rivals; engaging, slightly warm nature needs serious transistor power to sing.

EPOS M22 2004

Classic Epos blend of speed, attack, power and punch will delight rock and techno fans alike, but classical and jazz buffs will crave more colour and texturality.

MONITOR AUDIO S8 2003

Very few can rival this floorstander's all round ability; highly smooth, warm and three dimensional sound allied to an easy load and good sensitivity makes this hard to overlook.

REVOLVER RW16 2004

Outstanding standmounter with tonal accuracy and speed that totally belies its price; good sensitivity for a small box makes it great with valve amps too. A budget audiophile classic.

SPENDOR S3/5E 2004 **٤950** 

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

TOWNSHEND MAXIMUM 2003 £800

The best affordable supertweeter we've heard - you'd be amazed at the difference it makes! Classy ribbon design, flexible level settings, cool styling...

# **HEADPHONES**

JECKLIN FLOAT TWO 1998 €99 Wonderful panel-like sound from these eso-

teric-looking headclamps.

SENNHEISER MX-500 1999 619

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

SENNHEISER PX-100 2002

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



SENNHEISER HD-650 2004

Not the best headphone in the world, but a superb all round reference all the same. Very crisp, detailed and even sound allied to superlative build and fine comfort makes all most people will ever want. Cable upgrade yields great results.

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

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

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



DNM RESON £40/M

Neutral and transparent - a steal!

# TCI CONSTRICTOR 13A-6 BLOCK 2003

Top quality 'affordable' mains outlet block, with fine build and good sonics. Well worth the extra over standard high street specials, which sound coarse and two-dimensional by comparison.

NORDOST BLUE HEAVEN £150/M
Some of the fastest and most transparent cable around.



# **TUNERS**

# ARCAM T61 2002 £250

This sleek looking and refined sounding FM/AM tuner isn't the last word in musical involvement, but is fine value, nonetheless.



### ARCAM DT81 2003 £650

A fine radio, hampered only by its seriously compromised DAB medium. Probably the best DAB tuner ever, but one for Digital Radio enthusiasts only...

# CAMBRIDGE AUDIO

2003 £150

Fine ergonomics allied to great ease of use and respectable DAB sound makes this superb value.



# DENONTU-260L MK II 1998 £130

If you want the best FM sound at the lowest possible price, then this ancient tuner remains peerless after all these years. There are better analogue designs around, but are either near-impossible to find or are now long-deleted.

### CYRUS FM X £500

Great for Cyrus users, but its dry and precise sound can't match the best of the rest at the price. Worthy, nonetheless.



# MYRYAD MT 100 1999

One of hi-fi's nice surprises, this is a beauti-

fully designed and built bit of kit with a deliciously sweet and svelte sound which really does justify its high price.

# NAD \$400 2003 £600

Highly accomplished specialist high end analogue tuner with a deliciously open and lucid sound, but it can't quite match the Myryad all the same.

### PRIMARE T21

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2002 €60

Seriously accomplished design with mature sonics, great styling and fine build.



# **PURE DIGITAL**

DRX-702ES

2003 £249

Great with Digital Radio, but thin a tad sounding on FM at times. It's a top hybrid, nonetheless



# **SYSTEMS**

DENON D-M31

2003 £250

Excellent CD receiver package with surprising sonics and a brilliant tuner as a bonus, although its amplifier section doesn't quite match the Onkyo. Optional speakers are mediocre.

# ONKYO CS-210 2003 £300

Superb value thanks to excellent sound, great built and ease of use, but the bundled 'speakers rather let the side down.

# LINN CLASSIK

MOVIE SYSTEM DI 2002 £2,99

Superb ergonomics and performance from this one-box beauty, but it's just a tad expensive and in value for money terms, compares poorly to the original Classik Music System.



# PIONEER NS-DV990 2003 £799.95

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# Letter of the Month



# **LAZING ON A SUNNY AFTERNOON**

After having trawled through the classified ads and spent untold cyber years on the internet looking for a 301, being outbid time and time again on ebay and watching the prices rocket, imagine my surprise when in the South of France on holiday, on a sunny afternoon in a sleepy little town in the middle of nowhere - at the French equivalent of a boot sale - in what looked like an old wooden suitcase, yup you've guessed it a brand spanking old/new (you name it) Garrard 301 complete with hard back user manual, original template drawings price tags strobe discs, the lot!

After picking myself up off the floor and trying not to look too eager, the haggling began. Now my French being almost (non) existent I let rip with how much and pointing at the said box, the Madame looked across and said in perfect English, "my husband made that box don't you know!" Bugger, I thought, the €signs flashing before my very eyes, not another £300+ deck... "That's €50", she said. Now either I'd died and gone to heaven and missed out on another Garrard, or she didn't know what was in the box, or I for once was in the right place at the right time! Before I could get me wallet out with my hands shaking, she stopped me dead with, "oh sorry I didn't realise you were English! It's .... (how much? how much?) got a French plug on it, give me

"Oh okay," I said, Got my €5 change, picked my chin up off the floor, "I'll just go and get the car". You've never seen anyone that pale, with a grin bigger than the Grand Canyon, run so fast. It was in the car faster than you could say "au revoir"... Got it home found it had an S shaped Ariston tone arm in the box with Nagaoka MPII and the rest is history. And it works! I'm still smiling. Now where can I go on holiday This year? Problem is there were no sprung mounting bolts... Do you know where I can buy such things and I've also got to find a decent plinth to install it in and get a new arm? Can you help? Jamie

Tres bien, Jamie! I have to say you've got a bargain, and add a timely warming to analogue addicts that ebay is not a source of wonderful bargains anymore (if it ever was?) It's full of Chavs with digital cameras, high hopes and vivid imaginations flogging tat with ridiculous (and ungrammatical) descriptions. As for your ancillaries - get an Origin Live OLI, Goldring G1042 MM (unless you can afford an Ortofon Rondo Blue MC at three times the price) and Loricraft or Bastin plinth. These bits will cost you few bob (sorry, Euros) but you'll then have one of the best sounding turntables yet made. In the meantime, thanks for a lovely story and enjoy the free year's subscription - now you've really got lucky!!!

DP

an in-depth history of his hi-fi experiences during the 1970s and stated that the Fons turntable was often regarded as 'the poor man's LPI2' and when he bought it, it was the nearest sounding to the LP12 he had heard. My temptation is to try a good MM or budget MC cartridge but I do not wish to throw my money away! I am in need of some advice as to whether or not it is worthwhile to purchase a new cartridge for the above or indeed start again with a 'new' turntable and arm bundle, or even keep the SME arm and buy a second-hand Garrard 301/401? I have an initial budget of around £200 - £300, but I may be able to persuade myself to spend more if justified! The rest of my system consists of a Cyrus 8 amp, Project Phono stage (the £45 one, I know a better one would help!), Cyrus CD7Q CD



Garrard 301 pas cher, merci beaucoup!

# **FONS COOL?**

I have recently acquired a Fons CQ30 turntable complete with a SME 3009 arm and Ortofon 510 cartridge, from my father's loft. It all seems to be in good working order and I've been able to get my feet tapping again to some of my old LPs I've had stored away since my Thorens TD 150 ceased spinning some five years ago (which ended up at the local incinerator). My father has given me

with Totem mite speakers on Atacama stands. (All connected with various levels of Kimber cables). The overall sound from the turntable is not as detailed as my CD player but is very musical and enjoyable all the same, occasionally the sound appears veiled when compared to the equivalent CD recording. I listen to anything from classical orchestra, piano concertos to AC/DC.

Dave Coxon



Goldring 1042 – a brilliant synergistic match to an early Fons/SME turntable.

The Fons is a good turntable, no doubt about it. And your limited budget means that you'll not get a better one at or anywhere near the price. Really, you're looking at a Michell GyroDec or Nottingham Analogue Spacedeck, at four times that (plus arm) to make a real, all round improvement. So, I'd say stick with the Fons. Again, on your budget, the SME arm is worth keeping. An Origin Live OL or Michell TecnoArm a would bring obvious improvements in detail and focus, but you'll need to spend money, again. So... I'd counsel a new cartridge such as Goldring's excellent G1042 MM (£130), which works great with the SME and offers a truly big, smooth and civilised sound. This done, change your Fons' bearing oil (Redline full synthetic ATF is the best for belt drives, IMHO - and not bad for auto gearboxes either(!)), clean the belt and all the surfaces it contacts with, with isopropyl alcohol, clean the SME arm contacts and flying leads with Kontak, and place it on a set of Vibrapods for best results. Finally a Graham Slee Jazz Club phonostage is a sensible upgrade (or Trichord Dino if you can't afford the extra) and you should find you won't listen to CD much, ever again... DP

# STILL MAKING MAGIC

Hi all and many thanks for the comments about Alchemist equipment. It was a sad day for all of us involved with this company when it folded, however all is not lost. My affiliation with Alchemist as a designer spanned over five years of successful products, most of them digital until the P8 series for which I had joint design responsibility with Glen Gayle.

When Alchemist folded, I decided to

provide support for the customers and

have done so since this date, Glen is still on hand to help with older amplifiers. Unfortunately, due to the suddenness of the closure, the ability to provide service information is near to impossible, but we can repair the products for you, Glen will do the analogue electronics with myself for the digital products (excluding some versions due to the laser assembly availability problems).

So in this, do not be worried, there is support for Alchemist products (excluding the recent Richer Sounds which was not designed by us) and feel free to contact us at any time (normal UK office hours applies), I am sure we can help. Additionally, regarding Beard Audio: my affiliation with Bill Beard for over 10 years prior to his retirement in 2001, I have continued the support for these products which also includes servicing. For either of the above, contact Chris Found on 07979836514 or email chris@beardaudio.com.The website for Alchemist and my products is: www.cfmedia.org. Beard Audio is www.beardaudio.com. Best regards to

all at HFW and look forward in talking to you in the future! Chris Found

# ON THE DECK

As an owner of a Michell GyroDec I was fascinated to read the account of the listening tests that included this modern classic and other turntables from both this era and years gone by.

As you point out, the transition from direct drive to belt driven turntables may not have improved the sound quality in all areas, but I did take comfort from the words the [Garrard] 401 most likely cost much more than these [GyroDec, Roksan Xerxes X] when new shouldn't go unnoticed either

And then I noticed a copy of the Hi-Fi year book from 1967/8 on my bookshelf. Glancing through I found an entry for the Garrard 401 of 25 9s 7d, plus UK purchase tax of 4 1 Is 2d. Its difficult to have a feel for that in today's terms, but it was certainly not the most expensive turntable of its time, costing less than the Thorens TD.124 Series II (34 2s 6d + tax), and Michel's forerunner, the turntable from Transcriptors Ltd, which had a price tag of £55.

Comparing the price of the Garrard 401 with other components from that era also reveals its relative affordability. SME's 3009 Series II pickup arm would set you back 22 17s 6d, plus tax, the Quad II control unit and amplifier cost £23 and £25 respectively, whilst Leak's Sandwich loudspeaker and Troughline 3 FM tuner were £39 18s and £27 respectively.

So, clearly the Garrard 401 was not expensive in relative terms. However, were all hi-fi components of the late 1960s relatively expensive to today's pieces of kit?

The internet is a wonderful invention, giving access to all sorts of



Alchemist - the magic shines on...

data, including reports from the Office for National Statistics. According to this source household's gross disposable income has increased 25-fold since 1968, suggesting that in today's prices the Garrard would retail for around £750 including tax.

So this leads me to believe that the Garrard 401 was not an expensive item and that turntable design has probably not advanced a great deal in the last 40 years (have arms and cartridges made better progress?). Could the original 401 have actually been better than today's GyroDec?

As you point out, the Garrard tested had been modified, and you could argue the turntable tested is more the result of a 40 year development program rather than a relic from the past. In fact, I'd be interested to know how you believe an unmodified 401 would perform.

Lastly, could you tell me whether you think the problems associated with belt driven turntables are still present on designs with very heavy platters? My intuition is that the inertia associated with the very expensive and heavy belt-driven turntables would improve the pitch stability.

# **Richard Stevenson**

As a student in the late 1960s I can remember a few important prices, like the cost of a pint, which was around 1/-2d. The cost of a pint has risen 50 times, so surprisingly your figure of £750 seems quite conservative. But then an LP was more than £1, so perhaps not.

Whatever, I better remember that idler drives commonly rumbled and Germany even had a specially contrived test for measuring it, the DIN Rumble test. Belt drive all but ensured it was banished forever, and so it was. A heavy platter should help but I can't help feeling there would be another drawback in there somewhere, such as gradual speed slewing as a weak synchronous induction motor struggled to keep the thing under control. By way of contrast the 401 seemingly has a traction motor slung underneath it. But is pretty solidly made too, and this likely helps it sound good. NK

# **PARALLEL UNIVERSE**

After languishing in storage for twelve years due to my work commitments and other interests, I finally unpacked my old hi-fi only to discover that the amplifier wasn't working. Having never had a CD player (not an early adopter of new technology; I just acquired a computer for the first time), I thought that I would buy a CD player and get

my amp repaired. Somehow I ended up buying not just a CD player, but a new amp and speakers as well. After a while of buying and playing CDs, I got around to unpacking and connecting my old turntable to the new system. Apart from my desire to listen to my old vinyl LPs, I was curious to make my own comparison of the relative merits of CDs and LPs. My turntable is a Pioneer PLL-1000 (linear-tracking arm) fitted with a Denon DL303 and a Denon AU340 step-up transformer. Although it plays all right, I think there is a problem with the cartridge. To use an automotive simile, it appears as though the suspension has collapsed. Set at the correct tracking force of 1.2g (checked with Shure SFG-2), the cartridge body seems to barely clear the LP. It still plays, but the bass frequencies sound a bit doughy. Could the material that holds the cantilever in place have deteriorated with age?

I bought the cartridge in the early eighties, but it hasn't had a lot of use because I used a tape deck for everyday listening. Would you recommend a replacement cartridge, up to say £1,000 pounds? Does the turntable justify this much?

The Pioneer was a pretty decent device I remember, one of the more successful parallel trackers, I was never convinced at the time that the arms of these things were as well located as they should have been; the idea that arms needed to be rigid and firmly anchored down was alive and well back then; Rega introduced the RB300 back then to make the point. All the same, this deck deserves a good cartridge. I would suggest a medium tracking force of 1.5gms plus, which steers you toward a Goldring 1006 or similar. However, Goldrings are rare and expensive in Australia I believe. whilst Denons are not, so a traditional DL103 might be a good choice, or a DL304. I suspect you have a defunct 103 right now, since they don't make a 303, as in your email, as far as I am aware. Otherwise, consider an Ortofon 540 MkII MM perhaps. Hope you've got air-con, because from what I've experienced (read: suffered) of the Aussie sun in full force, it's enough the make anything sag!

K



Pioneer PL-L1000 - as good as a modern superdeck?

How would you compare it to turntables such as Michell Orbe, OL Resolution? I highly value your advice, as the opportunity for store demonstrations of turntables in this city (Brisbane) is virtually impossible. Although my CD purchases have leaned toward the classical part of the music spectrum, the majority of my old vinyl consists of 60s & 70s rock; Beatles, Pink Floyd, David Bowie, Rush, Neil Young, Kate Bush, etc. The system is: Musical Fidelity A308CR pre, power, CD; JM Lab Electra 926; Kimber Silverstreak interconnects, and 8TC cable.

P. Watson

Having run a PL-L1000 for several years now, along with my Michell GyroDec, I can assure you that the Pioneer compares very well indeed providing it's located well, the dustcover is removed and the suspension bounces as it should (and it should, if it hasn't been moved around too much - if not, it can be reset via the four leveling feet, but this is dead fiddly!) then it comes very close to a GyroDec running a top budget arm (i.e. TecnoArm). With this is mind, I'd be a little more adventurous with cartridge choice. I've used an Ortofon Rondo Blue

(£400) on it with excellent results, but anything more and you hear the deck's only bugbear - its middling arm wiring. I've tried it with a Koetsu Red, and it tracks very very well, but some of the KR's warmth is lost in the rather 'black and white' late seventies copper cabling (think earlier Linn Ekos, in terms of tonality). I will soon be having the PL-L1000 rewired, so this should be an interesting listen with its major problem addressed - even now it's a brilliantly pacey and powerful performer with a massive stereo image - in this respect it's a whole league ahead of the Trio L-o7D, even! DP

# DAC'S ENTERTAINMENT!

What irritates me is that I have a fairly extensive knowledge of the many brands available but have never had the opportunity to listen to a lot of them. When one is interested in making a purchase there is always a limited number of products available at any one store and therefore certain brands become almost the stuff of legends. By this I mean that we all hear that they are great and are highly reviewed but have never actually had the opportunity to make our own opinions. Some examples of the type of brand I refer to are Wadia, Martin Logan, Krell, Copland, even Naim (can you believe that I have never heard a Naim CD player, aithough I confess I have heard one of their amps). Other than finding a very nice dealer that would not mind you visiting their shop and toying with their goods on a regular basis how does one get to hear all this stuff?

My current system consists of a Primare a30.1 amp, Monitor Audio GR20 speakers, NAD 533 turntable and a Theta Pearl CD transport with a Pink Triangle Da Capo DAC. I have generally been very happy with my CD combo and I made the selections on the basis that I have always found the vinyl/analogue sound much more appealing. During the 80's, however I was a young and impressionable teenager and was sucked in by all of the hype surrounding the digital format. As a result it was not long before I was in possession of hundreds of CDs. It

was only then that I discovered that I was not the only person to think that vinyl sounded better and that every CD player that I had possessed, no matter how expensive, did not come close to providing me with the same level of enjoyment that my relatively budget turntable did. My present CD source is warm (ish), quite analogue sounding and pretty good quality. It is fairly neutral sounding, but compared to my turntable it is probably slightly top heavy (or is my turntable slightly bottom heavy?).

Regardless, I like the balance of the turntable more, possibly because my speakers are not the bassiest in the world. I wondered if a subwoofer might be a good idea, but wasn't sure. Recently, however, my friend bought a secondhand Theta Miles CD blayer which is essentially a Theta Pearl transport with a built in DAC. He brought it to my place for me to hear and it sounded great. Everything that I felt was lacking in my system was there. For example my combo can sound a little thin, not the Theta Miles, it was rich in comparison. Mine, as stated before, is a little top heavy, not the Miles. The bass is fantastic and completely trounced my notion that I could do with a subwoofer. However, all was not completely better. The Miles sounded a little darker and less analogue or warm. It was slightly more detailed, but a little more clinical. In

deeper soundstage and punchier bass of the Theta Miles? Or am I going to have to finally admit to myself what I have feared all along? That is, when it comes to CD one will always have to compromise in some way and concede the fact that a £200 turntable, although not possessing the same level of detail and clarity as a £3,000 CD source will provide a more enjoyable listening experience in terms of tonal balance, warmth, richness and musicality?

# Frank R Weston

The Da Capo is a good DAC and I am a little surprised it was so bettered in the areas you mention. by the Theta Miles, which I admit I have not heard. Generally though, today's re-sampling convertors do have better bass quality than those of yore so, the Da Capo being a bit long in the tooth, so perhaps you should try auditioning a Musical Fidelity X-DAC v3 or Tri-Vista 21 with upsampling to 96kHz/192kHz to see whether their presentation gets closer to what you are after. The Theta is known for having real bass drive and fine low frequency resolution, and what you describe seemingly bears this out, but I can't imagine the Da Capo being easily shunted out of the picture when it comes to ease of listening. I do suspect the Tri-Vista 21 might suit



# Mello Stello - April Music's super smooooth DP200 DAC.

other words it sounded a whole lot more like a CD player'.

My question is this. Does there exist a CD player or DAC, old or new, and without spending silly money, that combines the qualities of the two? By this I mean has the warmth, musicality and analogue type sound of the Pink Triangle DAC, but with the richness,

your taste, if not your pocket.

Vinyl will always be more liquid and never the same methinks, no matter how much technology we throw at CD. But just a few bob spent on this side of your system would yield disproportionately better results, assuming you have plenty of LPs you still play and enjoy.

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The NAD 533 with Goldring Elektra cartridge is a little grim by any standard, I suggest you look at Origin Live products, possibly their Aurora turntable fitted with the NAD's Rega RB250 arm for starters. into which I suggest you bolt something a little better than the budget Elektra, which I have never much enjoyed. The Goldring 1024 is something of an inexpensive favourite, due much to its fine stylus, which provides incredible high frequency resolution. But if you want real bass then go for a Shure VI5 VxMR. At this level though an arm a little better than the RB250 you have is advisable. Don't forget SME. Have fun. NK

Hi Frank - if you can afford it, you have two choices. First is the Benchmark DAC, available from SCV London for £985. This has an extremely clean and even sound. with not a jot of treble emphasis and a strong and fulsome bass - it's very much a latter day PT, in fact. For £1,495 you have the April Music Stello DP200 DAC-preamp. Aside from offering a vast array of digital and analogue switching options, it has a superb sound that adds air and space and three dimensionality to the already superb sound of the Benchmark, It also has switchable upsampling (48/96/192kHz), with the top rate really pulling back the treble and upper midband. This would be my choice. DP

# TALL TALE

Hello, I'm hoping you can help me find something. I was watching a movie called "The Man from Elysian Fields" with Mick Jagger and there was a turntable in the movie that stood up vertically. It was so cool. I've googled for "stand-up turntable" and "vertical turntable" with no joy. Do you know what these are called?

# **Robin Cannette**

Haven't seen the film Robin but I once used a Mitsubishi turntable that stood vertically, and very good it was too. Although the idea seems gimmicky I had little problem with it - and it was screwed to the wall! But that was back in the late 1970s and the film you refer to was shot in 2001. All the same, the Mitsubishi LT-640 linear tracker is the only deck I know of that stands vertically, so this is one avenue to explore. Trouble is, the search engines tell you little, suggesting not much is known or exists today, which sort of reflects badly on Mitsubishi, but then when

you make lifts, cars and airplanes too, what do you expect? NK

Hi Robin – yep, I think NK is spot on – there's a racing certainty that it's a Mitsubishi LT-640. Mitsubishi also made a vertical linear tracking music centre (!) that played both sides of an LP (!), and this was quite good too – so if it's not the turntable then it's probably the music centre. DP

# TWEAKING SHANLING

A question and a suggestion, first the suggestion. You have touched on a number of occasions, the question of upgrading CD players. Partly at your mag's suggestion, I bought the Shanling CDT-100 CD player a couple of years ago and couldn't be happier with it. But we are a notoriously restless breed and the nagging thought appeared of how it could be upgraded. The Yanks are

cost £800, more money than sense, I can see you say. Well the results are quite startling. The Shanling has weaknesses, bass, stage depth, etc. Well everything is better, I would go as far as to say, it is very close to my Origin Live Oasis S/ Resolution/ Koetsu Rosewood Signature.

In an earlier, more enlightened age, I would have been burned at the stake for even harbouring such thoughts: CD equal to vinyl - never. I would suggest you consider exploring what is on offer, by comparing a cooking, with "breathed on" player, I would even lend you mine. I would love to hear my player against a basic Shanling, as I've never had the opportunity. It is another upgrade path many don't consider and it's worth a thought, when you consider the depreciation on any new player, if you part exchange to upgrade. By modding what you have, you can avoid that hit and hopefully build on the qualities that



Shanling CDT-100 CD player - worthy recipient of tweaking?

obsessed with this, they no sooner buy something than they sticking bits of foam in it, changing capacitors etc. Exploring U.S. web sites led me to CPT Acoustics in Ludlow. I believe you reviewed how an old CD player could benefit from a Trichord 4 clock, plus NC power supply last year. Well, what about going to town on what is already an excellent, new design player. Colin at CPT and I believe Adcom, can mod any player for you, at a range of prices. There are lots of reasons to be cautious, not least, invalidating warranty, it's hard to audition in advance and you are unlikely to recoup your investment, if you try to sell it on. That tends to make it a keeper. The works include a Trichord 4 clock, plus Never Connected Power Supply, plus replacing a range of capacitors largely with Oscon ones. The

drew you to that unit in the first place.

Now to the question, I am using the vinyl set up with a Clearaudio Reference Phono stage I found on ebay; I get most of my stuff 2nd hand. The Clearaudio is a great unit, detail complementing the warmth of the Koetsu. The stage is set at a maximum 57dB gain, but I am having to turn the wick up to 12 to 1 o'clock on my Conrad Johnson pre, to get reasonable volume. No great problem there, both the CI and Clearaudio are very quiet, but it means that the sound lacks a little oomph, if you know what I mean. What about using an MC Transformer such as the EAR MC3 as well, assuming I can find a used one. Any thoughts? Do you have any suggestions which units come to mind, or to look out for? I realise it's another link in the chain.

another interconnect, all of which can compromise the sound.

# David Wise

Not a good idea David, as this isn't the best place to insert extra gain. You ideally need x2 or x3 gain after the phono stage, or within it. There is no easy way of getting this in a simple box, as far as I am aware. Ideally you need more MC gain for the Koetsu, suggesting a phono stage upgrade from the Clearaudio, or more gain in the preamp, or even the power amp, which you don't mention. MC transformers are designed to feed a 47k load, but MC inputs are 3-200 ohms so a tranny isn't a good idea. NK

# VINYL: SORRY TALE OF WOE — PART 934

Very interesting you mentioning Fleetwood Mac's 'Rumours' - one of the very best vinyl recordings I possess is a 1970s import from the States of same! Apparently at the time the European pressing plants were unable to keep up with demand and so some were shipped from the USA. I managed to get one of those fortuitously. Both the sound quality and the pressing itself are quite fabulous - perhaps a little oddly because, at the time, American pressings were often quite considered poor compared with European product. I also have an excellent ELO 'Out of the Blue' again from the USA. Even within Europe there seemed to be qualitative differences between different European pressing plants. I had a CBS Dutch pressing of Born to Run which wiped the floor with a British pressed replacement and even sounded better than a 'half speed remastered' audiophile version - curious indeed. Towards the end of vinyl, effectively in the mid-eighties, the quality control of pop/rock pressings really seemed to go to pot. Not only had the vinyl become wafer thin, but the pops/crackles/clicks which were the reason for the classical collector's migration to CD, were becoming increasingly prevalent on pop/rock offerings. Conspiracy theorists may line up here! Rather like the instructions at the end of steam on BR not to keep engines clean, to ensure that perfectly capable machinery sometimes less than ten years old was perceived by the travelling-public as looking worn-out and ready for the scrap-heap, in order to justify their early demise in favour of the 'clean' new world of diesel locomotion, so one more than suspects that the record companies had a vested interest in ensuring that the 'virtues' of digital reproduction received a helping hand by



Linn Axis - fine deck but shame about the K9 it was sold with...

actually 'accentuating' the acknowledged defects of vinyl. Jamie Whelan

Amen to that - James. I can't help get the feeling too that - if you'll pardon the phrase - vinyl was 'ethnically cleansed' from the music marketplace in the mid eighties. As for which pressing sounds best, I don't have the required thousand pages to write my observations; suffice to say that the nearer the pressing plant was to the master tapes (when recorded) the better the vinyl pressing seems to be. To wit, yank stuff sounds best on yank labels (CBS - Simon & Garfunkel see wot I mean?) and Brit stuff sounds best on Brit labels, which is why Japanese record fans pay (very) handsomely for the original Apple imprints. DP

# **OUESTION TIME**

I've been reading hi-fi magazines since 1988 and I've always enjoyed the questions section. Apparently most magazines dropped that item or reduced the page length dramatically but thank you for still devoting a lot of pages devoted to your readers' hi-fi problems! So for the first time in 17 years, I would like to ask some advice as well. I have a Linn Axis/Akito/K9 record deck, a Musical Fidelity X-A2 amplifier, Dynaudio 122 floorstanders and an old Denon DCD 1520 CD player. I recently changed my JM Lab standmounts for these Dynaudios and that's where the trouble began... In the beginning the Dynaudio sound was terrible but as I knew these speakers need a lot of time to burn in, I just waited patiently for the sky to clear. Unfortunately, after a few weeks now and although the difference is certainly there, I still find the sound thin and

lacking body. Voices sound rather good and clear though and imaging is fine as well but my ears tell me there is something lacking. Changing the speaker cable didn't seem to help much. Could it be that the amp isn't a good match or not powerful enough for these new babies? Before I sell them or start changing the rest of the system (maybe the Denon will give up one of these days anyway) I'd just wanted to ask for your expert advice.

Bart

Hmmm... the Dynaudios are actually famously smooth, with makes me think that they're telling you what's going on in your system more than before - and you're now hearing how 'thin' sounding your Linn K9 cartridge is, and indeed your Denon CD spinner. Both these are in no way warm or euphonic rather, they're hard and forward and spitty. So you have a choice - change back to your mushier JM Labs, or upgrade the source components. The Goldring G1042 cartridge is an instant upgrade to the K9 (why did anyone buy this mediocre moving magnet?) and brings warm and colour to the barren eighties Linn transducer. The Denon CD spinner was from that nasty era of earbleeding Japanese multibit, so the likes of an Exposure 2010CD should provide express relief. Factor in a set of Chord Company Odyssey 2 speaker cables and some Vibrapods to place your kit on, and things should only get better. DP

# FREE PATRICK CLEASBY (SLIGHT REFRAIN)

I would like to take the opportunity to offer a few words of solidarity to Patrick Cleasby on the subject of his alleged Mac-centricity. I also run both Macs

and PC's using ITunes on my G5 at work and PC at home which is connected via an M-Audio Delta 1010 to my Marantz PM94. This is further networked to my girlfriend's Mac G4 in the sitting room fed into a vintage Pioneer receiver which provides basic music and TV audio. This allows access to all the digitised music in the house shared via iTunes. I am happy with the set-up as it stands but realise that I am going to have to expand it when I move to a larger flat. I therefore read about Squeezebox with interest. Although I have the odd gripe about iTunes not allowing tracks to dragged over the network to my iPod for

instance, the fact that I have to walk from one room to the next to download from the host PC is a minor inconvenience. Compare this to the amount of hassle Neal Gibbons but himself through to get music out of this device. Working out a script in order to get the music into the database, changing the power supply, updating the caps, feeding an external DA converter? I am sure he could have finessed the storage issue by writing his own database in MySQL and perhaps chucked in the odd VBA script to smooth the Windows processes further. How much of the original product was left? Compare this to a nice new mini-Mac maybe plugged into an small LCD screen connected to an M-Audio audiophile Firewire box? Maybe remote controlled from a cellphone or PDA via Bluetooth... Or perhaps mount the whole lot inside a modded vintage Mac Colour Classic in a retro Japanese stylee....

Where we are now with computer based hi-fi seems akin to the 1940's -50's in 'classic' hi-fi. Like the old Garrard turntables required carpentry/masonry skills in order to be set up properly so you have to assemble your own computer/ D-A converter set-up in order to get decent quality music out of it. I think the point is that Apple has always been about ergonomics and ease of use, allowing one to get what one wants out of a computer with minimal fuss. The fact that they have cornered the digital music market so successfully is a testament to this ethos. In the same way that you don't need to be an electronics engineer to enjoy hi-fi, Apple has illustrated that you don't need to be an alpha geek to get into computer music.

# Dominic Gallagher

Couldn't have put it better myself...
Patrick is herewith released from captivity to review the brand new
Sony HD5 iPod rival in the August issue. A nation of geeks can relax.

Not taking bets over whether he thinks the Apple takes the biscuit (if you 'scuse the mixed metaphor)... DP

# THE STALKER

Hi David,

I went to Germany last week and got the Musical Fidelity XIOv3 and XPSU power supply you recommended and hooked them up to the Marantz 63 KI DP.Will listen carefully if I hear better sound... Yesterday the Orbe arrived and was set up. Quite difficult, but I do make a big difference, especially if they're (still) running ye olde Philips/Impex 24 pole AC synchronous motors (Linn, Rega, etc.) which IMHO aren't much cop. However, your basic contention that it's 'damage limitation' is spot on. Belt drives aren't theoretically correct – however, neither are direct drives or rim drives (which also have their problems, albeit different ones – i.e. noise) so as ever in audio, it's about getting the best working compromise. My Trio L-o7D vs.



HFW reader in editor's system clone attempt shock horror!

managed eventually. Will have to wait before i can really enjoy the turntable, as my custom made phono-amp is giving quite a bit of "hum"...

Hi Patrick – interesting to hear you're assembling a mirror image of my reference system – thanks for the pics – it already looks pretty tasty – let me know when you've got it up and running. Methinks you'll enjoy it in no small measure... DP

# **BORN SLIPPY**

David; your opinion in the April issue was very enlightening regards belt drive units being a compromise rather than the ideal. I've always wondered why people spend huge sums of money on outboard power supplies for their belt drive turntables when at the end of the day they still have a record spinner driven by an elastic band! It's especially hard to fathom when the unit has a heavy platter. What difference is a constant supply going to make? Not much I suspect, other than a Placebo effect.

# Joe Wdowiak

Well, I wouldn't say that. Actually, fancy power supplies on belt drives

Michell GyroDec comparison was most illuminating, but I can't say that one comprehensively outclassed the other. Interesting, this is much to the chagrin of the Direct Drive lobby – HFW readers who just knew that the Trio was going to whip the Michell, which of course it didn't quite... DP

# TIP FOR THE TOP

My father-in-law was a life long music lover and active musician - pianist, church organist, jazz singer and, by appointment, 'musician extraordinaire' at the local crematorium! Many is the time he livened up the proceedings with the bereaved family's choice of live jazz, classical or rock! Now, sadly, he has gone too and I have inherited part of his hi-fi system, specifically a Linn front end (LP12, Ekos, Troika. Lingo), now married to my existing Musical Fidelity AI amp, Musical Fidelity Nu Vista 3D CD player and Lowther TP1 London speakers (latest drive units). This system really delights me, particularly with the vast numbers of pristine LPs also inherited. The speakers and amp together give more than enough volume in a fairly large (35' x 25') listening room. So, what to do with the final part of the



Direct drives can be better than belts, but not in every way!

inheritance, £2,500 in cash? Should the Troika go in favour of an Arkiv? Is the twenty year old AI (serviced and upgraded by MF a few years ago) due for replacement? Is there a better non-Linn cartridge alternative?

Dick Penfold

Hi Dick – assuming your cartridge is in tip-top condition, then I'd upgrade the MFAI amp. It's a no-brainer – the Musical Fidelity A5cr pre-power would give you massive sweetness, power and dimensionality for £3,000 (you could get some of your £500 deficit back by selling the A1). If you must change the cartridge, then I'd go a slightly different set of options

complex nature of system matching vs. budgetary constraints! **DP** 

# A BIT SCEPTICAL OF THE OLD GEAR

I've been reading your articles about old decks (i.e. Marantz TT1000, Technics SP10, etc.) and I must say that I was perhaps a bit sceptical of the old gear, but my thoughts are falling in line to your own way of thinking. The reason for this is that to some degree turntables are irrelevant technology insofar as most recordings aren't analogue, and most sales are CD. On the other hand the technology was more 'relevant' in the 70s and 60s, for that reason technology was aimed at

references are Japanese superdecks. Need we say more? Had I known this, I may not have bought a brand new table and arm combo that cost me £3,500 alone! On top of this is a remark from one retailer who said to me 'you think you've got so far with new cartridges and phono stages, and along comes an Ortofon SPU' and you realise we've made hardly any progress. In other words use your ears and your brains when buying kit. I myself use Yamaha NS 1000M speakers, and it is only now that IBL and Focal use Beryllium tweeters, and an equivalent size model from Focal was about £8,000... I want to know if you are going to do any articles on the EMT decks, and on other superdecks like the Nakamichis?

Lohan

On a recent visit to Ortofon in Denmark, I was very interested to see that they use Micro Seiki DDQ1000s throughout - and have done since the seventies - no belt drives there! All I can say is - as with everything in life - don't believe the hype; trust your own opinions and findings, rather than those terribly nice marketing people. There are some amazing classic bits of kit, and also some stunning new ones too but it doesn't follow that either one is better than the other. Watch out for an EMT feature in our next vinyl special (ages away, because I need to catch up on some sleep) and a Jap superdeck bake-off (Nakamichi TX-1000 vs. Trio L-o7D vs. Sony TT-8000 vs. Technics SPIO). Sooner than this is our Nakamichi CR7E cassette deck retrospective next month, no less- Nakamichi UK themselves reckon this to be the best cassette deck ever made, so it should be fun! DP

# PRE-AMBLE

I have just finished reading your excellent article on the old and new Exposure amplifiers. Did you try using the new pre-amp with old power amp and the other way round? It would have been interesting to see which was the best combination. I have one of the old Exposure VIII power amps and I am looking for a pre-amp to replace the existing pre-amp I built a few years ago based on a Lecson ACI. The speakers are a pair of Mission 752s and the CD player an Arcam. I find the system sounds really good but seems to lack a bit of sparkle and definition. Are there any pre-amps you could recommend which may fit the bill either new or second-hand without spending a silly amount of money. I have looked at your



Sugden A21SE – brilliant musicality, but MF A5cr pre-power offers more refinement.

- an Ortofon Kontrapunkt c (£1,000) and Sugden AISE (£2,000). More finesse from the cartridge, more musicality from the amp, but less transparency and dimensionality from the amp too - that's the

turntables and the superdecks from then had everything thrown at them.

I won't name anyone, but having spoken to one cartridge maker of repute, and a turntable maker of repute, the decks used for them as



Old Jap kit - it's all a load of rubbish, etc...

buying guide but don't really know what is likely to go with the rest of the system. Any help will be gratefully received.

# John Benson

Hi John - simple answer: the best preamp I've heard to date is the MF Audio Passive Preamp. It should work brilliantly with your already fine ancillaries. DP

was clear, tight and detailed. I have used various cables in the past including Chord and QED and this sounded, to my ears at least, as good as any I have used previously. It just. sounded right without any real character. I went on to try it with an old Musical Fidelity Synthesis amp (a great amp that is never mentioned in HFW or even seen in the second hand section) and a Nytech of the same



MF Audio Passive Preamp - our favourite box with knobs on.

# ONE (MORE) THING

Having read the letter by Sam Wilson in the May edition of HFW recommending the use of RS Components "pink cable" as a speaker cable I decided to try it. One phone call and a two-day wait for the parcel to arrive produced some of the most anaemic looking cable imaginable. It looked like the sort of string you get tied around a joint of beef. So with some trepidation I connected it to my system (Tannoy Devon Dual Concentrics driven by Leak ST20) and from the start the sound

vintage with various speakers including Mission, B&W and Celestion. Maybe not high end but even so the cable allowed all the character of the various systems to shine through and seemed to impose little character of its own - a bargain at £15.40 for twenty five metres! The only problem ! encountered was a loud hum if the cable touched the lead from my turntable so shielding is obviously

Now happy with my speaker cable I wondered if you could recommend a

preamp and speakers to match my Stereo 20. My front end consists of a Technics SL110 with Micro Seiki arm and Goldring 1042 and a Marantz CD 85, both old but I am happy with them although I will be replacing the arm with an Origin Live RB 250 derivative in the future when I can find a replacement blank arm board. I have been using a Quad 44 and the above mentioned Tannoys up until quite recently – the Quad I found a bit flat and unmusical really and the speakers have been moved to my 12 year old son's room following months of pleading about how his future as a DJ depended on it! I only use a turntable, CD and radio so I do not need a massive number of inputs and remote control is of little value to me as I sit within arms length of the system. My room is the usual 12'x 12'Victorian type cottage and I listen to just about everything apart from opera. Even though the room is small I like bass, as long as it is tight. The speakers that have impressed me the most in the past have been the Tannoy Westminsters (far too expensive and I would have to sit in the front garden to listen to them because of their size) and, though very different, Yamaha NS1000Ms. I am happy to buy second hand or new (though I am a bit sceptical about the quality of some of the newer speakers on the market) and have a relatively fluid budget.

# Geoff Fielding.

Hi Geoff - re: the preamp, I refer the honourable gentleman to the answer I gave some moments ago. As for speakers, I'd go for a One Thing Audio rebuilt pair of Quad ESL-57s with a REL Strata 5 subwoofer - few things in life sound as good. DP



One Thing Audio modded Quads: few things come close.

Hi-Fi World writers have extensive audio industry experience - from designing the best valve amplifiers, engineering bespoke pro audio installations and mastering digital discs to classic and modern hi-fi retailing. No other magazine has such a diverse wealth of editorial talent. No other magazine is able to combine the new and the old, the classic and the modern, the affordable and the expensive, the raw and the cooked, with such authority:

### DAVID PRICE

A passion for music from an early age got DP hooked on hi-fi. His writing career began in 1990 with New Musical Express, and after writing for Hi-Fi World he joined the Doors team at The Sunday Times, and now edits the Home Entertainment section of The Month alongside this magazine. A compulsive record collector, vinyl is David's favourite tipple, and he's crazy about classic audio too - as his encyclopaedic knowledge of Japanese high end attests.



### NOEL KEYWOOD

A leading technical journalist, his rigorous reviewing - informed by empirical measurements - has made an indelible impression on the UK hi-fi scene. After editing Hi-Fi Answers in the 1970s and contributing to The Flat Response and Hi-Fi Review in the 1980s. Noel went on to launch Hi-Fi World in 1990. His challenging approach has famously seen him expose digital audio's technical failings, and champion the cause of his beloved valve amplifiers and high sensitivity loudspeakers.



# DOMINIC TODD

Working in hi-fi retailing since 1991 - at all levels including sales, management, purchasing, training and marketing - has given DT a forensic knowledge of modern audio and video equipment. Living at the 'coal-face' makes him brilliantly placed to comment on what kit works best and why, and to explain the politics behind it.



# HADEN BOARDMAN

His knowledge of classic kit is almost unmatched - doubtless helped by bim getting bitten by the hi-fi bug at the tender age of 9! Haden's tastes are very much of the 'valves and vinyl' ilk, his system displaying a welter of British names from the 1960s to go with his 1980s Marantz CD spinner. He's also a keen kit builder, and is not afraid to wield a soldering iron in the noble cause of superior sound.



# PATRICK CLEASBY

After a stellar career in IT. Patrick's love of music drew him to the field of multichannel music mastering, which is now his vocation. His exhaustive knowledge of digital audio and surround sound theory and practice makes him perfectly placed to assess the latest DVD-Audio and SACD hardware and software alike.



# STEWART WENNEN

A professional audio engineer since the 1970s, SW is still constantly amazed by the poor quality of kit that some manufacturers foist upon the buying public - but is also delighted when he finds a bargain. His redoubtable experience of designing and building his own turntables, electronics and loudspeakers through the years makes him an ideal HFW scribe, along with his obsession with music.



# LJK SETRIGHT

A man whose reputation precedes him, LJKS has had a long and brilliantly distinguished writing career. Most famous for his quarter century of contributions to *CAR* magazine, he has also had over one hundred books published. A gifted, classically trained musician, his passion for hi-fi comes from an enduring love of music. A keen Radio 3 listener, LJKS's Linn Sondek turntable comes second only to his beloved Kremlinn tuner in his affections.



# WHAT IS HI-FI WORLD?

An independent hi-fi magazine of fourteen years standing, founded by Noel Keywood - one of the UK's leading technical hi-fi writers.

# WHY IS HI-FI WORLD SPECIAL?

Almost all hi-fi and home entertainment magazines are owned by large media corporations that publish anything that makes money, be it caravan, computer or mobile phone titles. But we're different! As the only magazine published by Audio Publishing Ltd., a small *independent* specialist publisher, hi-fi isn't just a business for us, it's a way of life.

# WHAT IS HI-FI WORLD'S PHILOSOPHY?

We are the only real world audiophile magazine you can buy. No matter whether something costs 20p or £20,000, we'll tell you if it's worth having - and why. Being independent, we can write what we like, and we do. If it's recommended in these pages, it's because we've lived with it - and rate it. If we don't, then we'll not gloss over the fact for reasons of commercial gain.

We don't print reviews of bad equipment - what's the point? So everything inside these pages is interesting or excellent, and usually both. Yet still we don't pretend everything is fantastic. Not even the best equipment is right for everyone - which is why go to great lengths to explain the respective strengths and weaknesses of each bit of kit. We don't knock stuff, we say why it will work in some systems and why it won't in others - so you can make your own mind up.

Unlike some titles, we don't delude ourselves that we're the ultimate authority on everything, but the huge experience of our team ensures that we're invariably pretty close to the mark. Importantly, we back our subjective findings with technical measurements - which ensures that everything we review is a representative sample, and that we know what ancillaries are best.

We don't pretend that every new product is better than its predecessor. We're happy to recommend classic hi-fi when it's better than modern stuff. This doesn't help our advertising revenues, but it gets you closer to getting a superb sounding system for the lowest possible price.

# WHAT'S THE *HI-FI WORLD* SOUND?

Go into your local high street electronics emporium, and you'll hear no end of cheap, forward, hard and showy sound bits of audio kit. As we listen to music hour after hour every day, we're not into this. We go for hi-fi - at any price - that has the ability to communicate what the musicians are trying to say. This means it must be rhythmically engaging and dynamically expressive - but must also be able to recreate a believable soundstage and a wide and varied range of tonal colours. We don't like a hard sound, nor do we enjoy the soft. It's got to be open and organic. Interestingly, there is kit at all price levels that offers this quality - although it often takes some finding. So we're happy to recommend anything from an old, long-discontinued £30 amplifier to a brand new pair of £6,000 loudspeakers - if they sound right!

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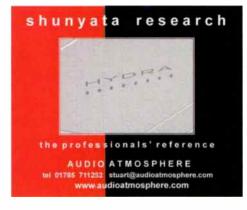


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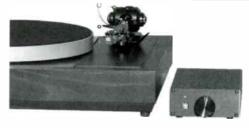
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DYNAVECTOR XX2 M/C cartridge, unused in sealed box. £750. Naim FlatCap2, mint condition, boxed, £375. Moth Clear turntable cover for Orbe SE. SME10 etc. 50/40/20cm, £130. unused. Tel: Chris on 01285 862 539 (Jul)

THORENS TD115 deck with Ortofon FF15E MkII arm. Def Celeste teak speakers. Sony reel to reel TC540, manuals available. Good condition. Offers to: librom@hanks.gov.uk 07831 410790 (Hampshire)

KORATO KTA100 power amplifier, as new, £799. Kimber 8TC speaker cable 5m stereo £120. Russ Andrews The Powerblock with 125cm Kimber HiCurrent Powercord £199.Tel: 01457 83 4465 (Jul)

PASS LABS Aleph P preamp and Aleph 3 power. Boxed, manuals, Al condition. Together cost around £6000 new. Check reviews on TNT-audio.com o.i.r.o. £1900. Maybe prepared to split. Tel: 01491 682910 (Sep)

DYNAUDIO 42 speakers for wall or stands in white finish with Target stands £500 total. 3 months old, pristine condition £225. Tel: 07729 600847 (Littlehampton, West Sussex) (Jul)

EXPOSURE XXV RC (25) vgc, boxed, instructions, remote control, £300 ono. Creek OBH-8 MM phonostage vgc, boxed, instructions £50 ono. Upgrade forces sale. Tel: 01483 728 657 before 9pm. (Surrey) (lul)

NAIM NAC 82's - 'SC' Hi-Cap, Nap250 black SNAIC £2500. CDI + Chord Anthem £650. SBL's black, Mana bases, polypropylene X-Overs £700. All boxed and mint. Celestion 44's £100. Croft - Leak ST20 £475.Tel: 01722 334 694 (Jul)

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KEF REFERENCE Series 1.2 speakers, rosenut. Mint, boxed with manual, 8 months old, £750. Sennheiser headphones Reference HD650 (15 minutes use) mint, boxed, £175. KLS9 speakers, 93cm H x 38D x 25W, superb bass, Hi-Fi World Supplement No.28. Need painting £185.Tel: 0115 975 4070

MONARCHY SM70 Class A zero feedback power amplifier £375. Pioneer 656 SACD/CD/DVD-A universal player £195. Linn Kolektor preamp with remote £295. All mint, boxed. Tel: 01243 863 371 (West Sussex) (Jul)

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REL STAMPEDE for sale. Purchased April 2005. Brittex black remote control as new £450 ono. Call Len 07989 513805 anytime. (Jul)

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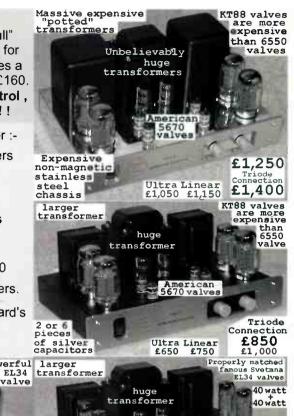
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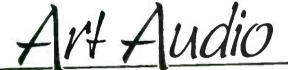
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# Reel time

## Stewart Wennen reels in the years to celebrate the late, great Ferrograph Studio 8 open reel tape recorder...

errograph was one of the oldest hi-fi manufacturers in the UK. Formed in 1948, it was known as 'The British Ferrograph Recorder Company Limited', no less! Numerous machines met with critical acclaim for many years. The Series 5 recorders were amongst the best tape recorders ever built, with superb build quality and ease of use in my opinion, this machine has rarely been bettered. In the professional field however, Ferrograph was rarely seen, save for the BBC who used the machines. The Studio 8, then, was introduced for broadcasters and Outside Broadcast facilities, and Ferrograph's expertise as tape machine manufacturers was used to its fullest.

The Studio 8 is an open reel tape recorder which runs at 15 inches per second, so a 10-\_ reel of tape will last for just twenty minutes! The Studio 8 was available in all formats, 1/4 track, \_ track and full track, with all of the speed variations. It weighs in at a massive 50kg! The deck pictured is a half-track version and has dual speeds of 15 ips and 7-\_ ips. Ease of use is made even better with the use of TTL logic, coupled with a well thought out control panel. Even the tape counter is different in that it reads in minutes and seconds, much easier to read than the normal Ferrograph circular tape counters.

On the front panel the black strip is removable to enable the user access to the bias and equalisation controls. This is unusual, as on the Revox machines a semi strip down is required.. All front panel controls are laid out in a logical fashion, with easily read legends near the controls. Output is via XLR plugs and sockets and is run in the balanced mode. Mains input is again via a Neutrik mains XLR (a BBC fave) and the rarity of these connectors is legend. In use this machine presented no problems and was much easier to control than classic Revox A77 and G36 machines. As an editing machine, again the Ferrograph was an easy machine to master, due to the layout and the space around the headblock. If we look at the rear panel there is a multipole connector for a remote panel, but I have never seen one in the flesh.

Needless to say, a well maintained Studio 8 sounds tremendous, with an almost total lack of audio signature - and depending on tape type, very little compression and an extremely wide stereo image. Unlike digital, this machine does not present the upper treble with any harshness and has image depth to die for. Speed stability is amongst the best available, this is very important as speech and solo instruments are dependent on accurate transcription. Quality like this never comes cheap though, and buying secondhand can be extremely risky - the machine can be very expensive to repair. As such, value is completely down to condition (both physical and mechanical), ranging from scrap to upwards of £1,000 for a mint example that's perfect in every way - which nicely describes the Studio 8 when it was launched all those years ago...



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