SMART SET
Unison Research Smart 300B monoblocs

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Speaker Sensitive
Virtuoso Gold horn loudspeakers

Competition
SONY CDP-X3000ES CD PLAYER AND SPIRIT ABSOLUTE 4P ACTIVE SPEAKERS TO BE WON

Classified Ads 8 PAGES OF BARGAIN HI-FI
LOUDSPEAKERS THAT WON'T BITE THE AMP THAT FEEDS THEM

For information on the most exciting range of loudspeakers to hit these shores in recent memory, call ANIMAL MAGNATISM now on 0115 961 6343/44
As you’ll well know if you’ve been a reader of HFW for a while, we’re fans of the venerable valve. Nine times out of ten, amplifiers of the thermionic persuasion have a tonal richness, a lack of grain and a musicality that solid silicon struggles to match. And amongst the best of the valve brigade (when designed correctly, which isn’t always) are the single-endeds, especially the 845, 211 and 300B. There’s a natural lucidity to their sound which puts them up there at the top of the hi-fi hierarchy.

The only problem with SE amps is a very limited power output, which makes partnering them with sensitive speakers mandatory. So why do some of the manufacturers who build these thermionic beasts continue to quote power output figures more inflated than Richard Branson’s latest balloon?

Some of it comes down to measurement methods (ie, whether you measure power across the whole 20Hz to 20kHz bandwidth or only at, say, 1kHz) but most of it is about marketing; who’s going to buy a 300B SE amp with only 7 watts of useful power when the price tag swinging from the shiny casework often amounts to a hefty four-figure sum?

Manufacturers with such an ‘optimistic’ view aren’t doing themselves any favours, as 300B customers expecting a genuine 15 watts will find their latest purchase running out of steam more quickly than they’d expected. Things look a little rosier for 211 and 845 owners. Even though the same caveat about ratings applies, these two valves happily supply twice as much power as a standard 300B. “Standard” is the operative word here, as there’s now a new(ish) 300B on the block, which Unison Research are using in their Smart 300B monoblocs. If valves were weight lifters, this Chinese Valve Art triode would be hitting the steroids in a major way - it’s been beefed up to take three times as much power as normal, the manufacturers say.

Development on the loudspeaker front too bode well for SE lovers. Kelly Transducers’ KT3 floor standers reviewed last month had a sensitivity of 93dB, and many other ‘speakers are reaching 90dB. Mind you, the elevated efficiency levels that SEs truly thrive on can only really be reached with horns like Thomas Transducers’ Virtuoso Golds (reviewed on p16).

So here’s to all that’s innovative and effective in hi-fi. For without it, the art and science of sound reproduction would stagnate.

---

HOW WE TEST THE PRODUCTS

- **Hi-Fi World** has its own advanced test laboratory and acoustically treated listening room. No other hi-fi magazine has the benefit of such facilities.

- **Hi-Fi World** has a dedicated in-house team of experienced listeners, and uses selected freelance professionals. We review thoroughly by extensive auditioning, rather than by quick-fire group listening tests.

- **Hi-Fi World’s** engineering team designs a wide range of products in-house. No other hi-fi magazine is so expert and dedicated.

---

WORLD VERDICT

- **OUTSTANDING** - Superb sound, something we’d use ourselves.

- **GOOD** - Has strong merit. Well worth an audition.

- **ADEQUATE** - Mediocre in several areas. May be worth auditioning.

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Various Artists, English Choral Music
When one of the best loudspeaker engineering teams in the world advances its state-of-the-art technology, you'd expect the result to outperform the competition. It does.

KEF's new Q Series, with its distinctive clear cone Uni-Q' drivers, delivers a more precise stereo image, over a wider listening area, than any conventional loudspeaker can. This latest advance in KEF's patented technology delivers even smoother midrange response and clarity that's simply stunning.

From bookshelf to 3-way floorstander, the entire range is magnetically shielded for Home Theatre use. And because aesthetics are integral to good design, the two largest models incorporate KEF's 'racetrack' bass unit. With the performance of an 8 inch driver in the space of a 6 inch, it preserves the slim, elegant Q Series design.

With the new Q Series, the competition have been decisively out-classed. The difference is clear.
CELESTIONS COME PACKED

Designed to complete the A series is Celestion's new A Compact stand mounter. This tiny two-way uses the same 25mm titanium tweeter as the rest of the range working in conjunction with a 100mm long-throw mid/bass driver. These are both mounted on a die-cast aluminium frame which allows the tweeter to be sited very close to the main driver, thus minimising phase problems around the crossover point.

Billed as having an even, low-distortion response and 75 watts power handling, the 4ohm £599 Compacts have a sensitivity of 85dB and are available in Black Ash, Rosewood and Cherry with matching stands due out soon.

Duofol. This is a laminate of two Mylar films which yields a light, rigid diaphragm aimed at providing a controlled sound even at high volumes. Lightweight alloy wire on the voice coil is matched by neodymium/iron magnets, with three metres of Kevlar-reinforced OFC lead (topped off by a 3.5mm stereo minijack and a 0.25in. adaptor) providing the finishing touch.

Sennheiser are applying high-end technology to their latest headphone design, the HD 570. These £80 'phones, which will replace the HD 535s, benefit from transducers of Duofol. These, together with the luxury of a headphone socket and the supplied 5m of 'speaker cable, are aimed at less technically-inclined music-lovers.

WAKE UP WITH LINN

Now you can rise to the sound of Linn with the Classik. This £995 combined CD player and integrated amplifier boasts a clock with alarm and timer functions and can be had with the Tukan or AV5110 loudspeakers. The single-box solution contains a triple-beam laser mechanism and Delta-Sigma convertor hard-wired to a 75 watt (into 4ohms) amplifier. Front panel knobs and full remote control will also give access to four other line inputs, two of which are dedicated to tape decks.

Details are scant at present, but we do know that a patented drawer concept is involved and that the whole substantial unit will weigh over 12 kilos. And if you need to ask how much it costs, you probably can't afford it!

Duofol. This is a laminate of two Mylar films which yields a light, rigid diaphragm aimed at providing a controlled sound even at high volumes. Lightweight alloy wire on the voice coil is matched by neodymium/iron magnets, with three metres of Kevlar-reinforced OFC lead (topped off by a 3.5mm stereo minijack and a 0.25in. adaptor) providing the finishing touch.

In a return to the non-minimallism last seen in the Intek and Pretek, the Classik has tone controls.
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World Radio History

MAY 1998

HI-FI WORLD
WIRE THAT IS STRAIGHT

Three new Straight Wire interconnects are heading for these shores from the US of A. The Encore II, Rhapsody II and Maestro II represent a third level in the company's range of interconnects. All use Oxygen-Free High-Conductivity copper whose strands are individually coated with a polymer during extrusion.

The main difference between the cables is the construction method. The Encore II (at £99.99) uses foam insulation around a Star Quad layout, where four separate conductors carry signal and return, with an overall braided screen.

The £149.99 Rhapsody II uses Micro-Foam to insulate its dual co-axial wiring, while the Maestro benefits from a symmetrical topology terminated with locking RCA plugs.

The above prices are for 1m stereo pairs - 0.5m lengths are also available.

MARSTON MOVE UP

"Stunning dynamics, impeccable timing and a beautiful, transparent sound" are the modest claims Marston Audio is making for its new CD player, the Silhouette.

This £799.95 one-box player is based on the Teac CD-P3450SE. Marston have carried out extensive revisions on the original, with particular attention paid to the power supply, transport control and Digital-to-Analogue conversion stages. New regulators have been added to the existing supply circuit and there's a sprinkling of audiophile components (Schottky rectifiers as well as Sanyo Os-Con and Nichicon capacitors).

A new toroidal transformer with associated regulation on a separate PCB powers the replacement analogue output stage, adapted from Marston's own Silhouette DAC (reviewed in Aug 1997). Analogue output wiring is pure silver and the Teac's optical digital link has been removed and replaced with a buffered, silver-plated BNC. Finally, the casework has been acoustically damped and Michell Tenderfeet cones selected to support the player.

SKY'S THE LIMIT

To bring the wonder of carbon cable conduction to a wider audience, van den Hul have unleashed a fresh copper/carbon loudspeaker cable.

Skytrack Hybrid is the name given to this confection of Linear Structured Carbon extruded around a central conductor of Oxygen-Free copper. Insulated with vdH's own non-halogen Hulliflex 3, the Skytrack Hybrid is based on the company's £120-per-metre Revelation (which we use here at Hi-Fi World) but only costs £5.49 per bi-wire metre.

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World Radio History
**Birdy-free Zone**

Myryad have announced the release of their long-awaited FM tuner, the MT100. This 19 preset machine is styled to match Myryad's current range of one-box CD player, integrated amplifier and pre/power amplifiers. A remote control allows switching of all functions.

Internally, the MT100 has a discrete front end and claimed to offer low distortion and noise. Its output feeds a plus–compensated 'birdie' filter to clean up the signal prior to stereo decoding. A discrete class A final stage provides a low output impedance to ensure good compatibility with any cable and amplifier load.

The MT100 sells for £529.95 and can be finished in either natural silver or anodised black. A system remote control should also be available by the time you read this, allowing operation of an entire Myryad system from a single handset.

Myryad Systems
2 Pipers Wood,
Waterberry Drive,
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P07 7XU
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**Elementary, My Dear Rockson**

Elemental Audio, purveyors of heavyweight supports, have come up with a new range of equipment stands. These Reference Precision Supports, as Elemental Audio call them, cost £499 and up. Their design features a steel frame made of tubes filled with a mix of lead shot and fine casting sand. The shelves are polished and bevelled 20mm marble agglomerate, which comes in a variety of colours and grain structures.

Within the range is a fixed four-shelf equipment rack, whose vital statistics are £1595 and 89kg, and a modular support where four individual spiked shelves will stack up to total 110kg at a price of £2360.

All units come finished in a fine-textured powder coating as standard, with polished aluminium and steel fittings. To help slow down their passage to the centre of the Earth, Spike Safe flooring protection cups are due to follow soon.

Elemental Audio
Unit 4C,
Highfield Road Industrial Estate,
Camelford,
Cornwall,
PL32 9RA
Tel: 01840 211045

---

**Meridian 508 24-Bit CD Player**

With 24-bits of Crystal processing power, Meridian's new £2000 one-box digit cruncher promises fine resolution from the silver format.

**Arcam Alpha 10/10P Integrated and Power Amplifiers**

The new Arcam integrated and complementary power amplifier, at 100 watts per channel each, have power aplenty and are upgradable to boot. Anyone for bi-amping?

**Musical Fidelity A1001 Amplifier**

It's big, it's black, it's shiny and it will fry fish at 100 paces. Musical Fidelity's monster class A integrated is a force to be reckoned with.

**Floor Standing 'Speaker Group Test**

A line-up of fine floor standers up to £1500 will pass through the World chambers for sonic scrutiny. Standing to attention are five candidates, including the Celestion A2, Spendor FL8 and Epos E522.

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Features: Too many to list for the space left!

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One day CD's will sound OK.
In the meantime...

01491-834700
Jon Marks enjoys an audience with Unison Research’s new Mistery 2 valve pre-amp and Smart 300B monoblocs with their special high-power 300B triodes.

Stop a passer-by on the street and ask them to name a famous valve and you’ll either be told to go somewhere unpleasant or go to a plumber. Ask a group of audiophiles the same question and one of the first replies you’ll get is “300B”. This will swiftly be followed by comments like “silky smooth”, “sweet” and “only 8watts in single-ended operation”. It was in response to this last statement that Unison Research’s £4250 Smart 300B monoblocs were born.

Nestling inside the airless envelope of a common or garden 300B power triode is an anode capable of dissipating 40watts. When set up for the highly inefficient but sonically seductive single-ended mode of operation, that translates into the above-mentioned 8watts or so. That’s fine for the kind of horn ‘speakers that boast 96dB+ sensitivity and an impedance smoother than Bill Clinton’s chat-up repartee, but it’s not much use with the vast majority of less efficient boxes.

SMART STUFF

The most popular alternative is to choose a more powerful valve with a higher anode dissipation and thus greater power at the ‘speaker terminals. Possibly the least chosen option is to re-engineer the 300B to boost its output - this has already been done by Vaic of Czechoslovakia. Now though, Unison Research have built a design around the VA-6300B from the Chinese Company Valve Art. This take on the 300B replaces the thin anode of the original with a much thicker and more solid graphite type, which is rated to handle up to 80watts of power. Valve Art claim that this anode’s low thermal expansion coefficient gives stable gain and mutual conductance. Bullion-seekers will be happy to find that Gold wire has been used to make the grid, apparently in an effort to provide more accurate control over signal current. The other main change is a coating on the cathode which emits more electrons than the standard 300B but at a lower temperature (which should extend the cathode’s life).

This Oriental bottle isn’t the only special component inside the Smart 300B’s steel and Cherry-wood chassis, as you’d expect considering the cash involved. The main reservoir capacitors which sit to the right of the chassis are hulking 500V 1000uF Nippon Chemi-Con electrolytics. Inside the casework is a disarmingly simple circuit executed with Sfernice resistors and the same ICEL polypropylene coupling caps that were to be found inside the Simply 845 integrated reviewed in March 1998.

The internal wiring is neatly twisted and routed between the various valve bases and PCBs,
including that the 'speaker terminals (a pair each for 4ohm, 8ohm and ground) are bolted on to. The output transformer itself is hidden away under the wooden-fronted grey cover at the back of the chassis. And just to make sure the Cherry doesn't go up in flames, a ceramic heat shield around the VA-6300B stops things getting too hot.

**IT'S A MISTERY**

Fronting these two handsome monoblocs was Unison Research's own £1750 Mistery (sic) 2 line-level pre-amp. This is based on, coincidentally enough, its predecessor the Mistery 1. Where that device's cathode bias was implemented with a Lithium battery though, the '2 relies on a less esoteric mains-derived supply.

Judging from reactions to this rather unique piece of Italian design, it's a case of like it or loathe it; the sweeping lines and those control knobs that resemble sawn-off armour-plated bananas certainly polarise opinion. There was stronger consensus when it came to build quality. While the Smart 300Bs seem a touch expensive in terms of pure construction, the Mistery 2 has an air of value about it that's rare in four-figure equipment.

Venture inside the pre's casework (by twisting the lid's four gold-plated screws through 90degrees) and you'll discover a 6CA4 and three ECC83 valves. Once again, ICEL caps perform coupling duties. On the end of the volume knob connection shaft which keeps PCB tracks short is a somewhat disappointing potentiometer. In place of the Alps Blue we had expected was a cheap carbon type which showed audibly poor channel balance at low levels, a problem if you have very efficient 'speakers. Still, after the Mistery 2 had burned in, swapping this pre for a Danish Audio Connect CT1 stepped attenuator showed the Italian is surprisingly clean and clear.

**LOADING UP**

To test the Mistery and Smarts we resorted to two main loudspeakers from both transducer extremes. First were our stalwart Jamo Concert 8s, with their 4ohm load and appetite for a bit of healthy current. Then came the hugely sensitive Thomas Transducer Virtuoso Golds with their single Lowther drivers. Others that drifted through the system included the Castle Severn 2s and KLS3 Gold MkIIs. CD sources were
Pink Triangle’s Litaural and a Teac P-30 with DPA’s new £8500 512SX DAC.

We’d expected a sonic variant on the 300B norm from the VA-6300B’s internal updates and we weren’t let down! When we initially fired up the Smarts they sounded like a 211 single-ended amp in need of running in. There was a very fast, crisp, neutral sound devoid of the 300B’s honeyed sweetness. In fact, in the early days, the crispness was hard and forward in a manner reminiscent of bad transistor design.

Waiting for the Smart 300Bs to sort themselves out was as long-winded an affair as it had been with the Bellini and Donizetti pre/power from compatriots Audio Analogue. I don’t know if it’s that hefty graphite anode, but something in the ‘300Bs needs a good 150 hours-200 hours of exposure to electrons before it sounds happy. Thereafter, tonal colour was more natural and vivid, and there was an ebb and flow to rhythms previously absent.

Finally, the hardness disappeared to leave a smooth, open sound that has terrific speed. This much was blindingly obvious whether it was the Concert 8s or Virtuoso Golds on the end of the van den Hul Revelation Hybrid loudspeaker cable. The Unison Researches might not have had the same kind of grip in the bass as a power station like Musical Fidelity’s A1001 but they made even this solid-state beast sound slow and sluggish everywhere else across the spectrum. They produced a more transparent musical vista too, with greater stage depth and width.

We removed the James and lugged in the much larger Thomas Transducer horns. This gave the monoblocs more of a chance to strut their stuff at the bottom end. Plucked double-bass on Jazz numbers had effortless speed and control - there was none of the slight lability that the James had provoked. Add to that an addictive lucidity to the lower octaves and you can start to see that the Smart 300Bs fed from a Mistery 2 are an attractive proposition.

Unfortunately, they also happen to cost £6000 with the pre. The latter’s 1750 Pounds Sterling are well spent, no quibbles there. However, 4250 units of said currency for the power amps won’t produce the same ‘rush out and buy ‘em’ urge, I suspect. Not helping the case was the way our samples’ VA-6300Bs began sparkling as this review was being finished.

Revamped valves like the VA-6300B are invariably expensive to make because of new tooling and relatively limited quantities; a replacement pair for your Smarts will set you back around £600 at present, which goes a long way to explaining the amps’ price tag. In time these triodes are bound to get cheaper, but for the moment, in spite of the Smart 300Bs’ alluring presentation, their less expensive Smart 845 stabelmates look a tempting alternative.

If you’re after more watts than you can shake a stick at by single-ended standards and you’re a fan of the 211 school of sonics, then check out the Smart 300Bs alongside the Smart 845s. Partnered with the right ‘speakers (in other words, 90dB plus) they are just as capable of blowing your socks off to Heavy Metal as they are of plucking your heartstrings to gentler compositions.
Valve-heads alert! Thomas Transducers' Virtuoso Golds could be the loudspeakers you're looking for, reckons Jon Marks.

"Swings and roundabouts" is a phrase we often find ourselves using to describe equipment that passes through our portals here at Hi-Fi World. For many a promising product embodies an interesting design approach which doesn't fulfil its potential for some reason or other. And one component genre which swings and roundabouts more than most is horn loudspeakers, one example of which is Thomas Transducers' Virtuoso Gold.

In theory and on paper, horn loudspeakers make a rather large amount of sense. Basically, if you crunch your numbers correctly, what you should end up with is a 'speaker system of extreme efficiency that even the headphone output of a portable stereo could get ear-shattering levels from. And because the horn couples the driver to the air load in the room very effectively, you get smaller cone movement and lower distortion.

**Horns of Dilemma**

The operative words in the paragraph above are "In theory and on paper" though. In the real life of a living room, things turn out very differently.

As far as bass from a horn goes, bigger is better, and absolutely huge is best. There are ways to make a horn for a given low-frequency cut-off point smaller, like designing the mouth of the horn to fire into the corner of a room, as Thomas Transducers have done here.

In this arrangement, the walls and floor act as an extension of the horn, giving a larger mouth area and so deeper bass. The drawback is that a corner is not an ideal horn profile, hence bass is usually lumpy and blurred when augmented in this manner. Another stumbling block is that, as mouth area and horn length decrease in order to fit the 'speaker into a cabinet smaller than a refrigerated container, you get increasingly large ripples in its response. This is because of the formation of standing waves inside the horn itself.

**Loudspeaker Origami**

As if these aren't enough obstacles to overcome, there's one more awaiting the unsuspecting homophile. How you actually cram your horn into a practical cabinet is a deciding factor in its final sound. Figure 1 shows a cross-section through Thomas Transducers' own Accelerando loudspeakers which we reviewed back in September 1996. To get a relatively long horn into a space 129cms by 81cms by 39cms, you have to fold it back on itself. Unfortunately, the passages between folds can suffer from resonances along their lengths, which colour the final sound. Hard 180degree folds in horns tend to produce poor results, which is why Thomas Transducers have opted for a shorter but less convoluted path for the sound in the Virtuoso Gold (Figure 2).

These £3395 'speakers feature an innovative approach to horn construction. The horn is cut out of blocks of polystyrene glued inside the cabinet. This makes them much less expensive to produce than the Accelerandos, whose complex woodwork was the main reason for their £6600 asking price. Polystyrene is also less sonically reflective than MDF panels, so you get a cleaner overall sound.

**Magnetic Personality**

Sitting at the throat of the front
horn (which lifts midrange output) is a Lowther PM2C driver with chunky wooden phase plug. This unit features the same low-mass paper twin-cone that graces all Lowther's drivers. Where it differs from 'A' suffix Alnico and 'DX' prefix Neodymium magnet drivers is its less pricey motor. This is a very hefty ferrite ring magnet which gives the PM2C a more extended and even bandwidth than lesser ferrited Lowthers. (See October 1997's Letter Of The Month for more details).

While twin-cone full-range drivers are a rarity these days, they do have several advantages over your average multi-driver 'speakers. Number one is a tonal consistency that comes from having low and high frequencies covered by the same material, in this case paper. Number two is a lack of the midrange phase problems that crossovers in two-way loudspeakers cause. Then there's the fact that the Lowthers are point sources drivers (like KEF's Uni-Q and Tannoy's dual-concentrics), which helps imaging and sound staging.

SPIKED!
One thing that's absolutely vital to getting the best sound from the Virtuosos is spiking. Regardless of how carefully you locate their cabinets, unless you've screwed the eight spikes tightly in place, you'll be faced by a blatant midrange honk. Less important is corner placement. Even a couple of feet out into the room, the Virtuoso Golds didn't sound obviously lacking at the bottom end.

EAR TRUMPET
Although these 'speakers are large by conventional standards, they're a little on the small side for horns. But there's nothing small about their sound (from a Pink Triangle Litaural through Unison Research's Mystery 2 pre and Smart 300B monoblocks, as well as Musical Fidelity's A1001 integrated), as a spell with Bach Is Back by lain Simcock proved. This organ music compilation highlighted the Virtuosos strengths and weaknesses perfectly.

Once the CD started the TTs just vanished, so that if you closed your eyes, it would be nigh on impossible to pinpoint their position within the sound stage. This disappearing act is only possible once you've got the cabinets at the correct angle to each other. In our room, we had them strongly toed-in and pointing almost directly at the listening position to maximise high-frequency extension.

One of the outstanding characteristics of the Virtuosos is their speed. When it came to dynamics both large and small, they made even agile direct-radiator 'speakers like the Jamo Concert 8s seem slow and sludgy. Added to this is a natural ability to reproduce the rhythm and pace in a piece of music properly.

It wasn't all plain sailing though. On certain lower midrange/upper bass notes there was a slight amount of cabinet honk apparent. This was evident on Eric Bibb and Needed Times' Good Stuff CD, where some of Eric's gritty, emotive vocals sounded a touch coloured and thickened. Randy Crawford's Secret Combination was similarly affected, with a slightly 'cuppy' quality to her voice. Luckily this didn't detract from the phrasing and subtle accents which make her vocals so enjoyable.

While the sheer efficiency of the Virtuoso Golds makes life easy for partnering amplifiers, it also shows up any low-level hum or hiss - check them with the amplifier of your choice to see if there are any problems in this respect.

In an attempt to make these horns sound nasty, I turned to an Opus 3 CD of the Zetterqvist String Quartet. A Stenhammer composition displayed a bit of sharpness and brightness to strings but this steered well clear of edgy harshness. The lasting overall impression remained that of great naturalness, lightning-fast transients and beautiful cohesion.

Building a domestically-appropriate full-range horn with an acceptably uncoloured and even response for less than mortgage money has been an undiscovered Holy Grail up to now. If you've got a large (20ft. plus long) listening room and the ancillaries to do them justice, the Virtuoso Golds deserve an audition •

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Ketan Bharadia grooves to the sound of Sonneteer's Sedley MM/MC phono stage.

Sonneteer are a small company whose first two products caused quite a stir here at World Towers. The Campion and its bigger brother the Alabaster are two very competent integrated amplifiers at their price points, but both have a serious flaw from a vinylsque point of view - they're line level only.

Those of us who listen to the black disc have, up to now, needed to look outside the Sonneteer family for a phono stage. All that's changed with the f399 Sedley though.

There's a certain understated, functional elegance about Sonneteer components which I can see going down well in living rooms across the land. It comes from the full-width black casework and brushed aluminium front panel. There's also that rare and expensive blue LED on the fascia which endows the Sedley with that extra bit of class compared to cheaper green or red types.

THE TECHNOLOGY

Loading flexibility is one of the aces up the Sedley's sleeve. Investigate the back panel and you'll find two rows of DIP switches (one for each channel) to adjust gain (MM or MC), impedance and capacitance. The values on offer are 10pf, 47pf, 100pf and 200pf for capacitance and 10ohms, 47ohms, 100ohms and 220ohms for resistance. Should you leave all the switches open, your cartridge will be working into the MM standard of 47kohm.

If none of the values above suit your cartridge, Sonneteer have left a couple of blank spaces on the circuit board so they can insert custom components. A choice of IEC and RIAA cartridge equalisation is offered as well, the former rolling off bass below 19Hz to avoid cone-flap with warped records and reflex 'speakers.

Internally the Sedley runs from the same 160VA toroidal transformer as the Campion integrated. Raw AC is first rectified before passing across a bank of eight smoothing capacitors (four 1000uf 35V, four 470uf 35V).

Thence it travels to the symmetrical audio circuits, their high-quality discrete input stage followed by a single N32678 op amp in each channel.

Star earthing is employed throughout, alongside Sonneteer's Active Ground. Instead of connecting the sensitive amplification circuitry directly to ground, it goes through an IC instead. Sonneteer say this lowers ground impedance below the minimum theoretically achievable with a copper PCB track, with benefits for the sound.

AND IN THE BLUE CORNER...

The Sedley was connected into a system of Roksan's Xerxes turntable and Artemis arm with an Ortofon MC 30 Supreme MC cartridge. Musical Fidelity's heavily class A 1A01 line-level integrated (which doubles as an extremely effective space heater) was then called upon to drive ProAc Response 2 'speakers on Target R2 stands. Other phono
stages used for comparison included the Roksan Artaxerxes (reviewed in October 1997) with its basic power supply, which together cost around £550, and the now-discontinued Deltec 505.

DOWN TO EARTH
During the course of a conversation with designer Remo Casadei about the earthing socket on the back panel, I found out he recommends experimentation in this area. In spite of a certain scepticism, I tried switching between tone-arm ground connected and unconnected and was surprised to find a subtle improvement when this cable was left off.

Apparently, different set-ups respond in different ways to the Sedley's grounding. Having said that, in our listening room, irrespective of whether this ground lead was connected or not, there was still a small amount of hum audible when using the Moving-Coil input which no amount of shifting equipment and cables could eradicate. Fortunately, this hum was well below the noise floor of the record itself and so wasn't intrusive.

SOUND QUALITY
Though in no need of a spiritual uplift I turned to the R 'n' B flavoured Gospel music of Bebe and Cece Winans. What raised my eyebrows was the sense of life and zest the music enjoyed through the Sonneteer. This had a lot to do with the speed and dynamics on offer - there was very little of the compression on crescendos which a lot of hi-fi inflicts.

Crisp transients were bolstered by the bass which, though taut and beautifully layered, lacked a little of the weight and power that the dearer Roksan managed. By way of compensation was the Sedley's agility and articulation. Rhythmically the Sedley reminded me of Sonneteer's integrated amplifiers and their flair for catching subtle musical accents. Reproducing these accurately highlights the natural pace and timing of the music and makes it so much more involving and satisfying.

Boosting the involvement factor further was the abundance of detail on offer. This, again in character with the Sonneteer amps, was presented in an unforced manner that complemented the music. On Tori Amos' Little Earthquakes, for instance, her vocals were hauntingly pure; I just stopped taking notes and listened to the album all the way through.

MILES AHEAD
The Sedley's enviable capabilities in terms of stereo imaging and focus were ably demonstrated by Miles Davis' Kind Of Blue. This is a great recording, which the Sonneteer left me in no doubt of. Instrument positioning was solid, almost as if they had been bolted down in place. When Miles or John Coltrane moved a few feet forward to play a solo, you knew about it. Of course, if the vinyl front end isn't good enough, you won't hear this clarity. But we're on to a winner.

The £400 phono stage wasn't holding the Xerxes back, and that's no small achievement. Swapping phono stages to the Deltec 505 I uncovered a sound that was even more solid but also smaller in scale and less transparent. The Roksan had a similar level of detail but sounded a little less exuberant and thus not as involving.

It was time to give the Ortofon a rest and try out the Sedley's Moving Magnet input with a Roksan Corus Black MM. The sound quality of this cheaper groove reader was obviously below the Supreme's but what remained was the enjoyable, detailed and metronomically timed musicality.

CONCLUSION
As you might have guessed I'm a bit of a Sedley convert. It gives even the excellent Artaxerxes a run for its money, even though its £150 cheaper. In some respects, like transient speed and stereo sound staging, it actually bettered it. Add the flexibility of variable loading and fine build quality and you're on to a winner.
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After years of waiting, 'super CD' is very nearly here. At the recent American CES audio show, real 24-bit, 96kHz PCM (Pulse Code Modulation) music discs using the DVD disc format were demonstrated to almost universal approval. Meanwhile, negotiations continue over DVD-Audio's official format, which could be either 24/96 PCM or Philips and Sony's DSD (Direct Stream Digital) system. If the latter is rejected, it's quite possible the two electronics giants will go ahead by themselves and introduce SACD (Super Audio Compact Disc), a dual-layer disc with single-bit DSD coding running at a 2.8MHz sampling rate.

This means we could soon have two rival 'super CDs' on the market as early as next year. It all depends on whether the big manufacturers can agree on a way forward in the face of two very different and mutually incompatible audio coding systems, 24/96 PCM and DSD. There's controversy over their relative merits and battle lines are being drawn. In this feature we'll examine Digital Stream Digital. 24/96 PCM will be covered in next month's issue.

IN THE BEGINNING
We all know the CD story by now - it's a 16-bit PCM digital audio format using Philips 'Redbook' standard discs. When introduced in 1983, CD was the highest technology product we could reliably mass produce. Superior digital audio formats existed in the 'pro' field but weren't viable as a consumer format.

The hype was that CD was perfect, a myth that remains in many buyers' minds even today. But a few years on even Philips themselves were admitting this was 'economical with the truth', and the race was on for a higher resolution digital format. Unfortunately, the technology for faster, higher-density discs didn't come...
Conventional multibit PCM requires declination filters on the record side plus interpolation filters on the playback side.

Direct Stream Digital eliminates the filters and records the original 1-bit signal directly.

Direct Stream Digital benefits from a simpler processing chain than PCM (Pulse Code Modulation).

into existence until the early Nineties.

Several years ago, 10 companies came together as the DVD Forum to work on a new digital disc. Using smaller pits than standard CD and a shorter wavelength laser, it stored around eight times as much digital data as CD on an identically-sized disc. The group, comprising Matsushita, Mitsubishi, Pioneer, Toshiba, Hitachi, Sony, JVC, Thomson, Time-Warner and Philips initially called it Digital Video Disc, with the intention of it replacing Laser Discs in the lucrative Home Entertainment market. But due to its myriad possibilities, the DVD Forum renamed it Digital Versatile Disc.

One obvious application for DVD was as a high-quality audio carrier, and the term DVD-Audio was born. But the DVD Forum soon started to disagree about how the new discs would be encoded. Philips and Sony proposed Direct Stream Digital, a system developed for transcribing Sony Music’s huge archive of CBS analogue masters. Others like Pioneer wanted CD-style PCM, but with higher resolution and bandwidth.

Worried that the high-resolution PCM format would be quietly forgotten in the rush to get video sorted out, an industry pressure group called the ARA (Acoustic Renaissance for Audio) was formed, and included Professor Hiro Negishi, Professor Malcolm Hawksford and Bob Stuart of Meridian. The ARA is lobbying for 24-bit, 96kHz PCM which they believe will be the best next step for digital audio.

Negotiations within the DVD Forum are still in progress. The specifications for DVD Video and DVD-ROM (for read-only computer applications) have been finalised, but DVD-RAM (Rewritable computer discs), DVD-ReWritable (for audio and video use) and DVD-Audio haven’t. If the DVD Forum doesn’t adopt Philips and Sony’s proposal, the two companies are seriously considering launching their own SACD format.

A dual-layer disc with one layer carrying standard CD audio for backwards compatibility with existing CD players, the second layer would have high-density one-bit DSD data readable only by special DSD players.

Meanwhile, high-end US manufacturers Muse Electronics, Theta Digital and Resolution Audio, plus the Japanese giant Pioneer, have produced DVD Video players with 24/96 PCM-compatible DACs, with Conrad-Johnson Design and Bel Canto just months away from product launches. Chesky, Classic Music, Mobile Fidelity and Pioneer have responded with DVD titles containing actual 96kHz PCM music. Unfortunately they’ve all given the discs different names - Classic call them 'Digital Audio Disc' (DAD) and Chesky ‘DVD Super Audio Disc’, for example. In all cases, however, they’re audio-only DVDs but not official DVD Forum-approved DVD-Audio.

DIRECT STREAM DIGITAL

A completely different method of coding to PCM, Bitstream was originally developed for applications such as digital telephone systems, thanks to its robust nature and relatively low implementation cost. Around 10 years ago, Philips introduced the system into consumer CD players for the same reasons, and since then many other manufacturers have followed.

Six years ago, Sony introduced a type of Bitstream coding called Direct Stream Digital. Used for transferring CBS’s deteriorating analogue master tape stock into the digital domain, it proved highly successful. Sony say that using PCM ADCs was a needlessly complicated and lossy process, involving converting analogue to Bitstream digital, Bitstream to CD’s 16-bit PCM and then PCM back to Bitstream for the one-bit DACs of modern CD players. Why not just keep the digits Bitstream all the way down the chain? It’s simpler and less prone to losing data while being converted to and from PCM.

Unlike PCM, with DSD the sampling frequency...
determines both resolution and bandwidth. A one-bit word is oversampled 64 times at a master clock frequency of 44.1kHz, giving an overall sampling frequency of 2.8224MHz. This seems stratospheric compared to DVD Audio's 96kHz PCM, but comparisons are misleading because of the differing word lengths. DSD's 64-times oversampling can give four times the bandwidth of CD with the same Signal-to-Noise ratio, or four times the S/N with the same bandwidth, but Sony have set it at 120dB S/N and 100kHz bandwidth.

Apart from its simplicity, there are other benefits to DSD. One is that unlike PCM, its wide 100kHz bandwidth has no dramatic brickwall filter at the top of its frequency range. This means the music's harmonics are allowed to gently tail off by themselves, rather than being sliced off at one arbitrary point. DSD is also particularly well suited to 'down conversion' into other formats such as Redbook CD or MiniDisc, because its 2.8224MHz sampling frequency is a multiple of the current 44.1kHz standard. However, doubts have been cast over DSD's low-level high-frequency resolving ability.

Professor Malcolm Hawksford points out that whereas PCM is highly linear within its bandwidth, DSD's resolution varies with the frequency you're asking it to reproduce. It resolves low frequencies well but gets noisy and less uniform at the upper end of the frequency range.

DPA's Rob Watts contends that while its low-level performance at 20kHz is markedly inferior to 24/96, beyond -90dB it has trouble matching even true 16-bit, "Most of DSD's 2.8 million pulses per second are needed just to reach 16-bit standard, let alone better it", he says.

This is down to DSD's 64-times oversampling rate. Surprisingly, this is slower even than Bitstream DACs found in cheap CD players which often run at over 256 times. In a Bitstream system, oversampling (in conjunction with the master clock frequency) determines both bandwidth and resolution, so it's a critical link in the chain. Although it's said that DSD achieves better than 20-bit performance at low frequencies, further up the range the resolution goes right down.

Technical questions aside, perhaps DSD's key drawback is the fact that it is 'encoder specific'. Rather than being a flexible, portable system the whole of the recording industry can use, it makes sense only if the best Analogue-to-Digital Convertors around are Bitstream. If they use PCM the digital data first has to be converted, which obviates all of one-bit's benefits (such as simplicity, extended bandwidth, etc.) at a stroke.

As DSD relies on one type of encoder only, it finds itself in a difficult position. If most recording studios used Bitstream this wouldn't be such a problem, but the reverse is actually true. PCM-based recorders, digital mixers, effects units, gain scaling, equalising and mastering are the common currency of modern digital recording facilities. So, DSD is fine for straight analogue-to-digital conversion (for which it was originally conceived) but as soon as it goes anywhere near an average recording studio, it's in mortal danger!

Finally, although DSD is very robust in low-resolution applications like telecommunications, it's more susceptible to sound-degrading jitter than PCM. This makes it great for high-volume, low-cost applications where sound isn't paramount, but it's difficult and expensive to get right for high-grade audio. This is an ominous sign for audiophiles, and gives a clue as to where Philips and Sony's aspirations may lie.

THE FUTURE
Sources close to Sony have intimated that although DSD represents a significant sonic advance over CD, its real strength is its 'sound per pound' factor. Rather than DSD being "the ultimate" as Philips and Sony would have us believe, it gives good sound at low prices because it uses inexpensive technology that suits mass production down to the ground. One-bit DSD chips inside low-cost portables and car audio - which bring in far more revenue than high-end hi-fi - is a scenario Sony wouldn't be too upset to see.

This isn't to denigrate DSD, which has undeniable strengths and seems to have won many friends already, but it would be naive to think it's an entirely performance-driven technology. Rob Watts points out that if a PCM DAC costs a dollar and a one-bit DAC sixty cents, if you're selling to the mass market that makes a big difference to the company's bottom line. And because DSD isn't as fussy or as complex, it can be made to sound better than PCM at the low end of the market.

Next month we take a look at the 24/96 challenger and find out how the two formats compare sonically.
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Regular readers will already know about Anthem after the review of their CD1 CD multi-player with valve output stage in March 1998. For those of you who missed it, Anthem is the budget arm of the Canadian company Sonic Frontiers. As with the CD player, however, the term "budget" is stretching things a little - £1300 isn’t quite my idea of an inexpensive integrated!

Despite wearing the trappings and possessing the weight of a mammoth transistor amp, the Integrated 1 is a 25watt valve unit. The line pre-amplifier stage uses a pair of 12AU7s (a Moving-Magnet valve phono stage is available as a £200 option). These feed their signal to a dual triode, the 12AT7, the two halves of which form the input sections to left and right power amps. Next, it’s those 12AU7s again, this time driving the two pairs of EL84s in each channel that form the Ultra-Linear push-pull output stage. The transformers that link valve to voice coil have both 4ohm and 8ohm taps for wider speaker compatibility. In an effort to improve stability and lower crosstalk, the power supply uses three separate voltage regulator stages running from an oversize E/I lamination mains transformer.

The mix of passive components seems to have been carefully chosen too. The potentiometers (for volume and balance), capacitors and resistors come from some of the best names in the business: Noble, Solen and Holco feature prominently.

Quality is the watchword on the outside as well as the inside with heavyweight construction, although I have to say the ‘slab of aluminium...
for a fascia' look is now starting to get a bit passé. Connections on the rear are standard gold-plated RCA phono sockets, with the option of being able to split the pre and power stages for bi-amping.

With only 25 watts at the chunky 'speaker terminals, I knew my own current-loving Celestion SL600 stand mounters were a definite no-no. So I drafted in some more suitable partners in the form of the Mission 751Fs and Heybrook Quartets.

'Yanar's Dance', from Nazaire's Who's Blue album is a live recording with all the necessary background chatter and clinking of glasses. With some hi-fi this noisy ambience can become intrusive, but not the Anthem. It had a knack of judging just how much emphasis should be placed upon each and every nuance of the music. Solo saxophone, for example, was spot on - it had body and vitality without becoming shrill or detached from its instrumental companions.

Another fine line the Anthem confidently trod was that which separates realistic, atmospheric detail from information overload. The warm glass envelopes under the Canadian's lid may have lacked the last iota of analysis but produced an effortless sound to seduce many a jaded ear.

If there was a diminutive toddler's Achilles heel, it was to be found in the bass response, which couldn't quite match the sheer fluidity of the midrange and treble. Power and extension were fine, but there was an aura of softness that you wouldn't find in the best tranny amps at this price. Then again, I doubt few such amps would sound even half as melodic as the Anthem's musicality and seamless delivery and you have a most involving listen.

The Sonic Frontiers continued to charm with Classical music. From the draw-out decay of a cymbal to the shimmer of a tambourine in Tchaikovsky's Nutcracker, this integrated showed the sort of midrange and treble pedigree you'd expect of amps costing several hundred pounds more. Bass, which wasn't outstandingly deep or solid, still managed to sound natural. This lack of power didn't seem especially important in the light of how the lower octaves breathed life into music. 100 watt pre/powers may have more power and authority, but matched with the right 'speakers the Integrated 1 is quite capable of holding its own.

The Anthem may not be particularly cheap, but it is good value. Stiff competition at this price doesn't stop the Integrated 1 impressing. It has those rare sonic traits that mark out a well-executed valve design - its warehouse-sized sound stage, smoothness and accuracy of timbre are beyond many transistor competitors at this price and above.

Drawbacks are few and minor. It doesn't offer the last word in bass slam or analysis, but these foibles are easily forgiven because the rest of the musical mix is so intoxicating. Unlike a number of bottle brethren, you don't have to put up with major idiosyncrasies of operation or flaky build quality in the Anthem Integrated 1. It's an amp that I'll be sorry to see go, and that's the highest recommendation I can offer. Considering this is only Sonic Frontiers' first 'budget' effort, the establishment had better watch out.

Anthem Integrated 1
£1295

Picture The Sound
13 Weston Road,
Guildford,
Surrey GU2 6AU
Tel: 01483 454991

WORLD VERDICT

Characteristically competent and musical integrated. Prefers fairly efficient 'speakers though.

Measured Performance
see p111
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Creek have a fine reputation for making excellent tuners. Ketan Bharadia finds the new £400 T43 is no exception.

The word style is hardly the first that comes to mind when you look at the Creek T43 tuner; functional, definitely, old-fashioned, maybe, but stylish? I think not. As the oft-retreaded cliché says though, beauty is indeed more than skin deep.

The T43 is a well-equipped tuner, covering as it does three bands (FM, MW and, a rare stop-off these days, LW) and featuring a comprehensive remote control. If you happen to have any of the current Creek remote-control amplifiers, their volume and mute functions can also be triggered from this handset.

On the downside, the T43 doesn't come with the Radio Data System (RDS) that so many cheaper rivals sport. Opinions may be divided over how truly useful RDS is in a domestic setting, but it's still handy to know at a glance the name of the station you're listening to.

Locating the airwaves of your choice is accomplished in two ways. Those who prefer the manual approach take to the nicely-weighted tuning knob, while automation fans scan the airwaves with the Up/Down tuning buttons. A few seconds after the Creek has arrived at the requisite station, a signal-strength meter appears on the right of the display in the form of three lines. It would be better if the meter worked all the time though (as it does in most other tuners), as this would make it easier and quicker to home in on the strongest signal.

On the rear panel, sockets are provided for both a 75ohm and 300ohm FM aerial as well as for the 2m wire antenna supplied for AM reception. Despite its uncluttered looks, the Creek can accommodate 29 presets for FM and MW and a further 10 on LW which should be plenty for even the most enthusiastic of ether-heads.

In terms of sound the T43 certainly makes a name for itself with the way it manages to capture the mood and feel of a piece of music intact. Obviously, to do this all the technical aspects of the sound have to be in place. Detail, separation and dynamics were good, but what set the Creek apart from the majority of tuners I've heard is the sense of natural vivacity that it preserves in the signal.

Listening to Tina Turner's 'We Don't Need Another Hero' showed just how good the T43 was in this respect. The emotion in Tina's husky singing plucked at my heart strings, especially when combined with the fat, bouncy bassline that's so important to the structure of this song. A touch of sibilance was present on the tightly-focused vocals but the natural way they were presented more than overcame this shortfall. The brief saxophone solo on this track proved revealing too, its fine fluidity and reedy rasp not falling foul of the hardness that taints the midrange of much solid-state gear.

Medium Wave can be a bit of a gamble on modern tuners. Mike Creek, the T43's designer, has evidently put a lot more effort into this area than the after-thought MW sections fitted to most tuners. The sound wasn't FM quality but it had a clarity usually conspicuous by its absence.

Aesthetes after an audio sculpture are unlikely to flock to the Creek T43 in their droves. On the other hand, I can see audiophiles in search of a capable tuner which won't break the bank doing just that.
The Cartridge Family

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What's in a name? Well, Tannoy christened their flagship £25000 four-way behemoth the Kingdom. With each 370litre cabinet weighing in at 170kgs, that sums up those 'speakers rather succinctly. So what are we to expect from the Precision P10 stand mounters? Clean, dry bass in the Tannoy tradition, crisply-focused imaging and an overall transparency? I was hoping so, because a combination like that for £300 would be a bit of a coup.

The ported P10 is the smallest member of the new Precision series from Scotland's finest. Where it rubs shoulders with the mighty Kingdom though is in its tweeter. This hard-dome unit, with its 'ceramic' sandwich-construction diaphragm, is similar to that bolted to its very much bigger cousin. Squeezing an 18in. woofer into a stand mounter proved somewhat more difficult, so Tannoy opted instead for a 6in. mid/bass with an opaque composite cone. Both units are mounted on a sloped front baffle to improve time-alignment, while the two parallel sides (no polygonal cabinetry here) are clad in real wood veneer. Gold-plated bi-wiring terminals complete the package.

After nearly a week of run-in, the P10s had finally settled down so I started some serious listening. Music was sourced from an Assemblage DAC-2 convertor with upgrades, a Pink Triangle Numeral serving as a transport (the two linked via the ProDAC cable from the Chord Company). All other cabling came from Kimber. The Tannoys were placed on a pair of Soundbyte-filled Atacama SE24 stands where also occasionally resident were Rogers LS3/5as, KEF Q15s, Mordaunt-Short MS10i Classics and Seas Mini Monitors.

A rather slow and slightly untidy presentation first greeted my ears when the Precisions were connected to the similarly-priced Aura VA 80 integrated amp. Fortunately, resorting to the more expensive Roakan Caspian unleashed their hidden potential. The P10s turned out to be very consistent across the frequencies, but a lack of low-level resolution was apparent at the top end. This came as a surprise considering the tweeter's claimed 38kHz bandwidth (most begin drooping at about 20kHz). For example, Salvatore Accardo's violin in Paganini's Diabolus In Musica (DG-449 858-2) sounded even and free from grain but the air and lucidity normally associated with this recording were missing. Detail was good, as was tonal colour judging from the attention the Tannoys paid to the wooden resonance of the violin rather than merely concentrating on its strings. Imaging was probably the weakest area of the P10s, which assembled a slightly two-dimensional sound stage.

Lower down the Precisions scored higher. Bass had excellent weight and depth for the size and price, although it could have done with a little more punch. There was also a touch of boxiness when the 'speakers were pushed hard. Fans of the angry Alanis Morriseotte or calmer Sheryl Crow may be disappointed by the P10s' relaxed view of timing: even Aqua the manic Barbie band sounded mellower than normal thanks to a rounding off of leading-edge transients. This meant the Tannoys were better suited to more mainstream recordings from, say, Celine Dion or Nat King Cole, which sounded rich and involving.

It did take some time to acclimatise to the P10s' character, and I bet you'll either love it or hate it depending on your taste in music. On one hand, a pair of KEF Q15 or MS10i Classics would sound perceptibly more open and free, on the other, the P10s are certainly more consistent. Utmost 'precision' they probably aren't because of their lack of spaciousness. However, partner them with a detailed and powerful amplifier and these Tannoys are worth a serious listen.

Leo Lam finds out if Tannoy's P10 stand mounters live up to their 'Precision' tag.
Perfect your system with one of the four great prizes we're giving away this month, worth over £2800.
Competition

This month's competition gives you a chance to win one of four superb prizes. We have a stylish Sony CDP-X3000ES compact disc player, a Monopinith platform from Elemental Audio, a pair of Absolute 4P active loudspeakers from Soundcraft, and (pause for breath), a hand-crafted EtaIon PreAmpli pre-amplifier from Hungary.

Sony's CDP-X3000ES CD player was reviewed in the March issue, where its sleek looks were backed up by a natural musicality. The 3000 is a top-loader, where a transparent acrylic lid slides back to reveal Sony's fixed-pick-up mechanism and disc clamp. But what marks out this £499.99 player as something a little unusual is its selection of digital filters. These allow you to tailor the sound to match your own sonic taste and any disc in your collection.

It was this last February that we assembled six equipment platforms for evaluation. Best of the bunch was Elemental Audio's £499 Monopinith. This heavyweight support has a tubular steel frame filled with lead shot and fine casting sand. The 20mm thick marble agglomerate shelf on top is damped by a rubber sheet and has four soft lead discs to provide a bedding for the adjustable top spikes. These have hardend, nickel-plated carbon-steel tips mounted on hard-grade stainless-steel adjusting threads. On the underside of the powder-coated frame are four more precision-turned floor-coupling spikes. All this adds up to 27kg of elegant platform on which to proudly site your hi-fi components, safe in the knowledge that they are getting all the support they need.

The Soundcraft Spirit Absolute 4P loudspeakers were reviewed back in October 1997. These two-way stand mounters rely on a phase-linear active crossover to ensure each Audax driver (a soft-dome tweeter and Aerogel mid/bass) is receiving a clean signal from the built-in 100watt amplifiers.

These £799 professional studio monitors require only a source and pre-amp, or even a CD player with variable output, to create a complete system. Jon Marks found the 4Ps a reality and impact in the bass which made many passive designs sound sluggish, blurred and bloated. With their power, transparency, detail and speed the Absolute 4Ps are perfect partners for smooth and capable sources.

Prize number four is Etalon's £1095 PreAmpli pre-amplifier. Also reviewed in the February issue, Jon Marks found this solid Hungarian-made unit, teamed up with its matching Ampli power amplifier, to be unfailingly natural in its presentation. As well as six line inputs and a choice of RCA or XLR outputs, this dual-mono pre has individual toroidal transformers and rectification for each stereo channel. With its chunky construction and open sound, this preamp may be just the ticket to nurture your sources' outputs.

If you'd like the chance to win one of these prizes, all you have to do is answer the questions opposite and complete the tie breaker. Send in the entry form on the back of a sealed envelope or postcard to reach us by May 6th to:

Four-Prize Competition
Hi-Fi World Magazine,
64 Castellain Road,
Maida Vale,
London W9 1EX

Don't forget to include your name, address and telephone number so that we can contact the winner promptly.

COMPETITION ENTRY QUESTIONS

1) How many digital filters does the Sony CDP-X3000ES have?
A. 1 B. 3 C. 4 D. 44.1

2) What kind of crossover do the Absolute 4Ps use?
A. Passive B. Zebra C. Mainstream D. Active

3) How much does the Etalon PreAmpli cost?
A. £499 B. £2000 C. £799 D. £1095

4) What is the shelf of the Monopinith made from?
A. Agglomerate marble and rubber
B. Cornish granite and melite
C. Acoustically-treated cereal packet and sticky-back plastic
D. Carbon-fibre reinforced kevlar boxboard with a doped PVC damping skin.

5) What kind of pick-up mechanism does the Sony CD use?
A. Fixed pick-up B. Parallel-tracking pick-up
C. Swing-arm pick-up D. Vertical-tracking pick-up

TIE BREAKER (obligatory)
Complete the following in less than 30 words
They're absolutely fabulous, I'll take the 4Ps,
But what's that and what are these?
Elemental my dear, why that, it's a Sony,
This is a Monopinith and this a PreAmpli,

Name:
Address:
Post Code:
Tel No.

PLEASE STATE YOUR PRIZE PREFERENCE
1) 2) 3) 4)

COMPETITION RULES AND CONDITIONS

[1] Only one entry per household. Multiple entries will be automatically disqualified. [2] In the event of more than one entrant submitting all correct answers, the winner will be picked from the tie-breaker by the Editor. We will endeavour to publish the results in the second issue following the closing date. [3] Purchase of the magazine is not a prerequisite of entry. [4] No correspondence will be entered into; the Editor's decision is final. [5] No employees of Audio Publishing Ltd. or of any companies associated with the production or distribution of the prizes may enter.

COMPETITION WINNER
March Issue competition

JONATHAN BELL of Yapham, York
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There are over one hundred thousand Linn Sondeks in the world. With the notable exception of those modified by Pink Triangle (where a new DC motor is fitted), they all use Airpax’s AC synchronous motor. This ubiquitous little device, which can also be found on Regas and Manticores as well as numerous other decks, requires a clean and carefully-managed power supply, if it is to give of its best. The aim here is to provide the purest signal to yield stable, low-vibration drive.

Many turntable manufacturers choose to make cost savings in this area. In the most elementary layout, you can get by with just a resistor and a capacitor. The resistor drops the voltage (typically to 70V-100V, reducing torque but crucially also lowering vibration), while the capacitor phase shifts the mains sine-wave 90° before it reaches half of the motor’s 24 poles. This simple circuit does work but it leaves you at the mercy of the rather dirty UK mains supply. So, what goes into a superior supply?

There are two differing schools of thought here. One suggests stepping down the mains voltage with a quality transformer while the other plumps for generating an unsullied 50Hz waveform from a quartz-locked signal generator.

This review encompasses both types, with Naim and Norton representing the transformer camp, while Linn and Manticore resort to crystals. We found out which fared best with a latest-spec Sondek carrying an Ltoek LVII arm and Ortofon Rohmann MC.

**NAIM ARMAGEDDON**

Naim Audio’s beefy power supply was originally designed for the LP12 as part of the Armageddon project which included the Prefix phono stage.

The unit is housed in a substantial Hi-Cap-style casing, with a single, large rotary switch to get the platter spinning. Output to the motor is via an industrial-grade five-pin power connector. A matching flying lead is hard-wired to the LP12 via a simple PCB mounted on the Sondek’s wiring strap. To cover the hole where once was set the Linn...
Anthem range from Sonic Frontiers

Sweet sound and numerous feature make the CD1 fine value for money.

World Verdict

March 98

Anthem CD1

Wonderful natural sound: Masses of realism.
As a high-end contender this player is a winner.

WHAT HI-FI?

Jan 98

Anthem Pre 1L

"...better sound than you’ve got any right to expect at this price point - maybe even double. Very highly recommended."

stereophile Feb 98

Anthem Amp 1

"...excels at just about every parameter, ... but the best part is the Amp 1’s sheer musicality."

Stereophile Feb 98

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power switch comes a discreet, black, Naimed blanking plug.

The Armageddon endowed music with a warm yet incisive quality, rhythms not so much outlined as underlined. Tonal balance erred marginally at frequency extremes, with a powerful but slightly overblown bass counterpointed by an open clarity and hint of brightness in the upper registers. This meant surface noise and production faults were in evidence, but so was a whole groovelful of music too.

Rhythms on the Armageddon were easier to differentiate on certain brassier recordings compared to either of the quartz supplies, making for an easier-listening performance that was always sprightly and engaging. In addition, vocals took on greater presence and moved forward in the mix compared to the Norton, for instance.

NORTON AIRPOWER

This black box from new company Norton Technologies falls in the same toroidal camp as the Armageddon - it uses a very large 1000VA transformer big enough to shame the majority of power amplifiers. The main power switch is on the rear of the casework, while a smaller rocker on the front is used to start the deck. Best of all, the Norton is Lingo pin-compatible so requires no special fitting by Lingo users. Non-Lingoers will find a fitting kit and instructions included.

This supply is blessed with one of the widest sound stages you'll lay ears on - instruments and ambience stretched well beyond the confines of the loudspeakers' cabinets.

The sonic signature of the Air Power was easy to identify. Anything with a bassline in it had an irresistible drive, underpinning the mellowest, velvety midrange and sweet, secure treble. There was phenomenal solidity when portraying solo instruments too. Piano from Enya's Watermark, for example, had a three-dimensional realism that allowed you to picture fingers on keyboard.

On busier passages such as Rachmaninov's Second Piano Concerto, the Norton does have a tendency to simplify matters somewhat, picking out the main thread of the music and focusing on selected tunes at the expense of every nuance available. At these times there was an element of clutter and tunes could become a little homogenised. Nonetheless, this remains a pile-driver of a power supply.

LINN LINGO

Back in 1988 Linn denied all knowledge of work on a two-speed power supply for the Sondek. Two years later the Lingo appeared.

Linn's own supply is the tidiest box here, with a single flush on/off switch on the front panel. Connection to the turntable is via a multi-core cable terminated in a locking 8-pin DIN plug. So far, so simple. Inside, however, it's a different story.

A compact toroid feeds a quartz-locked signal generator with two crystals providing the final output frequencies of 50Hz and 67.5Hz for 33rpm and 45rpm respectively. Speed selection is achieved through the deck-mounted switch: pressing momentarily lights a red LED and 33rpm, pressing and holding lights a green LED and 45rpm. At start-up the voltage applied is high to get the platter turning. Once the deck's at speed though, it drops down to a quieter 61V.

The sound with the Lingo'd LP12, like the Norton, is quite distinctive, but for very different reasons. Whereas the Norton (and to a lesser extent the Naim) has a firm grip on bass rhythm and a way of tunefully rendering instruments, the Linn opens a new window on detail and timing previously closed to the toroid supplies. Latin percussion appeared across a clean soundstage, every drum and shaker locked in place, rhythms tripping along while complex time signatures were deftly unravelled.

An early recording of Die Meistersinger which had sounded blunt and dated by age suddenly revealed itself as a pacey, melodic rendition. Modern recordings had a definite master-tape feel - Garbage's Stupid Girl possessed the tightest, tautest rhythm section thus far heard and positively tingled with grunge-factor overload.

MANTICORE MB6

The Manticore works along similar lines to the Lingo, with two quartz crystals to lock pitch. Operation is controlled by the same ITT switch as the Lingo, but mounted on the MB6's front panel with the LEDs' colours reversed. For £690 an MB6i represents Manticore's last word, utilising as it does special-grade components in important areas.

Listening with this supply was a hybrid experience: there was the bass power of the transformer with the apparent neutrality of the quartz. For many this will be the perfect balance as it has the advantages of the former (bottom-end drive and sweet top end) with the tightly-defined imagery of a good quartz drive. And it plays 45s without dismantling the deck!

Unlike the Linn, the MB6 was more forgiving of bright or worn recordings and dubious 'digital remasters'. Timing in complex pieces was excellent, a veritable metronome ticking at the heart of challenging percussion work.

CONCLUSION

So, which is the best PSU for your cherished LP12? They all have relative merits which need to be experienced in your system before you make your choice.

The Naim and Norton, which are broadly similar in sound, offer a sweet and tuneful warmth coupled with a dynamic and weighty bottom-end clout that gives most LPs a natural and organic feel. Of the two, the Naim has more treble detail, though it's not necessarily better for it.

The Linn and Manticore on the other hand have greater precision and detailing, with the Manticore giving a more consistent sound. Where the Linn does fall down occasionally is in the way it can overwhelm you with detail. In contrast, the Manticore gives you all the music you could want to listen to •

Armageddon £610
Naim Audio Tel: 01722 332266
AirPower £399
Norton Technologies Ltd Tel: 01245 283125
Lingo £750
Linn Products Ltd Tel: 0141 307 7777
MB6 £560
Manticore AV Shareholders Ltd Tel: 01767 318437
Jon Marks plugs into Kimber PowerKords

“When we auditioned mains cable from Moth and DNM back in June, we found really quite slight improvements to our systems’s sound, but not so with the 4TCM. Even as I was walking over to our customary listening spot on the sofa, I could hear better bass definition and extension.

“Treble was also sweeter and there was a clarity that allowed the full acoustic through Jamo’s Concert 8 stand mounters to provide a large, holographic sound stage.

“So far, so good, and £73 very well spent.

“...if you wanted to shake a stick at the rhythm, it would now be the size of a telegraph pole.

“Last was a six-foot 8TCM - Kimber say the longer the better with these cables, as RF attenuation increases with length. Now the music coming from the Concert 8s had an addictively natural, organic feel to it. Switching back to normal leads, the sound was still enjoyable but had a hard mid and treble and soggy bass.

“I only hope Russ doesn’t want these back, as they’re now taken up permanent residence in our system!”

Jon Marks, Mains Maintenance review, Hi-Fi World, Dec 1997
As the end of the millennium draws ever nearer, it's easy to get the impression that technology is taking over. Thankfully we've not yet reached George Orwell's 1984 scenario, but in many areas of life 'high-tech' is the buzz-phrase. However, while companies like Wilson Benesch and others have decided to reap the benefits of modern materials like carbon-fibre, Holfi of Denmark have travelled a totally different route. Not only is wood used in the front panels of their components (like the Xara CD player), their turntable is also made of the stuff. If the natural approach works for LPs, can it do something similar for CD?

The £950 remote-controlled Xara uses the latest Philips CDM12.1 transport but features a multi-bit DAC rather than the more customary Bitstream almost invariably chosen these days. This older digital technology can show newer designs a thing or two though, if backed up by proper power supplies and a well-designed output stage. In the Xara's case, this is a solid-state, single-ended, zero-feedback current amplification circuit. The components inside are of a high quality and include the likes of Elna's Silmic capacitors. Minor details like the thick, unshielded copper rods that transmit signals from the main board to the output stage exude a certain electronic class too. Mechanically, the inside of the Xara's thick steel cabinet is damped with heavy bituminous pads and carbon-foam, which latter the Holfi's manual claims, "takes care of high-frequency digital noise". Finally, the Xara has gold-plated RCA analogue sockets on its rear panel but, strangely, no digital outputs.

After more than 100 hours of running in the Xara was hooked up to a Roksan Caspian amp (which served as both integrated and pre-amp) in addition to Musical Fidelity XA50 monoblocs and Wilmslow Audio Mini Monitor loudspeakers. Kimber PBJ interconnect linked CD player and Caspian, with the excellent Pentacone Plain Copper between Caspian and MF. And since the Holfi's rubber feet steadfastly refused to sit stable on a flat Soundstyle stand, I slipped three TopCones from Ensemble underneath it.

The Xara was very much at home with a selection of Opus3 CDs, revealing all the clarity and acoustic atmosphere I've come to expect from these recordings. One aspect of this player's rendition that really stood out was the bass, as demonstrated in a piece by Frank Zappa (Opus3 CD19692) remastered with HDCD encoding. In spite of lacking an HDCD filter, the Xara's bass slam verged on the window-shattering and furniture re-arranging thanks to its speed, weight and slam.

The guitar on another HDCD disc, Latina-Rumba Flamenco, showed the sweet treble wasn't slow either - it was crisp without becoming aggressive. In comparison to my reference DAC-2 from Assemble, there was a little less resolution and texture, but you'd expect that given the DAC-2 as a kit with upgrades costs over half of the Holfi's £950. However, the silent background and generous sound stage rebalanced the odds in the Dane's favour. Turning to something more upbeat and grungey like the latest offering from Sheryl Crow posed no problem for the Xara whatsoever. It adapted to Crow's ever-changing voice and managed to extract most of the subtlety in the complicated mix. It was commendably sympathetic to recording faults too, invariably emphasising the musical content above production quality.

What Holfi have succeeded in doing is combining the oomph and musicality of older Multi-bit technology with the smooth, sweet treble more characteristic of Bitstream. Although the Xara is unlikely to worry the competition over £1500, it should give its pound-for-pound competitors a shiver up the spine.

Can't see the digital wood for the trees? Leo Lam suggests Holfi's Xara CD player.
SUBMEOW?

I am writing to offer a solution to the problem experienced by Rod Bushell and his cat (not named) in World Mail, Vol 7, No12 (Feb '98). This solution can be found on p166 of the Spring/Summer Argos catalogue and it's called a "Cat House".

The clever part of this piece of kit is its top platform, which is roughly the same height as most settee hacks. I am sure this would fit neatly between wall and sofa whilst allowing said cat the improved stability of sofa hack plus a platform area supported by a scratching post - feline and audiophile in perfect harmony. Better still, if the cat takes no interest in the box constituting the base, this can easily be converted into a subwoofer, or is that a submogger?

A. Moses
Durham.

The perfect accessory for music-lover and feline - the Cat House from Argos. Please note the lower box, which is ready-cut to take a subwoofer driver for extra bass.

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REVAMP OR REPLACE?

A 25-year-old Ferrograph F307 MkII integrated amplifier powers my hi-fi system. If there is anyone at Hi-Fi World who is old enough to know anything about this model, I would like some advice on it.

I have been more than happy with its performance over the years but now it needs minor repairs to the input selector panel. I will have those repairs done whatever, but I would like to know if the Ferrograph has been overtaken by improvements in amplification technology. Should I therefore be looking at a replacement?

I like what I have read about the following amplifiers: Audio Analogue Puccini, Roksan Caspian, Sonneteer Alabaster and Electrocompaniet EC-1 or EC-2.

What do you advise? Is the Ferrograph in the same league, or should I relegate it and look for something new?

My other hi-fi components are Spendor BC1 'speakers, Pioneer TX-GOING SEPARATE WAYS

I write in the hope of some independent advice. I currently own a JVC Adagio S200 Mini system but I am hoping to replace this in the future with a system of separates. Even though I will only be looking at relatively cheap components (around £150-£200 each, with a budget of about £200 for the 'speakers), it will take some time for me to save up this amount with my very limited income - yes, I am a student!

As I am impatient, I have decided to buy the 'speakers now and improve the quality of my existing system immediately. Having visited the two local specialist audio dealers, I have been recommended the B&W DM601, the Celestion 15i, the KEF Q15 and the Mission 732i. Have you had any experience with these or any other 'speakers of this price and style - ie, fairly compact and wall bracket or stand mounted?

I listen to anything from Classical through Jazz to Pop, Dance and Club. I like good, strong bass, detailed treble and focused imaging.

Michael Young
Herts.
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REAL-WORLD HI-FI

I've just finished playing fantasy hi-fi, again and managed to finish within my £12500 budget. However, as I did not manage to predict more than two lottery numbers again this weekend, I thought I had better take a look at some possible low-cost improvements to my own gear and ask your opinions.

My present system numbers amongst its ranks an Arcam Alpha Plus CD player and Systemdek IIX/900, RB300 and Goldring 1012GX feeding an Aura VA100 Evolution amp, which in turn drives a pair of TDL RTL2 'speakers. The CD-to-amp link is via a Chord Co. Cobra interconnect and the 'speakers are connected using Audioquest Type 4 cable.

Overall I'm happy with the smoothness and warmth of this arrangement but I crave just a little more detail, separation and tighter bass. Now, whether this is possible without brightening the treble or costing a fortune I'm not sure.

With the CD player the obvious answer is to add a DAC. Would I be better off choosing a second-hand model (such as an Arcam Delta Black Box 5 or DPA Little Bit Three) or would a newer budget design (like a Musical Fidelity X-Act or Cambridge Audio DACMagic III) be as appropriate?

Option number one for the turntable is to upgrade the stylus to a 1022 or 1042. Other thoughts include re-wiring the arm and fitting phono plugs to the back of the turntable, or purchasing an acrylic platter and separate power supply.

Separate Pre Out/Power In sockets for bi-ampling is a feature sadly lacking on the Aura. I'm hoping you can assure me this situation can be easily remedied, which would allow the purchase of a second-hand VA100 and a bi-amped system.

Steve Brooks
Northants.

I have to say I have reservations about the one-box CD player/add-on DAC approach, in as much as it often, although not always, entails spending a relatively large amount of money for small sonic gain.

You don't mention what your Arcam is sitting on, but £130 spent on Perfect Sound's Absorber platform (reviewed in Feb '98) would bring about the kind of improvements you seek. It'll also work well under any future upgrades.

When it comes to the turntable, there's a couple of steps you can take. First, get your RB300 modified by Origin Live (tel: 01703 442183). This gives the arm a vastly more solid, detailed and spacious sound. Second, as you say, swap the stylus - you'd be better going straight for the 1042, bypassing the 1022. An out-board PSU is a safe bet too. Call Audionate for Systemdek spares, as they've taken over their turntable side of the business (tel: 01273 220511).

As for the bi-ampling, the only real way to do it with two VA100s 'sans sockets' is to hook one up to each 'speaker.

Plug the left channel from your CD player, for example, into the left channel CD input on one amp. Then, with a short run of interconnect, hook the left Rec Out socket of the tape loop on the same amp up to its right channel CD input. This effectively monos the amp. Do the same with the other amp and the other channel of the CD player. Then run the tweeter of the left 'speaker from, say, the right 'speaker terminals and the mid/bass from the left 'speaker terminals of the relevant amp. The same goes for the other 'speaker. If all that sounds a bit daunting, check out our bi-amping feature on p78 of June 1997's issue.

And finally, have a look at the following letter... J111

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SPEAKER SURGERY

I am prompted to write after having recently upgraded my RTL Series 2 floor standing 'speakers. This was achieved by replacing the standard capacitors in the crossover with Ansar polypolypropylenes and replacing the internal wiring with better quality 'speaker cable (in my case, DNM Reson). I also damped the rear of the magnets of all the drivers with self-adhesive bituminous sound deadening panels (these are readily available at very reasonable cost from most good car accessory shops). The pressed steel frames of the bass drivers were also treated with small pads cut to size.

The difference and improvement this inexpensive and easy mod has made to the sound is amazing.

Obviously, any item to be so modified should be out of the manufacturer's warranty period as the guarantee would be rendered invalid as soon as you take a screwdriver to it.

David Duffin
Lancs.

Learn about loudspeakers with a copy of John Linsley Hood's Audio Electronics. Newnes. Tel: 01865 310366

A little tweaking will help get the most from TDL's RTL 2 floor standers.
BOXING
I currently have a set-up consisting of a Pink Triangle Anniversary/SME V/Lyra Clavis DC running through a Michell ! so to a Copland CSA14. I am happy with the sound although I realise the limitations of my £200 speakers. I now have a budget of £2000-£2500 which, in theory, I intend to spend on upgrading the speakers. I have auditioned Sonus Faber Minima Amators and Monitor Audio 20SEs, both of which I liked - but not enough to purchase on the spot. I have also heard the Martin Logan Aerius in a friend's system and thought they sounded great, but his amp is much more powerful than the CSA14.

I listen mostly to Classical (more chamber than orchestral) and to some Indie. Can you advise me on whether the Aerius are suitable and what other 'speakers I should be listening to. I will need to upgrade my 'speaker cable too - any ideas?

Adrian Spence
aspence@quantime.co.uk

Not being familiar with the Aerius, all I can advise is that you listen to them within your system (or at least with your amplifier) before deciding. As for different transducers to consider, have a look at the Jamo Concert 11s (reviewed in the December 1997 issue) which are big brothers to the Concert 8s. At £2000 these floor standers are outstanding value materially and sonically and combine an open, airy sound with excellent dynamics and speed.

If you're a large room and really crave seismic bass, then the £2400 Celestion A3s which so impressed Douglas Floyd-Douglass in May 1997 are well worth considering too.

You don't mention which loudspeaker cable you are using or what your budget is, so I can only give some general recommendations. At around £180 for a three-metre bi-wired and terminated pair, Pentacone Grade 1 cables are fine value. At a higher price there's the excellent Purist Audio Elementa - £175 for the first metre with each additional metre costing £45. KB

NO PREAMBLE
I'm wondering, can I direct the output of my CD player directly into a power amp?

It's time to replace my fiancee's stereo, having left my Teac/Rotel/Heybrook combination back in Canada. My fiancee's Sony CD player, a CD-P507, has line output control. Could I just plug it straight into the Rotel power amplifier and use the line output control on the CD player as my volume control? Not having a range of inputs does not bother me unduly.

Jeff Rabin
mjrabin@mcmail.com

The short answer is yes. As long as you don't sit the CD player at one end of your room and the amp at the other there shouldn't be any problems. Most CD players these days will happily drive a metre or two of interconnect into a power amp. If you wanted better sound from a similar set-up, you could try a volume control (like an Alps Blue pot) in an external box. JM

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Many modern CD players are fitted with volume controls on their outputs to enable connection directly to a power amp.
HEY, BIG SPENDOR  
I've been out of hi-fi for a good few years now, but your magazine has re-awakened my interest. My main components are a Linn Sondek LP12 (vintage 1982) with Mission 774 arm and 773 high-output MC. The amps are an Exposure VII pre and VIII power driving Spendor SP1s. The digital source is a Cambridge CD2 (used only as a transport) with a Cambridge DAC (bought last year) driving straight into the power amp via a Martin Colloms-designed passive controller.

I love the 'speakers and want to keep them, the deck and arm. The Exposure amps have been incredibly reliable but I now find the sound tiring - not as transparent and deep as I would like.

I understand the arm is still quite highly rated. Can you recommend a suitable cartridge upgrade? Is it worth bringing the Sondek up to the latest spec?

I feel the amplification is in the greatest need of change. I am intrigued by the Spendors, do you think? Chassis and layout seem identical on the 5881PP and PSE. Can one be converted to t'other?

Could I temporarily use the Exposure pre-amp to drive the valve amps?

Lunchtime O'Booze  
psychomet@easynet.co.uk

DIGITAL DEBATE  
In 1989 I purchased my hi-fi system, which features a Linn LP12 (Valhalla) Iittok LVII, K9, Naim Nait 2 amplifier and Linn Helix loudspeakers bi-wired with Linn K20 cable on dedicated LS1 stands. I have recently changed the cartridge to a Goldring 104 Moving Magnet. I love the system's sound but I realise it lacks power, sound staging and a digital front end.

With a budget in the region of £600 (including wall platform and quality interconnect), I would like to add a decent CD player which would be compatible with my existing system as well as being able to stand up to the scrutiny of the NAC72, Hi-Cap and NAP180 which I currently lust after. The two CD players that spring to my mind immediately are the Marantz CD-63mkII KI-5 and Cambridge's CD4SE.

Your advice would be greatly appreciated.

Peter Forshaw  
PForsch.compasserv.com

I have to say you're being rather optimistic, if you expect to spend £600 on a CD player, wall shelf and quality interconnect and still get the sort of quality that will impress through a highly revealing £2000+ amplifier. Both the CD players you mention are excellent for the price but sonically will be overshadowed by your vinyl front end and proposed amplifier.

Your best bet is to buy second-hand, ideally something like Teac's P-700/D-700 combination or Meridian's 200/203 duo which are available in the £600-£800 region depending on age and condition.

Another path to consider is that of an older one-box player; Marantz's CD-10 and Mission's dAD7 are both good buys at around the £500 mark. As for interconnects, have a listen to Kimber's PBJ or DPA's White Slink at around £75/m.

KB

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**SUPERSTRINGS**


I've been putting off upgrading my cables for a long time now, but I think the time has come to wake up and smell the coffee!

I'm immensely happy with the synergy between the different system components and (apart from a little healthy scepticism over the possible benefits of cable upgrades) have always been slightly worried about upsetting the balance. I recently dipped my toe in the water, however, and spent £90 upgrading that most hotly debated of cables - the digital interconnect.

This proved to be a real eye-opener. With this cable I heard a greater level of detail and bass control without any loss of warmth or sweetness - the sound was as natural as ever, only more so! I can honestly say this was the most cost-effective upgrade I have made.

Newly converted, I am now convinced that I could gain benefits from upgrading in other areas: my 'speaker cable (currently bi-wired with Linn K20, two-metre runs); the interconnects between my DAC/pre-amp (currently unbranded shop-made cables); the interconnects between pre/power amps (same again). I presume it would be pointless upgrading one set of interconnects without the other?

With so many different cables to choose from at different price levels, I really must confess to being completely bewildered. Any advice or recommendations would be much appreciated. I listen to all types of music and I guess I'm looking at a budget of around £300.

**EXPRESS IN A BOX**

At the moment I have an Alphason Sonata, Xenon MCS arm, Ortofon MC 10 Super cartridge, Philips 960 CD player, Naim 72/140 amplification and Linn Index Mk2 'speakers on Ku-Stone stands.

The problem is the whole thing lacks dynamics and expression.

Before the Naim and the Alphason, I had a Lynx Nebula amp and a Manticore Mantra turntable. With the Alphason the sound stage opened out and there was a massive increase in bass depth and control. I then upgraded the amp to the Naims, which again made the sound even more lively and controlled. But there is still an undynamic, uninvolving element to it.

Eventually I would like to get a Naim 52/Supercap/250 amplifier and SBL 'speakers. So what do I change first? One shop said, "Change the pre-amp, changing the 'speakers in a small room would be pointless". Another stated, "Change the 'speakers, this would get rid of the laid-back feeling." Neither mentioned the power amp.

'I'm not 100% set on Naim equipment, and, if I managed to get the sound I'm after before the 52/Supercap etc, I would be most content.'

**Andrew Macgregor**

A small 'speaker for a small room - ProAc's Tablette.

"The whole thing lacks dynamics and expression" - that doesn't sound like Naim amplification to me. Loudspeakers and cartridge are more to blame, I believe.

The Ortofon is a pretty cheap needle to be using on a deck of the Alphason's calibre. If you can crack open your piggy bank, lavish £215 (with trade-in) on DNM's Aciore MC which has a bold, taut, up-beat character.

Then swap your Indexes (or should that be Indices) for second-hand ProAc Tablettes, going for £150 and up, or the lively UKD Opera Duettos bought new for £395, whose slightly honky lower bass should be tempered by your Naim kit. JM

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Dominic Todd has a rendezvous with Mission's latest budget baby, the £130 700.

"Made In The European Community"; the label on the back of Mission's new 700 stand mounters was the first thing to catch my eye. In order to cut costs, traditional British 'speaker manufacturers are building their wares in Eastern Europe and other places further afield. Tannoy and Wharfedale have made the move and enjoyed consequent success, so you can't blame Mission for giving it a try.

Build quality does seem to have been slightly affected. While there are proper binding posts and reasonable quality drive units, the disappointment comes in the cabinet. It lacks the innovative 'bolt-through' front and rear baffles which feature on the excellent 731 Pro. Curiously, the 700 is only £10 cheaper than its sibling, which suggests that it's aimed at a different, more home-cinema, market.

I listened to the Missions chez Todd first with a Thule IA100 integrated and Roksan Xerxes X turntable which feature on the excellent 731 Pro. Curiously, the 700 is only £10 cheaper than its sibling, which suggests that it's aimed at a different, more home-cinema, market.

The 700s put their best foot forward with Portishead's 'It Could Be Sweet'. I'm afraid, after hearing some cracking budget 'speakers recently, the results weren't too impressive. The bass wasn't especially deep and soon ran into problems, even at modest volumes. There was an assortment of honks and creaks from the cabinet, with obvious chuffing from the bass ports that even the most casual listener couldn't ignore. The treble compounded the problem by offering more in the way of forced brightness than actual detail. As our measurements showed, the 700, with its peaked bass and upper treble, has been tailored for the boom 'n' lizz brigade. Mission's past products show that they can do better in both engineering and sound quality.

This is rather a shame, as certain aspects of the midrange fared better. Female vocals were expressive and vivid - in contrast to the bass they were natural and cleanly projected. Despite such striking vocals, however, the rest of the mix was uneven.

Classical music - Rachmaninov's Third Piano Concerto - fared a little better. The bass was lightweight, but this gave the piece a sense of pace and speed. Piano also sounded bright and immediate, but slightly insubstantial with it. Sound staging scored with the spaciousness and height afforded instruments, though there was the impression of detail rather than real subtlety and accuracy of timbre. With the wrong ancillaries these Missions could become fatiguingly bright.

The same balance remained with Willy De Ville's 'Spanish Jack'. Vocal reproduction was as good as most £100 'speakers, but the treble seemed forced and the bass was lumpy. As a result drums sounded merely 'loud' instead of powerful and the baby Missions missed the sleazy atmosphere of this track.

The Mission 700s are a disappointment. After a spate of genuinely accomplished loudspeakers from Mission, I really had expected more. An articulate midrange and good sound staging is all very well, but Mission need to take a look at that bass response in particular. Had the 700s been £20 or £30 cheaper they could have given 'speakers such as Wharfedale's 7.1 Pros or Gale's Gold Monitor LEs a run for their money; at £130 they can't compete with luminaries like the Tannoy Mercury m2s. Most curious of all is why Mission bothered when their own, class-leading 731 Pros are only £10 more. If you are contemplating a pair of budget Missions, do spend that little bit extra for the Pros - it will be the best £10 you've ever spent.

The 700s are easily outclassed by Mission's own superb 731 Pros at a £10 premium.

Measured Performance
see p111
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E ven though the Internet is painfully slow at times, you can still download music from it. This demonstrates the principle of direct music delivery and gives us a glimpse of what the future is likely to bring. Being able to pay for and download music is too old-fashioned and inflexible by comparison. When both artists and consumers object to the way music is distributed, the pressure for change becomes compelling.

Audio led the way in the digitising of our media and it looks like it will be in the forefront of future changes in how we shop. But as the mainstream music business is well aware, the implications and commercial impact of this go a lot further than just providing a 24-hour alternative to your local record shop.

The Virtual record store will be free to carry music presently difficult to find or unavailable through the current distribution system. It will be easier to search, it will be open to the entire world and it can, in theory, offer anything a buyer requests in terms of programme content. I'd like to think it will be cheaper too.

At the moment, debate on this subject usually comes from small, independent music producers and the bands they represent, who see the Net as a great way of bypassing the big music companies. The Indies are a vociferous group, and the argument we get is necessarily to all - not to a majority, I suspect. I'm intrigued by the option of individuals being able to make a free choice about the medium as opposed to the message.

For a start, we don't all need to buy at one fixed audio quality level. Instead we should be able to buy the sort of quality we require. Hi-fi buffs may ask for 24-bit coding at a 96kHz sampling rate, whilst others less interested in sound could purchase a down-rated version of the same recording, paying less for it.

From the computer the music can be transferred in original 24-bit/96kHz form to a DVD for a super-quality CD player, or in today's 16-bit/44.1kHz form for a friend's player. So you and your friend can share your music, copyright issues aside, even if you possess different players.

The point here is that priorities have changed. Instead of you and your friend both being forced to buy the same CD players, you can now get whatever CD player you want and re-code your music to suit it. In future I do not see why we can't have intelligent hardware too, where the replay device is told by a start message what the music coding is, so that it can auto-configure to translate it. This makes today's way of buying music and hardware look rigid and unsatisfactory. Old notions, such as a globally-standardised carrier, obstruct choice, promote monopoly and seem hopelessly inflexible. The sooner we escape from this world, the sooner we will be free to purchase music at a quality level of our choice, not somebody else's.

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FM radio has always provided a rich source of live and recorded music but the number of stations are constantly increasing. The design objective for the T43 was to develop a tuner that could be used as a benchmark for radio and audio performance and regardless of price, is able to operate in today’s crowded airwaves.

To create simplicity of operation and enable custom features like remote control, rotary tuning and pre-sets, the T43 uses custom software to drive all the controls.

Since its release in the middle of 1997, the T43 has won praise from many sources for its novel features and breathtaking sound quality. ‘What Hi-Fi’ were even persuaded to describe its addictive quality as a reason to re-think the idea of radio as a purely background music medium.

In conclusion, the open and dynamic sound capabilities of the T43 tuner are only restricted by the quality of the aerial used and the source quality from the radio station.
David Price auditions Sony's talented new TCD-D100 DAT portable.

Looking like something a latter-day James Bond would keep in his briefcase next to the PPK revolver, Sony's new TCD-D100 'DATman' seems sheer indulgence. After all, what possible use could you find for something that costs £700 and is, to all intents and purposes, obsolete?

Well, after you've used this little silver box of tricks for a while, you may wonder how you ever lived without it. True, DAT is not now going to be The Next Big Format - indeed many Japanese companies have discontinued it. But neither will it 'do a DCC' and disappear overnight - the strong demand for DAT in its home market will ensure that blanks will be available for many years to come.

The great thing about DAT is that it's still the highest resolution digital medium available to home recordists. The true 16-bit 48kHz resolution means theoretically better sound quality than CD, which isn't to be sneezed at. It's also dead easy to use - not quite up there with CD-RW or MiniDisc but certainly a world away from cassette. Add to that the TCD-D100's portability and flexibility and it looks a tempting proposition.

**MOVER GROOVER**

The Sony comes as a complete, self-contained unit that works off two AA alkaline batteries (giving two hours' continuous recording), two Nickel Metal Hydride rechargeables (giving three-and-a-half hours), or a 4.5V mains adapter. You also get a nifty little remote control that almost duplicates the main unit's display, plus the tape transport controls and volume. Into this plugs a supplied pair of high quality in-ear headphones.

Tapes are loaded via the Open button, which disengages the mechanism and pops open the lid. You then insert the tape, close the lid and the deck threads up the tape and - if starting with a new tape - writes a table of contents. Then it's just a case of recording as you would a standard cassette, apart from not having to set bias, EQ, noise reduction, auto reverse mode or even recording level (if you're either recording digitally or using the Automatic Gain Control).

What you can do is select the sampling rate. 32kHz gives you twice the standard recording time, 44kHz records at CD specification (set automatically, if you're doing a direct digital copy from Compact Disc) for full compatibility with other digital recorders (i.e. MD), while 48kHz gives the best sound and Standard Play tape times.

At any time during recording or playback you can write a 'Start ID' to mark the beginning of a new track, although when recording digitally from CD they'll be written automatically. You can also erase or renumber Start IDs whenever you wish. And the TCD-D100 will log the exact time and date that your recording was made and display it on playback should you so desire. Considerate, eh?

But perhaps the Sony's biggest asset is its portability, and therefore potential for outside bootlegging - erm, I mean recording. To this end, it features a 3.5mm minijack for stereo microphones (plus a mic attenuator switch), as well as Sony's special digital input/output socket. This lets you use Sony's SBM-1 adaptor, an ingenious box of tricks which Super Bit Maps the analogue signal (coming from either microphone or line-level sources) before it reaches the TCD-D100.
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SOUND QUALITY

First I tried recording direct from CD using Sony's digital connecting cord fed by the co-axial digital output of a Sony CD-X77ES CD player. Recordings were impressive - Isaac Hayes 'Soulsville' was clean and smooth with oodles of detail. Bass wasn’t as sumptuous as some, but tight and fast nonetheless. Midrange was spacious with a large, open sound stage and treble crisp, finely etched and sweet.

The downside was a slight lack of dynamics which I suspect is due to the latest Bitstream DAC. Compared to a TCD-3 (Sony's first ever DATman with a 16-bit DAC), the TCD-D100 seems slightly laid back - more detailed and polished, but lacking some of the oldster’s rhythmic snap. Still, there was little doubt that simply copying CDs at 44kHz, this £700 DATman ran a £1200 CD player a very close second!

Recording from a Michell Orbe/Origin Live RB300/Ortofon MC 30 Supreme vinyl source at 48kHz, the TCD-D100 was excellent. It would be wrong to suggest the recording was identical to the source, but the colorations the Sony added were subtle. Actually, I've always found DAT great with vinyl because it adds crispness to the sound, making for a tighter, cleaner rendition of the LP. It's just recorded.

The Crusaders' 'Street Life' was close to the original, with clean hi-hats and snare drums. Randy Crawford's voice was consummately smooth, expressive and dynamic, while the lower registers were tight and punchy. Only at dynamic extremes did the Sony show its limitations, softening the very loudest peaks and loudening the very softest. Stereo imaging was very good, with strong, secure instrument placement and a deep, inviting sound stage. True to every DAT recorder I've used however, there was a slight sense that things at the very back of the acoustic were being pushed forward. Again, this wasn't strictly accurate but hardly detracted from the music. And yes, if you're wondering, this effect was far more subtle than with MiniDisc or DCC.

Likewise analogue recording from the mic input which, using a Sony ECM mic, was remarkably clean and natural. Indeed it never fails to amaze me how good DAT is at live recording, assuming you've got the levels right. The TCD-D100 caught a friend's Fender Strat in all its glory, down to the last harmonic, the only difference being a slight 'drying' of the sound.

And there's more. Plug the SBM-1 Super Bit Mapping adaptor into the TCD-D100's little accessory socket and you've got even higher resolution recording from analogue sources, whether they're line level or microphone. SBM DAT recordings at the 48kHz sampling rate sound superb - any reservations you may have had over standard DAT's sound disappear. That slight clinical, mechanical sterility vanishes, bass gets fruitier and treble sweeter - impressive stuff! The downside is that the SBM-1 costs £399.99, quite a bit extra added to the recorder's purchase price, but many will feel it's still worth purchasing.

CONCLUSION

Sony's TCD-D100 is a nice item to have, make no mistake. If you're the kind of person who travels a lot and either wants real hi-fi wherever you go, or likes to record the odd live musical event, it's still the best solution. Even though DAT is at best a minority pursuit, components like this guarantee it a future. 

WHAT IS DAT?

Digital Audio Tape was first introduced in 1987, but wasn't widely available here until 1990. Constructed like a miniature VHS video cassette, DATs are almost half the size of cassettes and can record over 120 minutes on a single one-sided tape at Standard Play, or twice that at Long Play. Like CD it's a true 16-bit digital system, but can record at 48kHz sampling, higher (and theoretically better) than CD's 44.1kHz.
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(group tested Feb’98 Hi-Fi World)
The chance to review Musical Fidelity's monster A1001 integrated amp (in next month's issue) wasn't just an excuse to get reacquainted with my local orthopaedic ward. It was also a real eye-opener in the valves vs solid-state debate.

For a while now I've been running a Hi-Fi World K5881 Mid! push-pull valve power amp, with its Shunt-Regulated Push-Pull input stage and a generous sprinkling of expensive audiophile components. It's driven by a KLPP1, glows seductively in its casing and looks as good as it sounds, which ain't half bad.

The Musical Fidelity A1001 on the other hand is a massive slab of black in which a pre-amp and two monobloc power amps reside, complete with power supplies big enough to light Birmingham over the winter solstice. As it's heavily class A biased - something all tranny amps should be - a pleasingly warm stream of air rises from its heavily-vented innards, and then it gets hot, hotter and then near thermo-nuclear.

As soon as the stylus touches down you know it's something special. You hear things the valve amp simply glosses over. Its bass is a revelation. Don't get me wrong, LF from a well-fettled valve amplifier is wondrously warm and cosseting, but a big transistor muscle amp simply takes no prisoners. Huge, fat dollops of subsonics rampage through your room, playing havoc with your floorboards, rattling fixtures, thwacking you in your back. Sadly, you can't easily get that from glass audio. I guess it's possible, but you'd need a power amp the size of an early valve computer and the world's existing stocks of 845s.

Then there's the Musical Fidelity's midband. It's just amazingly detailed in a cerebral, detail-fest kind of way. It recreates the recording studio's four walls in your listening room, lets you in on every last chair squeak and faithfully reproduces the drummer's undated expletives. Gorgeous though the valve amp is, it just doesn't have that low-level resolving ability, seeming slightly soft by comparison.

If that were the long and short of the matter, I'd be back with solid-state. But it isn't, because I still enjoy valves more. The key is the midrange, which allows music to effuse around you in an eerily seductive way. Instead of gasping in awe at the scale, detail and sheer power of the recording, you find yourself singing along. The song's flavour, as the saying goes, floods out of the loudspeakers and straight into you.

While I had the A1001 staying with me, I found myself using it for certain types of music. Drum 'n' Bass was amazing - never has Source Direct's 'Secret Liaisons' sounded so wickedly satisfying as when the MF was pumping it into my NS1000s. But then I'd put on, say, the Stones' 'Brown Sugar' with all those louche guitar riffs through the valve gear and think, "now this is really how nature intended".

Then something came along to crystallise my thoughts. I've recently inherited an old Leak TL12+ with matching mono pre-amp. It's an amazing testament to real British craftsmanship - with the help of two new Sovtek EL84s it has worked perfectly since I plugged it in, despite having last been used back in 1968 (I kid you not!) Driving a spare Sony SS86e speaker (a humble 80- quid stand mounter) and fed from my Discman, it was a joy.

On went a slice of Jazz from Heavy Shift and we were away. The Leak sang like a bird with sweet, rich, creamy treble, sumptuous bass and the most fluid midband I've yet heard. Of course it was all very small scale, but I began to realise what music is all about.

That valves can make dog-eared sources more fun than thousands of pounds worth of hi-fi is certainly food for thought. It draws a large question mark over the last three decades of hi-fi design. And it makes you wonder if audiophiles all those years back - with their rumbly old turntables and crude crystal pick-ups that tracked in closer to kilos than grams - knew something we now don't. I call it 'analysis paralysis' - the cul-de-sac of audio where you find yourself travelling down in your never-ending quest for more detail, neutrality and power.

In the end, we should aim for the sound we like most - nothing more, nothing less. For some that will be modern solid-state, for others dusty old valve amps. But what I'm now sure of is that there is no objective 'best'. We all agree that music is an immensely subjective vocation, so why not what we play it on?

"That valves can make dog-eared sources more fun than thousands of pounds worth of hi-fi is certainly food for thought."
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Hi-Fi WORLD
Let me just get this chip off my shoulder before we start. If I had a penny for every time I've tripped over the lead of my headphones moving around my rabbit-hutch listening room, I'd buy out Bill Gates tomorrow. It doesn't seem to make any difference if I tip-toe around with a wary eye on the wire - the thing will tangle my feet somehow. Trouble is, my encounters with cordless 'phones have left me generally unimpressed.

A spell with cans that transmit on FM frequencies drove me potty with the interference that caused those radio birdies to tweet and whistle in the background. Infra-red alternatives were less frustrating as long as I remembered to stay in line of sight of the transmitter. So it was with understandable scepticism that I approached Vivanco's FMH 6800.

These £80 'phones work on a much higher frequency than their FM forebears: 863MHz-864MHz. This should at least spare you the intrusion of the electronic aviary, although the system isn't unfappable. The manual mentions relocation, or even switching off, as a possible cure for sonic malaises caused by a Personal Computer. Sadly, this wasn't the only thing that produced load hiss, clicks and pops through this headset.

With the transmitter turned off and the 'phones powered up from fresh Alkaline batteries, there was still a kind of low-frequency 'crunching' noise every now and again. With the transmitter back on, reception proved rony with a mobile phone operating in the next room. Moving between the FMH 6800's three channels didn't help here, nor did twiddling the Tune dial used to home in on the signal. Disappointing too was the variable quality when everything seemed to be working as normal. Most conspicuous were soft acoustic guitar notes which sounded as though they were being put through a distortion pedal.

The above is pretty damning and doesn't reveal the fact that, on a lot of music, these headphones aren't bad at all. There was a cuppiness to the midrange that removed some of the 'air' from recordings, but bass was agile and taut and treble smooth and free from sibilance. How do they stack up against the normal, wired competition? Well, they'd be shoulder to shoulder with devices at around £30-£40, which, of course, lack the Vivancos' freedom to roam.

On Chaka Demus and Pliers' Tease Me CD punchy basslines and those characteristically nasal vocals were present and correct. There was some easily audible background hiss on softer passages, but this wasn't an obstacle to musical appreciation - your brain tends to ignore it after a while, as happens with vinyl. Classical pieces were fine as well, apart from that low-level distortion.

In the hope that the first pair of FMH 6800s might have been damaged in transit, we ordered up another pair and crossed our fingers. No such luck - whether the transmitter was powered from the wall plug or a PP3 battery, the same difficulties reared their heads. No amount of repositioning away from CD players and amplifier power supplies yielded consistently good sound quality. And a call to the help line was fielded by an answer phone.

I was looking forward to a pair of cordless headphones that wouldn't disappoint your average audiophile on a budget, but the FMH 6800s miss the mark because they appear to suffer from design flaws that need ironing out. Here's to a second generation incarnation without these bugs.

Jon Marks warms his lugs with Vivanco's FMH 6800 cordless headphones.

Vivanco FMH 6800
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WORLD VERDICT

The FMH 6300s have a lot of potential but basic operating problems have to be cleared up first.

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The Hi-Fi World team look beyond DVD Audio to the cutting edge of digital recording with dCS's 192kHz sampling 24-bit DAC and recordings.

The hottest topic for debate amongst hi-fi's chattering classes over the last year or so has been DVD (Digital Versatile Disc) and how it could form the basis of a next-generation CD. Two proposals have been put forward to take advantage of DVD's large storage capacity - DVD Audio and Direct Stream Digital. While the latter is a one-bit system from Sony and Philips, the former operates with 24 bits at a sampling rate of 96kHz. It was one such 24/96 digital front end that we listened to back in our November 1997 issue, when Robert Kelly of Cambridge's Data Conversion Systems (dCS) brought round the company's Elgar DAC, a Nagra Digital reel-to-reel and a set of ear-opening recordings.

The sound quality of those 24/96 tapes left a rather lasting impression on all who heard them at Hi-Fi World towers, and we've been suffering withdrawal symptoms ever since. But was this vast improvement over CD's 16-bit resolution at a sampling frequency of 44.1kHz down to a wider bandwidth (48kHz as opposed to CD, which reaches only 22.05kHz), those eight extra bits or something else?

Mike Story, dCS' head designer, lays the blame for sonic problems in DAT and CD at the door of these formats' brick-wall filtering. This is necessary to stop 'aliasing', where signals above CD's upper limit of 22.05kHz are processed by the DAC and reflect back into the audible range.

With CD you've got a format that needs to cover 20Hz to 20kHz, which is generally accepted as the minimum for satisfactory sound reproduction. Unfortunately, this only gives you 2.05kHz breathing space for a filter which reduces unwanted output by around 100dB, a tall order!

While it is possible to implement a filter as steep as this, it does have a side effect - ringing. An impulse fed through a DAC with a steep filter won't emerge as a clean 'spike'. Instead it will be preceded and followed by ripples as the filter rings (see Figure 1). This means that, whereas the energy in the original impulse is sharply focused over a very small time, it becomes temporally spread out by the ringing. This spreading with time diminishes as the filter slope becomes gentler. You can see that 44.1kHz sampling is the worst offender, while 48kHz, with its extra 2kHz of space for filtering, has the potential to be quite a lot better.

Where the 96kHz and 192kHz sampling rates score is in their wide bandwidths. Since the former can reproduce audio signals up to 48kHz, there's a lot of room to implement filtering. In fact, dCS run their 96kHz DAC up to 39kHz and their 192kHz DAC up to 50kHz before they start rolling off the signal. Figure 2 shows how the extra bandwidth available at higher rates might be used to implement gentler digital filtering and thus limit spreading.

Two of the main improvements we noticed with 96kHz sampling were sound staging, which was much more transparent and expansive than on 44.1kHz, and imaging precision. Mike Story believes the energy spread caused by ringing has a large impact on these two traits.

We rely on differences in the loudness and arrival time of sounds at our ears to work out where those sounds are coming from. If the timing of a signal is muddled by ringing, it makes it more difficult to locate precisely in space, so the theory goes. Then there's the effect which sounds above 20kHz have on those below this frequency. According to dCS, we may not be able to hear these directly, but we can hear when they're not there because their absence causes ringing in the audio band. Well, there was one sure way to find out if practice followed theory...

PROOF IN THE PUDDING

Listening to music recorded at a sampling frequency of 192kHz with 24-bit resolution on dCS's 954 DAC is an experience not easily forgotten. Reliving the performance of a string quartet and avant-garde Jazz three-piece brought home the abyss that exists between live concert sound and current CD (and LP) recordings.
The alphabet according to Musical Fidelity.

X10D Class A Tube Line Stage
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The first piece we heard was a recording of the Orpheus String Quartet. Actually, it wasn’t so much like listening to a recording of a string section, more like attending a live performance. The way 192kHz dealt with low-level subtleties meant you could visualise an instrumentalist’s movements as they played. But what truly set apart this piece was the tangible acoustic space it was recorded in.

This impression was reinforced when we were treated to a line-up of classic car engines courtesy of a motor museum in the Netherlands. Sitting in your living room and listening to a 1923 Model T Ford pictured crystal-clear in a huge sound stage as its driver floors the accelerator in front of you is an unnerving sensation! Smell-o-rama might not be in the shops yet, but the realism of the sound was so powerful we were left almost reeling from imaginary exhaust fumes.

What marks out this super-digital experiment is its natural ease of reproduction. You can relax totally into the music when your ears and brain aren’t being asked to ‘fill in’ the missing subtleties left out by existing audio systems. With CD replay in particular, and to a lesser extent vinyl, music can often be slightly tiring to listen to. Not so with this 24/192 set-up, which possessed an unforgettable sense of effortless transparency. Problem is, once you’ve heard the 192kHz sampled audio, even 96kHz seems comparatively veiled. And as for 44.1kHz Compact Disc…

THE FUTURE PART 2
But are higher sampling rates the sole route to superior sound? Jon Marks spoke to Robert Kelly.

JM: So is there any theoretical limit to sampling frequencies?
RK: For our convertors, we probably can’t really push it above 384kHz. But what on earth are you going to store it on? You can’t currently get the data into a Magneto-Optical disc on something like the Genex GX8000 because you’re already running the inputs as fast as they can go at 192kHz. Then you can’t currently edit it. It would be a curiosity. And the faster you run the convertors, the more noise you let in. So 192kHz is probably as fast as you need to go. The next thing really is to start refining the analogue circuitry more.

If you put an ADC and a DAC back-to-back, at 16-bit 44.1kHz, the sample rate and word length are very much the limiting factors. As you go to longer word lengths and higher sampling rates, then the digital conversion becomes more transparent and you can start to hear the limitations of the analogue circuitry, which in our case is very, very good. I’m talking about subtle effects here.

JM: So do you think the onus in future development is going to be more on the analogue side than the digital?
RK: I think there’ll be equal work on both because there will be work on digital filtering and general processing. Analogue mixing desks are very good - you can’t practically make them any quieter. I think there’s a need for better recording techniques. At the higher sampling rates you can better hear what the engineer is doing - faders being opened and things like that. The recording industry in general, I think, has become very sloppy. As hi-fi systems become cheaper and better, they get to be increasingly revealing, and so the gaffes made by the studios are more obvious to everyday listeners. Engineers can’t be as cavalier as some of them have been. A lot of people are taking this extremely seriously, especially in the Classical world.

All of the above bodes well for the hi-fi community. Cleaner recordings through better studio techniques will yield better recordings on any format. On top of that, a superior successor to CD, whether it be DVD Audio or Direct Stream Digital, is on the way too. After almost a century of the LP and its predecessors, as well as 16 years of CD, it’s most definitely time for a change.
Market research is everywhere. Hardly a day goes by when you switch on the radio or read the papers without learning about some study or set of "fascinating" statistics. In fact, when the century draws to a close and the hunt begins for the greatest influences of the Nineties, the market researchers will probably find the answer arrives at their own back door.

One study I would like to see is on the average amount of money splashed out on hi-fi these days. We know that, as a spending priority, hi-fi has slipped from third place, in the Seventies, to eighth now. I've a feeling many people are actually spending less, or about the same, as they did on hi-fi 20 years ago, and that's without even taking inflation into account. My suspicions have been reinforced by customers who buy a complete new system and trade in their old one. It's quite surprising how many still have the original receipts after two decades. It's an even greater eye-opener to find out how often the prices of the new and old system very rarely differ.

You might argue that the reason for this is because budget hi-fi has become so much better with the arrival of companies such as NAD, Rotel, Mission and the like. I'd agree that this is part of the explanation, but I also fear that British listeners are developing, for some unknown reason, something of a fixation with budget equipment. This may be all well and good up to a point, but after a while something has simply got to give, and it's not usually the bank balances of the hi-fi companies.

Over the last 10 years or so we have seen the old "battle of the hundred-pound 'speakers" time and time again. Manufacturers seemed to be obsessed with producing 'speakers in this price range because that's what the market wanted (there's the influence of those dastardly statistics again). Only in the past few years has this trend started to run out of momentum. Mind you, it hasn't stopped the major players such as Tannoy, Wharfedale and Mission from constructing their wares in Eastern Europe in an effort to keep costs down. In general, though, even these new boxes come in at more than £120. So imagine my dismay when I recently realised exactly the same thing is happening in the previously sleepy budget amplifier market.

NAD, Rotel, Cambridge and AMC are all respected brands, and yet every one of them now has an amplifier at or below £100. I wouldn't be at all surprised to see some of the other companies join in as well, to claw back some of their market share lost in the £130-£150 amp arena.

Of course, there have always been sub-budget, or just plain cheapo, hi-fi separates. If you'd strolled into one of the multiples that sell components like these, you would have found hordes of lightweight products from brands you'd never heard of. They may not have offered genuine fidelity, but at least they were seriously inexpensive. My major concern now is that some well-established companies are starting to sell equipment that barely improves on this mid-fi but carries a distinguished badge. "My major concern now is that some well-established companies are starting to sell equipment that barely improves on this mid-fi but carries a distinguished badge."

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Although I'd be first to admit that there is some excellent budget hi-fi out there, there's also some dross. But, more worryingly still, it's coming from companies who have, in the past, produced better quality gear. Yes, lower prices may be broadening the separates market and drawing customers away from Midi. Mini and Micro systems, but I suspect it's harming the prospects of slightly more expensive components. In addition, there's a risk that, as the quality of them begin to put out products not worthy of their name, their reputations will suffer.

Both the consumer and the press have a part to play here too. It's down to you to advise friends that it really is worth being a little more discerning when buying budget hi-fi separates. This shouldn't be too much of a problem, as the greatest stumbling block, buying separates over a Midi system in the first place, has already been overcome.

Magazines have a duty too. It's down to us to review equipment scrupulously. If a product is shabby and bodged, then we should say so.

I await a response from those in the hi-fi industry with interest. Meanwhile I've got to call my dad to see how work's going. Oh, didn't I say, my father's in the market research business you know!
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The date: Friday February 20th to Sunday February 22nd. The venue: the Marriott hotel in Bristol. The event: Bristol's annual hi-fi show where all the brightest and best components put in an appearance.

After a successful show at Chesterfield last October, the Hi-Fi World road show decided to set up shop in room 218 with our range of speakers and valve amplifiers fronted by a Pink Triangle Tarantella turntable and Roksan Caspian CD player. The crew of Nick Lucas, Ketan Bhataria and Jon Marks were on hand to help out the throngs of audiophiles with their queries.

A trip to the third floor brought some tasty new arrivals from companies like Sony, Heybrook and CeTech.

In one of their four bustling rooms, the Japanese giant was showing a slimline '3000' system fleshed out by a tuner (the ST-S3000ES, £250) and MiniDisc recorder (MDS-J3000ES, £600) in addition to the matching CD player and integrated amp. This set-up was making some attractive sounds through a pair of new Sony two-ways on Atacama SE24 stands.

Three doors down the corridor from Sony were CeTech (aka East Midlands Composites, featured in our March 1998 issue). Proudly displayed were their latest KT88 push-pull valve amp with carbon-fibre chassis and two-way stand mounters.
Heybrook were also comfortably ensconced on the third floor with the Octet floor standers, fresh off the production line. With its twin carbon-fibre bass drivers, Aerogel midrange and Audax gold-dome piezo-electric tweeter (as used in our own KLS3 Gold MkII 'speakers) this £1800 high-tech design was a smooth performer.

A swift descent in the lift to the first floor found us in Henley Design's rooms. Looking very smart in their rack was an Alchemist system made up of the Forseti CD transport and DAC (£1995 for the two) with partnering pre and power amplifiers. These were driving loudspeakers from the German company Magnat. Alongside the Vector range was the flagship Vintage series and its ceramic-dome tweeters, aluminium-cone mid/bass units and graphite woofers. Impressively-finished hexagonal cabinets à la Tannoy rounded out the transducer recipe.

Henley's neighbours were Michell Engineering, whose Orbe turntable was backed up by their new Orca pre-amp, Alecto monoblocs and ProAc floor standers. The Orca (which will sell for around £1500) marks a bit of a styling departure from its acrylic-cased predecessor the Argo, although the idea of an outboard PSU is retained.

Les Wolstenholme had set up camp with Reference Music Systems components in the marble-floored mezzanine. A Teac

From bottom to top: Forseti Signature power (£2600), pre (£1500) as well as the Forseti DAC and transport.

CeTech loudspeakers flank the company's KL88 (foreground) and FL34 (background) power amps.
Potential Jamo Concert 8 beaters? Magnat's Vintage 710s (on the right) use ceramic tweeters and an aluminium-coned mid/bass driver. Next to them are the Vector 22s.

Michell's Orca pre-amp and PSU between Mycro and GyroDec turntables.

CD player was connected up to a prototype pre-amplifier upstream of a pair of M1 powers and loudspeakers.

The largest part of the show was the ground floor, where companies like B&W, The Chord Company, Marantz, Tannoy, Denon and Quad (to name but a few) were rubbing shoulders.

The latter were displaying mock-ups of their two new electrostatics, the ESL 988 and ESL 989, based on the famous ESL 63s. The main difference between the models is size - you get more bass panels as the price goes up.

The 'speakers weren't the only fresh faces on display. The 99 series of components was basking in the limelight too. This line-up boasts a pre-amp, FM tuner, CD player, stereo and monobloc amps in addition to the substantially larger 909 power, built along the lines of the 707 (reviewed in July 1997).

Judging by how busy most of the rooms were at Sound And Vision 1998 there are plenty of eager audiophiles out there waiting to meet their hi-fi's makers. Let's hope 1999 sees another successful Bristol show.
JOY DIVISION

HEART AND SOUL

LONDON 828968-2

What an inspirational package this is. It contains all Joy Division's recorded material, ever - both albums, all their singles, some live stuff and the hitherto-unheard rehearsal-room recordings of 'Ceremony' and 'In A Lonely Place'.

This is a collection to beat all collections and an epitaph to a group who, over three short years, single-handedly changed the course of Punk - the music is still beautiful in places too, though it was sometimes understandably accused of being unremittingly depressing. Music to slash your wrists to? Possibly, but a fine way to do so.

Joy Division's music was vast and visionary and resonated with a quality that most bands now are not able to achieve. They were sensitive souls, men who experimented with ideas that had at that stage simply not occurred to their peers; they were light years ahead, in fact. More often than not, the tracks made for uncomfortable listening thanks to the sense of unease created by the montage of bleak sounds and dark, religious imagery. The effect was like finding yourself in a godless, industrial landscape through songs churning like an endless Kieslowski film where despair, alienation and destiny were the order of the day, anarchy having long since taken a back seat.

The song titles themselves only added to this feeling - 'Isolation', 'Love Will Tear Us Apart', 'Insight', 'Atmosphere', 'Atrocity Exhibition'. Then there were the moments when the lyrics joined in: "So this permanence, love-shattered cry, what once was innocence turned on its side" ('Twenty-Four Hours'). Joy Division clearly had nothing in common with the bubble-gum Punk Rock of, say, the Buzzcocks.

He might perhaps have been a little underestimated, but late producer Martin Hannett was responsible for much of what Joy Division became. He forged everything into the tight overall sound, maximising rhythm but at the same time creating a sparse beauty that seemed otherworldly.

While he's best known for the odd sounds he used (like slamming doors and smashing glass), it was his choice of echo-chamber effects and synths on the second CD, containing 'Closer', that probably lifted Joy Division to their peak - 'Heart And Soul', 'Decades' and 'Twenty-Four Hours' are breath-taking.

Listening to Joy Division now is an eerie, emotional as well as unsettling experience. The music is still beautiful in places too, though it was sometimes understandably accused of being unremittingly depressing. Music to slash your wrists to?

Ten years on and the man's particular brand of experimentation is still evident. The big difference this time is that it is all set in an acoustic context.

The goal, apparently, was to create a delicate 'Classical' album, and he comes close to scoring. Still, the inspiring moments are counterbalanced by the occasions when the album crawls a little too far up its own windpipe. Ultimately it is almost Luddite in its lack of technology and the truly notable moments are often the silences, since it's hard to tell one track from the next.

The individual musical sketches, sparse in their entirety, are predominantly built on clarinet and piano. If you are familiar with Eric Satie, particularly the Gymnopedie, you'll find the compositions here have a
similar impact - the feeling is intimate, the words indistinct.

Atmospheric and unique in total, Mark Hollis the album is at its most curious in the eight-minute ‘A Life’ (1895-1915) which sounds like a chamber piece, until the disruptive entry of a guitar and some female voices whisper-chanting in French stir some life into it.

There are the odd, more conventional exceptions: ‘Watershed’ and ‘The Gift’, rolling Jazz numbers which add a strange Fifties spirit of Miles Davis to sounds which have, until now, only evoked the last century.

More than anything this album shows Mark Hollis to be a man unconstrained by commercial demands, a man who likes the idea of composing symphonies. Equally it could just spell his retirement.

Then there are melodies like ‘Just Lookin’ which Keith Richards would be proud to have penned, and those with a Neil Young Country twang such as ‘Here Comes A Soul Saver’. All in all a rounder, maturer sound with more of an American influence and less of the Baggy.

‘North Country Boy’ brings us crashing into the present, vocalist Tim Burgess now thinking himself the new Dylan with his response to the bard’s ‘Girl From The North Country’. The sound is unmistakably The Charlatans, but that nasal whine.. ?

MELTING POT defines the first chapter in their seven-year marriage to Beggars Banquet. Their recent signing to MCA/Universal is more likely a fresh wind blowing across the continent - the future that, at best, recalls the avant-garde antics of Can and the wistful folk of Jacques Brel, and at worst is a bloated cartoon version of Jean-Michel Jarre. Thankfully the latter happens only rarely. Yet the distinctly retro feel to Moon Safari goes so much further than this that it is just impossible to side-step.

The Versailles pair Nicolas Godin and Jean-Benoit Dunkel use a colourful palette of sources: lots of Sixties soundtrack artists like Keith ‘Young Scene’ Mansfield, those French masters of old like the inevitable Gainsbourg, touches of Francs Lai (of classic ‘Un Homme Et Une Femme’ fame) and the sweeping instrumentation of Mantovani. It’s all there, making up what is arguably a huge slice of intergalactic cheese.

Air Safari does not, however, worship Kitsch for its own sake, the consequences of which can be disastrous (like the poor ‘Kelly Watch The Stars’).
Erykah Badu was one of last year's best finds, and her striking debut album, Baduizm, was matched only by her stacked Carmen Miranda hairstyle. Now she shows us she can not only cut it live - with an impeccable hour-long concert recorded in New York - but that she also has a series of new songs here which will hopefully be released in their own right before too long.

It is difficult to sum up Badu succinctly though she is, without doubt, a Soul queen of some stature. What really does it is her voice, a melancholic purr with all the languid jazz inflections of a latter-day Billie Holliday, full of a spirituality sorely lacking in most of her peers. She is indisputably a jump ahead of the current crop of lycra-clad Soul sisters who are always to be found crowding out late-night MTV.

Miles Davis' 'So What' riff immediately puts Erykah's style into perspective. Roosy, jazzy and reverential, she shows the style she exhibited on Baduizm to be a genuine trait, and at times the live renditions are better than the studio stuff. 'Ringshot', 'Other Side Of The Game' and 'On & On' are all flawlessly delivered, the rich Pendergrass strings a perfect counterpoint to Erykah's sassy improvisations.

The best is surely the 13-minute version of 'Next Lifetime', capturing the intensity of Billie Holliday at her mournful prime. This is a moving, meaningful and soulful number indeed. And with a number of humorous asides to her audience, she makes it all seem plain sailing.

There is added interest here too in the new songs 'Ye Yo' and the excellent 'Tyrone', which have a slushy feel to keep all those romantic teenagers happy.

Alongside these is a series of cleverly-chosen covers and medleys of songs that include Roy Ayers' 'Searchin', Heatwave's 'Boogie Nights', Tom Browne's 'Funkin' For Jamaica' and Rick James' 'All Night Long'.

Never wavering anywhere near stagnation, with no tedious raps, jams, spin or gloss, this Texan youngster could find 1998 her big year, even bigger than her barnet in fact.

which sounds rather unfortunately like the theme tune from Rhubarb And Custard.

More than anything this album should be seen as a fusion of Techno, Funk and Disco, the fashion for which other artists like the French Daft Punk and Motorbass started last year. Air have simply improvised on it and branded it with a nostalgia which makes it equally at home in the category of Easy Listening.

This is particularly apparent in the suave opener 'La Femme D'Argent', which glides in beautifully and has a bassline that is as funky as anything by Chic. Then the single 'Sexy Boy' shows what they're really about - a concentrated burst of cyclic Kraut Rock loops, Hammer-type organ, cheesy moogs and the vocoders which haven't warped vocals so much since Laurie Anderson's epic 'Superman'. And for dungaree hippies everywhere there's the genuinely superb 'All I Need' with Beth Hirsch's knee-wobbling vocals.

As a debut album Moon Safari is a genuine musical adventure, not a hatchet job. It is a highly intelligent, well-conceived little package of fromage that delights in the eclectic and may just blow you away.
DANCE & AMBIENT

by Sara Davis & Leon Palmer

The latest wave of the US Dance music scene to break upon us innocent Brits comes from San Francisco under the Hawke alter ego. The HardKiss boys have a good enough track record over there to warrant a closer inspection of their imported variety of underground Dance music here.

Big-name House has always overshadowed the Californian scene with artists from cities like Detroit, Chicago and New York, so it was high time those swanky West-Coast beach bums put their money where their mouse is and produced some good music.

Thankfully, they're putting up a good fight and on this evidence the West-Coast sound seems to be baffling its rivals with innovative play. It might have taken them three years since their last album (only released in the States), but with Namaquadisco, Hawke have thrown the rule book out the window and produced some good music.

With its distinctly 1998 feel, Namaquadisco is the acceptable side of experimental House. As variety is the name of the game here, it would be easy to lose the plot, but the HardKiss constant seems to be an underlying knowledge of good, funky music and an eerie knack for creating catchy loops. Lots of the tracks have a quality of their own but still manage to sit together quite comfortably.

As Disco blends into Techno and Techno into Dub, an open mind is vital to value-for-money enjoyment. Brothers Scott and Robbie and Gavin HardKiss churn out a couple of bassline and synth-led House classics ("To The Discotheque" and 'Born Under A Lucky Star') which wouldn't sound out of place in Chicago with some standard squeaky House samples and lively melodies. But these pale into the bland next to the Techno-infused 'Stationary Tornado', which offers us something hard, dark and intense. Unexpectedly, this is tempered by the sweet and dizzy 'Lovebug', the two opposites in the bpm stakes best left until the end of the night.

It's easy to hear the influence on Hardkiss of Dub, as the flipped-out weirdness of 'Yellow Tangerine' combines Leftfield's mesmerising trancey noises with the percussion of Ravi Shankar - this number has to be heard to be believed.

An artist knows he's made it when his record company gives him full artistic control over an album. Clearly Goldie has reached this stage in his career as the follow-up to Timeless is an idiosyncratic kettle of fish. Saturnz Return is not a particularly consistent collection of new tunes but one which will ride on Goldie's reputation as Break-Beat guru, innovator and Bjork's ex-boyfriend.

The first CD is a Drum 'n' Bass-goes-Classic gamble which works best as background music. 'Mother' on Disc A is a lengthy orchestral dedication to Goldie's, er, mother and includes a 30-strong string section that was transcribed from a tape recording of his humming. On Disc B lies another self-righteous side-long title, 'Truth', but the second CD as a whole is more light-hearted.

Fans will know 'Digital', the US top-twenty hit featuring New York's KRS One. It's another cultural commentary along the lines of Orbital's 'Technology' but funkier. 'Dragonfly', a fluttering Break-Beat number that shows where Goldie's talent really lies, is better.

There's no easy way to describe Saturnz Return as it takes in every mood from introspective to groovy. The hype would have us believe Goldie is a legend in the making, an artist whose work will only be fully appreciated in retrospect. Enjoyment of Saturnz Return will depend on personal taste but the hype could be right.

Unashamedly Old Skool in style, Pulp Fusion 2 is an interesting collection of Jazz Funk/Fusion from some of the genres' leading lights. Seventies swingers Herbie Hancock, The Soul Searchers and Bob James lead the class to an education in a particularly funky strand of
Michael Dog has come a long way since his MCing days at Megadog parties in North London. Megadog took a slice of underground club culture, decorated it with luminous face paints and attached rollerboots to make it more fun. Thanks to the Dog family - Michael, Mega and Planet - beefy, trancey Techno-heads back then took on a whole new light-hearted approach to partying.

Luckily, Planet Dog Records today is still producing quality Techno but, as Beyond Planet Dub shows, it's of a maturer, gentler breed. Beyond Planet Dub, on release March 30th, is a fine example of relaxed but well-aimed beats designed to soothe you rather than move you. Indeed, the expert compilation comes from Michael via "massive doses of THC," so don't expect up-beat Trance and top bpsms. Do expect full-on Dub adorned with psychedelic effects and rhythms which verge on the crispness of Drum 'n' Bass. Beyond... is a cutting-edge selection of contemporary Dub artists and unsigned acts - simply picked up from demo tapes in some cases - so there are plenty of reasons to give this disc a spin. Eat Static's 'Lugubrium Dub' is one, as are Silicon Drum and The Kaleidoscope's 'skunked up' slants on the Dub genre.

A follow-up to the very successful Planet Dub, this sequel both complements it and stands alone as a refreshing change from the tired Trip-Hop releases of late. Music best suited for quiet evenings and after-hour come-downs, Planet Dub is smokin'.

modern Dance's musical roots. They've steered clear of all the sample-laden hits used by so many recent Hip-Hop artists (which comes as a relief) and still unearthed some saucy music.

After the Pointer Sisters and S.O.U.L featured on Vol1, the suspicion was that more cheesy Disco in a Housey bag would make up Vol2. Instead, a more authentic, forgotten funkiness reveals itself, and not only to Jazz buffs.

For those more familiar with the toe-curling fashions of this era than its altogether more pleasing music, this album may seem like a musical mistake. However, Return To The Tuff Side gives both the Funk connoisseur and the Hip-Hop fanatic something to delve into. Herbie Hancock's 'Wiggle Waggle' (taken from his rare first album on Warner) should still jog a few memories. Younger listeners will probably recognise it as King Bee's Hip-Hop cover 'Back By Dope Demand', a hit in '91 and a party favourite ever since.

For the Dance-minded there's a couple of manic Funk workouts - ie, The Soul Searchers' 'Blow Your Whistle' (fancy footwork required here) and Salsoul Orchestra's 'Getaway', a larger-than-life uplifting instrumental of the Earth Wind And Fire fave.

The highlight has to be the cool mood of the album, caught in one timeless classic by Gary Bartz 'Celestial Blues', a spiritual vocal mimicked by a haunting sax solo set to a slow and raunchy bassline.

In a similar vein, we are treated to one of Latin Jazz's best-kept secrets in Mandrill's 'Fat City Strut', a no-nonsense groove which gives way to a Latino interlude before the Funk re-emerges. And all this precedes the Mighty Dub Cats by 20 years!

Predictably, the links to the present continue throughout. The inclusion of Bob James's laid-back 'Nautilus' gives the album even wider popular appeal - this is one of the most frequently sampled Jazz Funk tracks ever. You'll recognise small chunks, if not the whole song!

While many of these undoubted greats sound superb after 20 years' bedding down, over-exposure could quite easily find them back in the archives. Good in small quantities, say every 5-10 years.
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Panthalassa has to be one of whose Jazz racks normally feature, oh, Neil Young or Eric Clapton on their covers; talked about on high-street record stores; reviewed in the Sunday newspapers; stocked by national radio and stocked by the above is hardly surprising. On the face of it, perhaps, that one would expect to be at the centre of this furore. And Miles Davis electrified jazz once more. But Miles Davis did keep on making music. In fact, from 1969 until his retirement on health grounds in the mid-'70s, he continued to push the Jazz Rock interface's envelope. In interview, he was increasingly upfront about his eschewing of the Jazz heritage, this coming from a man who'd already been central to two Jazz revolutions - 'Cool' and 'Modal'. Instead, he claimed, he wanted to make the kind of music which was confrontational as anything further and further away from the Jazz mainstream and the Jazz Rock interface's tradition: freak-out electric guitar solos (or duets), angular, discordant keyboard stabs, wayward atonal saxophone solos.

As Miles took this music further and further away from the Jazz mainstream and further and further down his own personal path, he became constantly more marginalised, both by audiences and critics. His responses became more entrenched: album sleeves wouldn't reveal the performers' names (unheard of in Jazz before or since); cover
JAZZ

art graphics would become increasingly psychedelic (although now, some of this artwork, either by the ex-pat American painter Mati Klarwein or by the Japanese graphic artist Tadanori Yokoo is generally regarded as iconic stuff); live performances would consist of single, long, apparently unstructured jams conducted by a Miles who refused to turn to the audience. The consequence, as I've said, was obscurity.

The last few years have seen these works being rediscovered and reappraised. In fairness, the music has always had its fans, but recently their numbers have swelled. The albums from this period have started to emerge as domestic CD reissues and as virgin vinyl pressings; music journalists have begun to consider what the music's influence might have been; and a generation of post-Techno experimentalists have openly admitted their debt to it. The very phrase, "1970s Miles" has become some kind of hallmark of hip.

Into this arena, then, comes Panthalassa, a release which marks rare bravery on the part of a major record label. Acknowledging the reawakening of interest in this period of Miles' career, Columbia have handed over producer Teo Macero's highly individual edits, very discreetly remixed the parts, (in doing so boosting the bass and drums just enough to make it sound that much more 'now'), and then seamlessly cross-faded each of these, creating a unified, long piece.

As one of this music's long-time fans, of course, I'm always going to turn to the originals. With their sheer scope they work a magic that can hardly be approached by this distillation, and besides, Macero's original production on the studio albums weaves its own magic for me, something that startled me about the music in the first place. But that's hardly the point. Panthalassa isn't meant for the likes of me. It's an album that's meant to draw a new audience to the music, and, judging from the reaction, it seems to be doing just that. Only the worst kind of fan doesn't want to let others in on the secret. The real fan wants to tell the world. Bill Laswell has done just that.

Zorn continues with his massive Masada project, now into its third year and ninth volume. Masada - the group, the concept - dedicated as it is to Asher Ginzberg, founder of Cultural Zionism, is Zorn's attempt to bring together two very different musical traditions: the '60s acoustic jazz of (principally) Ornette Coleman and a whole heap of traditional Jewish music. In doing so - and in naming the project after one of Jewish history's pivotal moments, a mass-suicide in defiance of Roman rule - he is making a bold statement about the nature of rebellion, about the culture of refusal, and, specifically, about the common ground of oppression shared by the international Jewish community and Black America.

The musical results positively burn in response. The Masada quartet are easily one of the finest still ploughing the furrow of acoustic Jazz: trumpeter Dave Douglas (a fine composer himself, as last year's Sanctuary revealed), bassist Greg Cohen, the explosive drummer Joey Baron and Zorn himself on alto. Their music reaffirms the ability of acoustic Jazz to say something, a rare feat, I'd venture.

Apparently, the series draws to a close with the next volume. The live CDs follow. Bring 'em on!
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**NICOLAS GOMBERT**

*Missa Tempore Paschali/Magnificat Octavi Toni/Motets Henry's Eight; director, Jonathan Brown*  
HYPERION CDA66943 (DDD/65.26)

This is the second recording in a projected series from the choir Henry's Eight, which aims to illuminate the important but shadowy figure of Nicolas Gombert, a composer who became one of the leading lights of the generation which bridged the final flowering of the era of Josquin Desprez and the arrival of the towering genius of Orlandus Lassus.

Gombert was born around 1500 in a village near Lille in French Flanders and at some point may have studied with his compatriot Josquin. What is for certain is that in 1526 he was a singer in the court chapel of the Holy Roman Emperor, Charles V. He rose to become Master of the Children of the Chapel, a post that took him throughout western Europe as part of the court entourage.

However, Gombert seems to have abused that position since, from 1536, his name disappears abruptly from the court records. A scandal involving one of the choirboys in his charge saw him condemned to labouring in the galleys of a trireme and, although he was later pardoned by Charles V and given a stipend in Tournai, the affair clearly nipped a promising career in the bud.

The exact date of Gombert's death is unknown but can be deduced from records as between 1556 and 1561.

Unsurprisingly, Gombert's musical output mirrors the rise and decline of his personal fortunes, with the majority of his compositions dating from the successful 1520s and 1530s. He produced 11 Masses, eight settings of the Magnificat, over 160 motets and some 80 chansons and other secular pieces, and from 1529 his works found their way into print. Major collections of his motets were published in Venice in 1539 and 1541 and eventually came to the attention of, among others, Claudio Monteverdi, who based a Mass on Gombert's motet *In illo Tempore*, one of three motets included on this Hyperion CD. This piece is a jewel of its period, restrained yet moving, finely crafted and richly embroidered with telling detail.

Henry's Eight build their programme around the Easter Mass cycle Missa Tempore Paschali, prefacing it with a wonderful setting of the Magnificat and interspersing motets, as was customary, between sections of the Mass. The flowing polyphony of the Magnificat Octavi Toni (in The Eighth Tone) and the masterly way it achieves a sense of climax by adding one voice part of each verse suggests a work of Gombert's maturity. The motets, striking in their melodic and harmonic expression, are similarly accomplished.

The Missa Tempore Paschali too displays imagination and innovation, even if its occasionally less-than-polished counterpoint indicates an early work. Gombert structures the basic setting for six voices but ingeniously and effectively expands to eight for the Credo and to twelve voices for the concluding *Agnus Dei*. Here, with minimal changes of chord or bass note, the composer produces spellbinding effects within its apparently seamless polyphony.

The choir is acutely responsive to the contrasting textures of Gombert's music, producing a dazzling range of colour and tone. The singing is poised yet far from emotionally detached, with no attempt to gloss over Gombert's sometimes startling dissonances. As is usual with Hyperion, the presentation is informative and thought-provoking with a fine recording made in the ante-chapel of Trinity College, Cambridge, where the members of Henry's Eight were recently undergraduates and whence they derive their name, Trinity having been founded by King Henry VIII in 1547.
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The Bellini preamp and Donizetti power amp fared equally well. Ken Kesler in Hi-Fi News (January '98) had this to say: "A new benchmark in the value for money stakes. They're so well-built and sound so damned good that you're gonna blink just like the characters in the VW Polo ads when I tell you the prices".*

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The Netherlands Chamber Choir; conductor, John Alldis
GLOBE GLO 5170
(DDD/59.39)

7 Motets for unaccompanied chorus

8 Geistliche Gesange, Op.138
The Netherlands Chamber Choir; conductor, Uwe Gronostay
GLOBE GLO 5160
(DDD/48.48)

For once I am inclined to indulge in some Middle Dutch! Though representing two very different musical traditions, these recordings from the Netherlands Chamber Choir share technical artistry and technical quality to justify a combined review. Both CDs reflect six decades of innovation in sound-making by Hollander leading a cappella ensemble, founded by the conductor and pianist Felix Nobel in 1937.

The programme for the disc on 20th-century English choral music was devised by its conductor, John Alldis. After highly successful at various BBC productions and London Philharmonic, then, he has spent the last 15 years so working with choirs at the same as the Danish Radio Choir, the Opus Vocale de France and Israel's Kammer Singers.

In its choice of pieces, Alldis has eschewed to many, both content and coherence, and the result is rewarding and enjoyable. The choir opened with Vaughan Williams' Three Shakespeare Sonnets of 1931, written amongst the English poet's son and full bath in fine and Prospero's The Cloud Capp'd Mountains and Mephisto's Night's Dream, from the ease, the precision and voices of the Dutch choir, along with his whole, akin music English: declamation is singing.

Appropriately, the Vaughan Williams is followed by a piece from his good friend Herbert Howells, with his very individual style of the Requiem.

The story goes that Howells composed this simply moving piece as a direct response to the death of his nine-year-old son, Michael, in 1915. However, the late Christopher Pollock suggests that Howells was working on settings which would be incorporated into the Requiem up to five years before that particular personal tragedy. The Requiem subsequently became the basis of Howells' best-known Requiem, for soloists, chorus and orchestra, and was published in 1917. It was also written for the composer's 50th birthday, the Autumn to the basis of Howells' work on a religious setting.

The haunting tranquility of the Howells supplies the perfect foil for the Howells, which follow his last group of choral harmonies found in the hands of the English church tradition, for that creates the very Englishness of English music, easily accommodated by the choir's performances of choral music, from the Ascendal German school, composed by Brahms and a set of eight Williams' songs, by Marc Reijers. The former's settings are from Forsyth's collection, which was composed three choral works, a show; and bring to the balance of voices, the choral parts, with a delightful accompaniment from the Royal Albert Hall organ, while the
Bruckner settings display a very different side to a composer universally recognised as one of the great symphonists. In fact, Bruckner's musical education was grounded in sacred choral music and several of his most important early works were for the choir of Linz Cathedral where he was organist between 1855 and 1868. The sublime seven-part setting of the Ave Maria, performed here, was one of them.

Some of these motets were composed for specific events: Locus iste of 1868 was intended for performance, along with Bruckner's E minor Mass, for the consecration of a new votive chapel at Linz. The eight-part Os Justi of 1879 was for the feast of St Augustine (the monastery of St Florian where the teenage Bruckner was a chorister was an Augustinian order). These are beautiful and frequently quite magical works and, like the Reger settings, are sung here with a captivating eloquence and limpid purity of sound. Colour and texture are rich and luminous, and each of these miniatures is perfectly paced by the choir's chief conductor Uwe Gronostay. It is nothing less than balm for the soul.

Francois Couperin, the leading member of a large family of French musicians active during the 17th and 18th centuries, counted among his major compositions four volumes of harpsichord pieces, the first published in 1713, the last in 1730. For publication, Couperin grouped together pieces in similar or related keys into what he termed 'ordres'. There were 27 in all, which embraced over 200 items.

The ordres mixed both movements written in conventional dance forms (courante, allemande, sarabande) with evocative character pieces, these often given fanciful, even bizarre titles. The result was that each ordre had its own distinctive flavour, while the whole corpus of work was imbued with the stylish grandeur, sensibility and wit so characteristic of its composer. It is these attributes which elevate Couperin's harpsichord pieces above the status of mere charming period vignettes.

The demand for both disciplined technique and a sense of fantasy is certainly met by Gustav Leonhardt, making one of his now-rare forays into the recording studio. He plays two complete ordres, the 17th and 21st, and 14 of the 23 pieces contained in the 2nd Ordre, something which would not have concerned Couperin since he fully approved of performers freely compiling programmes from his vast musical compendium.

Couperin was less concerned about what was played than how it was played. In the preface to the Troisieme Livre he lambasted players who ignore his instructions regarding ornamentation and concludes, "I therefore declare that my pieces must be played in the way I have indicated, and that they will never make a certain impression on people with true taste unless my notation is followed to the letter, without adding or taking away anything."

What would he have made of Leonhardt's playing? The scrupulous treatment of ornamentation would doubtless have met with the composer's approval, as would the precision and attention to detail. But would he have also found some of the more pictorial pieces under-characterised, and elsewhere some of the humorous elements underplayed? The Butterflies (Les Papillons) of the 2nd Ordre, for example, never quite take wing, and you would never guess that La Petite Pince-Sans-Rire (21st Ordre) is full of tongue-in-cheek humour.

In the main, though, Leonhardt brings affection, refinement and an intuitive feel for style to these engaging pieces. Some of the tempos in the faster, more virtuosic items may be on the slow side, but this is playing to be enjoyed more for its rhythmic flexibility and expressive maturity than its brilliance.
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Audio Note manufacture a range of high quality copper and silver coax, speaker and wiring cables, which, depending on the overall price of the project, will do justice to any hi-fi system, regardless of price. Please call for prices and details.

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These handmade attenuators and switches are manufactured by a friend of Mr Kondo of Audio Note. They are the best you can buy.

Audio Note High Quality Valve Bases
All of our valve bases are of the highest quality materials. Ceramic, Teflon and silver plated. If you want the best look no further - they are the ultimate.

Audio Note Resistors
Audio Note manufacture a range of high quality copper and silver coax, speaker and wiring cables, which, depending on the overall price of the project, will do justice to any hi-fi system, regardless of price. Please call for prices and details.

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Audio Note High Quality Valve Bases
All of our valve bases are of the highest quality materials. Ceramic, Teflon and silver plated. If you want the best look no further - they are the ultimate.
The Audio Note Pre-Amp Kit

The Audio Note Pre-Amp Kit consists of a cascade configured in parallel anode-follower output using the equalisation and anode-input, with passive R1AA M7 tube pre-amplifier circuit is now giving the very best sound quality. All circuitry is housed in a non-magnetised, cushioned cabinet, giving the very best sound quality. Both phono and line stages are built on 'trackless' pcb's allowing easy construction, but with the sonic benefits of hard-wiring. The standard-quality version of the pre-amp kit includes Roederstein polyester capacitors, Beyschlag 1 watt 1% metal film resistors, forsyte open-frame style potentiometers and all pcb's, valves, wire etc. Various component upgrades are available, details upon request.

Cost of The Pre-Amp Kit is: £349 incl. VAT but not delivery.

Audio Note Black Gate Electron Transistor, High Performance, Graphite Foil Capacitors

Audio Note is currently the sole source in Europe that holds a significant range of graphite foil capacitors, Beyschlag 1 watt 1% metal film resistors, forsyte open-frame style potentiometers and all pcb's, valves, wire etc. There are very few audio parts that promise a guaranteed improvement when replacing practically any other part, but this is what the BLACK GATE capacitors actually do. Exchanging any electrolytic capacitor anywhere in the circuit of an amplifier or in the crossover of a speaker will greatly improve sound quality. We are working on some guidelines as to where, how and which types of Black Gates to use in different circuits, the first such technical guideline is available now and is called "Improving your CD-Player" and can be obtained by sending a stamped addressed envelope to us requesting this leaflet. All AUDIO NOTE Level 2 Signature products use BLACK GATE Electron Transistor in critical signal / power supply junctions.

Audio Note Ceratines Powdered Ceramic Electrolytic Capacitors

We have at long last secured a reliable source for these fine power supply filter capacitors, a must in any single-ended project. The Ceratines really cover many of the Black Gates values and where the prices for the BG's are prohibitive the Ceratines are a fine sounding alternative. We have increased the range of Ceratines we stock utilising high quality conductive plastic film. However a better alternative is the KO-ON graphite foil capacitors, a fine sounding alternative. We have increased the range of Ceratines we stock utilising high quality conductive plastic film. However a better alternative is the KO-ON graphite foil capacitors, a fine sounding alternative. We have increased the range of Ceratines we stock utilising high quality conductive plastic film. However a better alternative is the KO-ON graphite foil capacitors, a fine sounding alternative. The very good sounding pots by any standard.

Audio Note Potentiometers

The best available from a sound quality / price viewpoint, made by Noble in Japan, good as many of them are, were outside the UK, send US $2. You should be aware that the valves on this list are NOT standard versions and reinforced anode type for the US airforce. 845 Westinghouse, VT25/10/10Y, 062/801A, WE3003, STC4300A, Mullard GZ34/CV1377, Tungsol 5U4G (best sounding 5U4G we have ever heard), Chatham STRAVG and many others.

Audio Note Selected Audio Valves

Our valves are selected from the best available sources and are tested to the same stringent standards that we apply in the production of our own amplifiers. They fall into three categories, standard production items and rare, mostly NOS (New Old Stock) valves which are no longer in production. We have compiled a special list of the NOS items, which is available against a stamped self addressed envelope, if you live outside the UK, send US $2. Should you be aware that the valves on this list are NOT NOS, but we have stock of original GE, RCA and United Electronics 211, both standard versions and reinforced anode type, for the US airforce, 545 Westernhouse, VT25/10/10Y, VT6280/1A, 6X303B, STC4300A, Mullard GZ34/CV1377, Tungsol 5U4G (best sounding 5U4G we have ever heard), Chatham STRAVG and many others.

Audio Note Recommended Magazines

The Audio Adventure - Well produced publication, a good alternative to the established magazines. Not afraid to be controversial €4 per copy.

Sound Practices - Our best seller, a must for all DIY projects.

Contributors include Audio Note, Herb Reichert and Diego Nardi. £5 per copy.

Call for or more information. Ask for a full components catalogue or see our web page.

Audio Note

Music's Finest Conductor

Audio Note (UK) Ltd, Unit C, Peacock Industrial Estate, Lyon Close, 125-127 Daviddor Road, Hove, East Sussex BN3 1SG

Tel: +44 (0)1273 220511 Fax: +44 (0)1273 731498

Web: www.audionote.co.uk
Papworth Audio Technology

Fads, Trends and Flavours of the Month - A Cautionary Tale

The latest audio fad is for low power amplifiers, driving very sensitive speakers. Of course, a few years ago you were nobody unless you were using megawatts to drive speakers with the sensitivity of a brick. These are extreme approaches to audio. We believe there's an alternative. Our numerous customers in Britain and abroad agree.

Papworth to the Rescue!

While the high and low power camps fought it out, we carried on with our own brand of extremism. Extremely high standards of build, finish and reliability, extremely good sound and extreme good looks. Our sensible range of power outputs allows system building with a wide range of loudspeakers.

If you'd rather listen to music than be an audio extremist, we think you'll be extremely interested in the following:

- **Siltech HF6 1/2 metre Digital Link**
- **Yamaha 590**
- **Quad FM3**
- **SME V (boxed, new)**
- **Townshend Grail (MC) Retip recently**
- **Oracle Delphi + Alphason HR100**
- **Audio Tec 0C9 (100 hours)**
- **Roksan Xerxes (Black)**
- **Quad ESL 63 + Arici stands (2 years old)**
- **Linn Kans + stands (Teak)**
- **Meridian D600 (Digital Drive) Rosewood**
- **Naim IBL black**
- **Quad 405 Mk2 2x3 (full recent Quad rebuild)**
- **Quad 306**
- **Quad 34 phono**
- **Bryston 0.5 preamp (lifetime warranty)**
- **Quad 303 x 3**
- **Marantz 3023**
- **Cambridge Audio CD303**
- **Arcam 570 Transport**
- **Meridian 203 DAC**
- **Meridian 203 MK2 Transport**
- **Meridian 263 Delta Sigma Dacs**
- **Acoustic Precision Elites**

**Extremely New Product!**

- **MHV-200 Hybrid Integrated Amplifier**
- **TVA10 Stereo Valve Power Amplifier 50wpc.** £1950
- **TVA50 Valve Stereo Power Amplifier 50wpc.** £1950
- **M100 Valve Monoblock pair 100wpc.** £3800
- **M200 Valve Monoblock pair 200wpc.** £4955
- **PP46 Valve Line Preamplifier** £1750

**PAPWORTH AUDIO TECHNOLOGY**

'Extremely Good Amplifiers'

For an interesting chat, call:

Collin Berresford, Papworth Audio (UK Distribution)
Tel/Fax 01744-604578

---

**THE MIDLANDS**

**BEST USED EQUIPMENT SPECIALIST**

**QUALITY USED EQUIPMENT. BOUGHT, SOLD, PART EXCHANGE**

**Table: Audio Equipment**

<table>
<thead>
<tr>
<th>CD's</th>
<th>Used</th>
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<td>Mono Tape</td>
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<td>DPA Enlightened Drive (latest)</td>
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**RAPID ELECTRO**

777 Leckwith Road, Sheffield

**SPEAKERS**

- **Manley BMH (200 watt power amp)** £1500
- **Manley SC/10 pre amp** £2500
- **Nam 23 X** £1100
- **Nam 250 (old style)** £695
- **Nam 250 (6 mths old)** £575
- **Linn Kaim** £1700
- **Quad 77 + remote** £850
- **Quad 34 phono** £500
- **Quad 34** £300
- **Quad 35** £350
- **Quad 3/3 X** £1500
- **Quad M26 C2 (full recent Quad rebuild)** £500
- **Audion Silver Knights monoblocks (6 mths old)** £2800
- **Bryston 0.5 preamp (lifetime warranty)**

**TURNAROUND**

- **Roksan Xenon (Black)** £700
- **Roksan Artemis** £950
- **Audio Tec CQ1 (100 hours)** £400
- **Oracle Deltic + Alphason HR100** £2000
- **Townshend Grail (MC) Retip recently** £1500
- **SME 3009 (new)** £1250
- **Naim NAIT 101 + Stands** £850
- **Quad ESL 63 + Arici stands (2 years old)** £500
- **Quad ESL 64 (Arm 2 years old)** £1850

**ODD'S N SODS**

Various tables, cabinets etc. Ring For Details

OPEN MON-SUN 10.00 TO 8.00 RING FOR FURTHER DETAILS TEL/FAX 0121 783 8227

---

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Buying & Selling Vintage HiFi, Valves, Classical LP Records & Spare Parts.

**Quad**

- **AM2 Tuner** £30
- **F1 Tuner** £10
- **Q01 Pre-Amp**
- **QA12P Amplifiers (Pair) Offer**

**Leak**

- **Leak TL10-1 (Single)** £300
- **TL12+ (Pair)** £250
- **Shure M61-2 Stereo Pre-Amp 220V** £30
- **Tannoy Hi-Gain 15 Amplifier** £40

**Decca FFCS 78**

- **Cartridge** £60
- **Decca FFCS MK1 Stereo Cartridge** £80

**AVO MK4 Valve Tester**

- **Excellent condition with data**

**Valves (G.E.C Mullard etc)**

- **KT66, ECC81/2, 6SN7GT + Many Others.**

Please Phone For Details.

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- **GRACE**
- **REGA**
- **AKAI**
- **HAPE**
- **RIONDA**
- **AKG**
- **HITACHI**
- **ROTEL**
- **AMSTRAD**
- **HMV**
- **ROHNETTE**
- **ARCAM**
- **HMW**
- **ARTISTIC**
- **ISKARA**
- **SANSAI**
- **AUDAC**
- **JULIO**
- **SANVO**
- **AUDIO DEVELOPMENTS**
- **JVC**
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- **AUDIO TECHNICA**
- **KENWOOD**
- **SCOTT**
- **AUE**
- **KI**
- **SEEBERG**
- **BANG & OLUFSON**
- **KIMU**
- **SHARP**
- **BELLEZ**
- **LENO**
- **SHURE**
- **BRAHU**
- **LESA**
- **SIGNET**
- **BROTHAN**
- **LUNK**
- **SINGER**
- **CER**
- **LUSTRE**
- **SONIC**
- **CHUNG DUENKI**
- **LUXMAN**
- **SONOTONE**
- **CHOW**
- **MAGNAVOX**
- **SONY**
- **CINTON**
- **MARANTZ**
- **STANTON**
- **CORAL**
- **MARLUX**
- **SUPEX**
- **COSSO**
- **Micro**
- **TANTON**
- **CRISTAIN**
- **NORITC**
- **MIDAS**
- **MITSUBISHI**
- **TECHNICS**
- **CRONOTION**
- **NAO**
- **TECHNION**
- **DECCA**
- **NAGAKO**
- **TELEDYNE**
- **DEION**
- **NATIONAL**
- **TELELINKEN**
- **DIGITRAX**
- **NEAT**
- **TELETON**
- **DUAL**
- **NEC**
- **TENOREL**
- **EAGLE**
- **NIVICO**
- **TEMPEL**
- **EDEN**
- **ONKYO**
- **TETRAZ**
- **ELAC**
- **ORTOFON**
- **TETRAD**
- **ELECTRO VOICE**
- **OSA**
- **TOSHIBA**
- **EMI**
- **PANASONIC**
- **TRENTEI-REUTER**
- **EMI**
- **PICKERING**
- **TRIO**
- **EMPIRE**
- **PHILLIPS**
- **UNITA**
- **EROS**
- **PHILIPS**
- **VACOVARCO**
- **EROS**
- **PICKERING**
- **VIBER**
- **ERE**
- **PIA**
- **VICTOR**
- **FONICA**
- **PLESSEY**
- **YAMAHA**
- **FULDEN**
- **POWER POINT**
- **GARRARD**
- **ZENTH**
- **GARRARD**
- **PYE**

For prices write/email/mail your sty-selector details. Versions for 78 rpm records supplied in many types. Original stylus and cartridges also available. Trade enquiries welcome.

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**TAPES - CLEANERS, STORAGE. REPLACEMENT CASES, REEL-TO-REEL, CASSETTE**

---

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**Product of the Month**

**Myrdal MC-100 Compact Disc Player**

In superb condition and fully serviced. Little is new from the owner. Has original box, manual and power cord.

**Price:** £1,200.00

**Product Details**

- Yamaha CD 2100 (Excellent condition)
- Linn Sondek LPI2/8
- Garrard 401 Special in Vosd
- Pink Triangle (black)/Zeta van den Hul/Decca Gold
- Technics SU-640 (S/h)
- Mission Cyrus II/PSX PSU (Vgc) (S/h)
- Layman O 502 Advance' direct coupled preamp (Re) (S/h)
- Yamaha AX-390 remote (2x40 watts) (Go)
- Aura Evolution VA-100 (Leo) (Ve)
- Luxman RO-102 W M (70's receiver with sensor panel) (G.C) (S/h)
- Denon PMA 250 (2x30 watts Int) (S/h)
- Audio Innovations 2nd Audio triode monoblock
- Quad 306 power amp (Go)
- Quad 33 Pre (Brown) (Gr.)
- Quad 405 MkI (Brown) (Go.)
- Kinshaw Overture Int. 2.45 watts (Mont/Au new)
- Technics R5•BX 605 HO Pro/DBX etc (F.C.)
- Mission 7641 floorstaned (Black) (Go.) (S/h)
- Thorens TD 280 IA.T. MM cart (Black) (Mint)
- Myriad MC-100 remote (Mint/as new) (S/h)
- Marantz CD 75 remote (Teak) (S/h)
- Philips CD 732 remote mint) (s/h)
- Pioneer PD-9700 remote/digital out (Mint) (S/h)
- Arcam Alpha S remote (Mint/u new) (S/h)
- Quad FM .66 Tuner (Mint)
- Atacama stands SE 24 (Mint)
- Philips CD 75 remote (Teak) (S/h)
- Rotel RCD 960 BO discreet remote (TWhord clocked 2 mod) (S/h)
- Grado SR 60 headphones (Excellent cans) (Re)
- Rotel RI 8505 pre-sedigital tuner (Good un't) (Re)
- Kenwood 2050L digital/pre-set tuner (G.C.)
- Myriad MC 100 remote (Mint/as new) (S/h)
- Marantz CD 75 remote (Teak) (S/h)
- Pioneer PD-9700 remote/digital out (Mint) (S/h)
- Cambridge Audio DAC 640 playtnm etc ( Ago)
- John Fahey - Christmas at the Folks (S/h)
- Various - The 25 Most Requested Christmas Hits - 1996 (S/h)

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- Mastercard - Visa

**Credit Cards Accepted:**

- Amex - Switch - JCB

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- Worldwide Delivery

**Returns Information:**

- 30 Days Returns Acceptance

**Guarantee:**

- 12 Months Manufacturer's Guarantee

**Terms:**

- 30 Day Money Back Guarantee

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- Sunday Closed

**Contact Person:**

- Anthony Taylor

**Additional Information:**

- We are currently looking for the following products

**For Sale (Urgently)**

- Rotel RCD 960 BO discreet remote (TWhord clocked 2 mod) (S/h)
- Myriad MC-100 remote (Mint/as new) (S/h)
- Marantz CD 75 remote (Teak) (S/h)
- Pioneer PD-9700 remote/digital out (Mint) (S/h)
- Cambridge Audio DAC 640 playtnm etc ( Ago)

**Please phone for details!**

**Contact:** Anthony Taylor

**Affordable Audio**

12 Upper Dock Street, Northampton

**Tel:** 01604 231261 or 04538 877893

**Fax:** 01604 542170

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**Hi-Fi WORLD**

MAY 1998

105
HICAM
GOOD QUALITY PRE OWNED EQUIPMENT
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CDs/Tuners/Tape/TV

<table>
<thead>
<tr>
<th>CD/Disc/Player</th>
<th>Tuner/Amplifier</th>
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<tr>
<td>Micromega Leader 2</td>
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<td>Marantz 5600</td>
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<td>Sony TCX611S</td>
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<td>Yamaha RX930</td>
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<td>Denon DRM 10X</td>
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<td>Nakamichi 2</td>
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<td>Linn Basis/Akito K5</td>
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<td>Stax Lcd Omega Pro. SROX</td>
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Speakers

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<td>Rogers LS2/2A</td>
<td>£ 325</td>
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<td>TDL RTL 3 BIK</td>
<td>£ 250</td>
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<tr>
<td>Mission 73C Centre</td>
<td>£ 80</td>
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<tr>
<td>Bose Acoustimass 5 Mk2 (never used)</td>
<td>£ 400</td>
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<tr>
<td>Naim SBL BIk</td>
<td>£ 1200</td>
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<td>Meridian A500 (Walnut)</td>
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Amps

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<td>Naim 180 Power Amp</td>
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<td>Linn 72 Pre Amp</td>
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<tr>
<td>Pioneer DSP 200 R/C</td>
<td>£ 400</td>
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<tr>
<td>Musical Fidelity PS</td>
<td>£ 300</td>
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URGENTLY WANTED

Naim Linn Audiolab, Quad
Alway stock of various cables etc

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HELSUS Silver Warning Torque £395
PINK TRIANGLE Duocac Duc £395
MARK LEVINSON ML3.2 200 Watt Dual Mono £2950
AUDIO NOTE LHD Limited camshaft & PSU £790
NAKAMICHI ZK1000 Tape Deck & B&W Serviced £1850
REVS 402 Tecs £80 £1195
REVX B125 Cassette Deck £695
MARK LEVINSON No. 39 Power Amplifier £5495
LUXMAN (C100) Pre-Amp & MX500 Power Amp £1495
VOY Standard Tunable £1495
AUDIO NOTE Kassa Silver Amplifier £1995
MARK LEVINSON 330 Disc Ext £5795
MISSION 782 Loudspeakers £3495
NAIM NAC 252 Pre-amp with Sansui PSU £2295
KEF 104 Loudspeakers £450
REGA PLANAR 2 Turntable £1395
REVX Micro Tuner £1695
AUDIO NOTE M7 Silver Preamp £1495
KRELL KST 100B Balanced Power Amplifier £3995
ARCAM Delta Black Box II DAC £2495
AUDIO NOTE DAC 4 MINT/Boxed £3995
MARK LEVINSON 360 SE Pre-Amplifier £3495
LUXMAN T-14 Tuner (Lab Standard) £550
STUDIO A907 Pro tape recorder MINT £2995
MARK LEVINSON 240 SE Complete System £1575
HIEYBROOK Quartz & stands Ext £2295
BURLINGTON £400 £595
MARK LEVINSON 305 Pre-Amp £4995
VoYD Tri/Quad V & Obralaxo Disc Cart. £2995
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SMY IV Silver Plated Dac £3995
MARANTZ CD12 Transport and DAC £3995
LUXMAN KRS Reference box pre Amp £1295
JADIS 7 £995 £1695
KEF 107 Mk II Speakers (Rosewood) £3995
MERLIN and CRIESEL MX100 Subwoofer Excellent £3995

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HI-FI WORLD
APRIL 1998
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- Micromega Minum speakers, black
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- Pioneer A-400 amplifier
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- QED Dac Plus DAC
- Roland Model 5 Transfiguration power amp
- Sonyo Plus N55 Noise reduction system
- SME 2002 precision turntable
- SME 202A as above with Series V arm
- SME Series V pick-up arm
- TDL CF300 Chevlet
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HI-FI WORLD

MAY 1998 107
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MAY 1998

Border Patrol

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<thead>
<tr>
<th>PRODUCT</th>
<th>PRICE NOW</th>
<th>NEW PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio Analogue Puccini amp (D)</td>
<td>£320.00</td>
<td>£450.00</td>
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<tr>
<td>Audio Gem Opal speakers (D)</td>
<td>£199.00</td>
<td>£240.00</td>
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<tr>
<td>Audio Gem Emerald speakers (D)</td>
<td>£449.00</td>
<td>£595.00</td>
</tr>
<tr>
<td>Audio Gem Sapphire speakers (D)</td>
<td>£975.00</td>
<td>£1250.00</td>
</tr>
<tr>
<td>Graaf Venticinque int amp (D)</td>
<td>£1399.00</td>
<td>£1995.00</td>
</tr>
<tr>
<td>JBL Simply Cinema ESC 300 Home Cinema system (D)</td>
<td>£485.00</td>
<td>£599.99</td>
</tr>
<tr>
<td>Monrio ASTY int amp (D)</td>
<td>£309.00</td>
<td>£440.00</td>
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<tr>
<td>Opera Terza speakers (D)</td>
<td>£769.00</td>
<td>£999.00</td>
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<tr>
<td>Sequance 400 panel speakers, inc stands (D)</td>
<td>£259.00</td>
<td>£329.90</td>
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<tr>
<td>Sequence 300 panel speakers (N)</td>
<td>£195.00</td>
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<tr>
<td>Sequence 200 panel speakers (N)</td>
<td>£159.00</td>
<td>£199.90</td>
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<tr>
<td>Sequence 200C centre speaker (N)</td>
<td>£99.00</td>
<td>£129.90</td>
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<tr>
<td>Sequence SW12 sub-woofer (D)</td>
<td>£195.00</td>
<td>£249.90</td>
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<tr>
<td>Sonic Frontiers Anthem Int amp (D)</td>
<td>£899.00</td>
<td>£1295.00</td>
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<tr>
<td>Sonic Frontiers Anthem CD1M/play CD (D)</td>
<td>£1099.00</td>
<td>£1599.00</td>
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<tr>
<td>Sonneteer Campion int amp (D)</td>
<td>£469.00</td>
<td>£599.99</td>
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<tr>
<td>Sonneteer Alabaster int amp (D)</td>
<td>£699.00</td>
<td>£899.99</td>
</tr>
<tr>
<td>Unison Research Simply 2 amp (D)</td>
<td>£699.00</td>
<td>£995.00</td>
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Phono Stage

SONNETEER SEDLEY

The Sedley is one of the few phono stages on the market to tackle the thorny problem of trading bass depth for warp sensitivity. It has, in effect, a switchable warp filter, but Sonneteer refer to it as the original RIAA specified curve against the later IEC, to which a warp filter was appended. The Japanese don't want to know about this, and I doubt if the Americans do either. Britain, being mid-Atlantic, sits on the fence; some amps have warp filters, others don't. They audibly suppress deep bass, but usefully eliminate record warps too. Some claim that IEC bass is 'faster' though. The Sedley allows owners to experiment, the only drawback being the two characteristics are not front-panel switchable - fiddly DIP switches must be changed with a biro or suchlike.

Equalisation was accurate, so the stage has, in effect, flat frequency response. Gain for MM was x100 and for MC x650. Both are fairly conventional, but the latter is for Moving Coil cartridges of reasonable output, such as Ortofons. It is on the low side for low-output Linns and Lyras, for example, and input noise was a bit high for such cartridges too. This is not the quietest phono stage around with MCs, but it is good with MMs.

Overload values were good because the unit swings a reasonably high output of 11V.

The Sedley is for serious LP users who might occasionally find their (reflex) 'speaker cones challenged by warps. NK

Disc MM
Frequency response 4Hz-150kHz

CD Player

HOLFI XARA

The Xara displays a slightly rolled off top end, enough to ensure it sounds a little warm and free from sharpness.

Distortion was on the high side, and varied between channel's significantly too. One channel measured out at 0.2% for a -30dB signal, ten times more than a good Bitstream machine, whilst the other measured 0.08%. The situation reversed itself at -60dB, the good channel turning in 1.1% distortion, again a high value.

Levels hit a massive 75% at -90dB, poor by today's standards. The Xara is not very linear and is likely to display a little coarseness or greyness in its sound.

Noise was acceptably low and channel separation also healthy. Output was unusually low at 1.28V however. Philips' standard specifies 2V.

The Xara's measured performance was not especially impressive. NK

Disc MC
Frequency response 4Hz-150kHz

<table>
<thead>
<tr>
<th>Frequency response</th>
<th>5Hz-21.5kHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distortion (%)</td>
<td>0.04</td>
</tr>
<tr>
<td>-6dB</td>
<td>0.04</td>
</tr>
<tr>
<td>-30dB</td>
<td>0.08</td>
</tr>
<tr>
<td>-60dB</td>
<td>1.1</td>
</tr>
<tr>
<td>-90dB</td>
<td>77</td>
</tr>
<tr>
<td>-90dB dithered</td>
<td>26</td>
</tr>
<tr>
<td>Separation (dB)</td>
<td>left</td>
</tr>
<tr>
<td>1kHz</td>
<td>98</td>
</tr>
<tr>
<td>20kHz</td>
<td>82</td>
</tr>
<tr>
<td>Noise with emphasis</td>
<td>-90dB</td>
</tr>
<tr>
<td>Dynamic range Output</td>
<td>100dB</td>
</tr>
<tr>
<td></td>
<td>1.28V</td>
</tr>
</tbody>
</table>

Separation 70dB
Noise -85dB
Distortion 0.002%
Gain x100
Overload 11V out/110mV in

Disc MC
Frequency response 4Hz-150kHz

<table>
<thead>
<tr>
<th>Frequency response</th>
<th>47Hz-150kHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Separation</td>
<td>70dB</td>
</tr>
<tr>
<td>Noise</td>
<td>-85dB</td>
</tr>
<tr>
<td>Distortion</td>
<td>0.002%</td>
</tr>
<tr>
<td>Gain</td>
<td>x100</td>
</tr>
</tbody>
</table>
| Overload           | 11V out/110mV in

Separation 60dB
Noise -7dB
Distortion 0.002%
Gain x650
Overload 11V out/17mV in

<table>
<thead>
<tr>
<th>Frequency response</th>
<th>47Hz-150kHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Separation</td>
<td>47Hz-150kHz</td>
</tr>
<tr>
<td>Noise</td>
<td>-85dB</td>
</tr>
<tr>
<td>Distortion</td>
<td>0.002%</td>
</tr>
<tr>
<td>Gain</td>
<td>x650</td>
</tr>
</tbody>
</table>
| Overload           | 11V out/17mV in

-----

HI-FI WORLD

World Radio History

MAY 1998
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LOUDSPEAKERS

THOMAS TRANSDUCERS
VIRTUOSO GOLD

To make a horn loudspeaker small enough for the average (large!) home, it has to be cut down a little. This compromises certain horn properties and the presence of bass impedance peaks in this model is a sign of this. An ideal horn will have a flat-lish impedance curve. However, these 'speakers are little worse than usual and, with the overall impedance a very high 11 ohms, they will draw little current. So the Virtuoso Gold scores well in this area.

Horns are also meant to be sensitive. The Lowther drive unit in the Golds is innately sensitive, with its light paper cone and, helped by horn loading, the 'speakers produced a massive 98.5dB Sound Pressure Level from a nominal watt of input. Fed a true watt, they would doubtless hit 100dB, far more sound than a conventional cabinet can muster.

Amplifiers of 3 watts-30 watts or so should do.

Frequency response was respectably flat across the audio band, although spectrum extremes roll off to an extent that will be audible. Bass output starts to decline below 130Hz, reaching -6 dB at 100Hz. The roll-off is smooth and progressive, but all the same there's little below 80Hz. Even bookshelf 'speakers manage better than this. Horns must be massive if they are to reach down to 40Hz, like a conventional loudspeaker. Still, corner placement will usefully extend this lower limit.

Treble output rolls off above 10kHz. This is down to the drive unit's parasitic cone and phase plug, not horn loading. Such a roll-off will take a little bit of sheen off treble, but will also ensure there's little sharpness. NK

MISSION 700

The small Mission 700 has plenty of bass and treble lift to add zip to the sound. Our analysis shows treble rises steadily to reach +3 dB at 16 kHz. This is likely to add quite a sting when there's plenty of treble on a disc. Otherwise it will make the 700 seem clear and detailed.

With +5 dB bass lift from 80 Hz-160 Hz the 700 will have fast, enthusiastic bass, but of course a mini cannot have real deep bass. All the same, output reaches down to 80 Hz.

The impedance curve is reasonably tame above 200 Hz, the usual rise in voice-coil impedance being rolled over by power draw from the tweeter. Here, though, the load remains even, rather than dipping down to impose extra amplifier loading. Below 500 Hz however, the 700's impedance falls to 4 ohms, punctuated by the two peaks that characterise reflex loading. So it will draw power in the bass and benefit from being driven by an amplifier than can deliver current. Most modern solid-state designs should cope.

A low overall impedance of 5.7 ohms aids sensitivity, which measured a reasonable 85.5 dB SPL for a nominal watt (2.84 V) of input. The 700s will need a 40 watt-60 watt amplifier.

These 'speakers are not especially flat and accurate, but they are a competently-balanced package. NK
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Opera - Platea Loudspeakers
Helios - Superb CD Players
VPI - Turntables & Cleaning Machines

STOP PRESS ... STOP PRESS ... STOP PRESS ... STOP PRESS
VPI record cleaning machines now available from OEE
TANNOY P10

The P10s are sensitive for a small loudspeaker, delivering a healthy 87dB sound pressure level (SPL) from a nominal watt of input. That’s enough to go loud from an amplifier of around 50 watts. Impedance dips down to 5ohms minimum, except above 10kHz, where it plunges to 30ohms. Whilst music energy levels are low so high up the audio band, this still isn’t very good practice, especially since tweeter output is rising, an effect likely to add some hardness or spit to the sound. Lacking a midrange dip, the P10 will be detailed though.

The smooth response trace below 1kHz, free from peaking and with a smooth bass roll-off, suggests a fair level of acoustic damping. I’d expect a controlled sound without bass warmth or boom. The P10s are likely to sound deep bass shy, but over-damped speakers can come to life in this department when driven vigorously from a muscular solid-state amplifier.

The Tannoy P10 will have a distinctive sound, bright but with taught bass. To be auditioned first. NK

CREEK T43

The T43 has a broad, flat audio frequency response, as our analysis shows, with a gentle roll down above 10kHz. It will give a tonally balanced sound as a result. Although there was little unwanted pilot tone or sub-carrier output, quite a lot of sub-carrier modulation products were present. Filtering above 16kHz appeared minimal - I presume the tuner uses pilot-tone cancellation. It will send unwanted signals to the amplifier, which may tinge the sound slightly.

Distortion was acceptably low at around 0.2%, primarily second harmonic in nature. This will not add coarseness. Although hiss was low at -68dB, most tuners manage better, reaching -72dB or lower. The constant high modulation used by radio stations will make sure this is not audible, although critical Radio 3 listeners might notice slight hiss at times.

The T43 smoothly blends to mono as signal strength decreases, keeping hiss from this source lower than -55dB, right down to a few microvolts. Coupled with good selectivity, the T43 should seem consistently quiet to users, even those with poor aerials.

There is a simple three-part signal-strength indicator but it suggests full signal is present above 100μV. In truth, the T43, like most tuners, needs much more for optimum results - no less than 800μV. The T43 measured well in all areas. It isn’t a class leader but equally it has some unusual and useful properties, plus no significant weaknesses. NK
Choice Hi-Fi - the original and the best!

Choice Hi-Fi makes it easy for you to fulfill your sonic dreams. Quality hi-fi is not just about expensive brandnames, it's about aspiring to the very best sound, about choosing your ideal system from the widest selection in the country, in a unique no-pressure environment. It's about taking advantage of our unrivalled knowledge and being given the freedom to choose and upgrade the audio equipment you want, when you want. Others will sell you hi-fi, Choice Hi-Fi will sell you solutions.


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Alchemist Kraken x 2 Stereo & Pre-amp £695 £1400
Audio Research LS 33 £2350 £2950
Audio Research LS 35 £2600 £2900
Audio Research LS 35 mk II £3000 £3500
Audio Research LS 36 £3500 £4000

Conrad Johnson Prem 8a £7950 £16000
Boulder 500 AE £2000 £3995
LFD PA2/LS1 £995 £1895
NVA A80 Monoblocks & P50 Pre-amp £1795 £3500
Musical Fidelity P180 & CRPS £1295 £2495
Meridian 557 £1695 £1945
Audio Innovations S500 Integrated £2395 £4795
Meridian 505 Monoblocks £2995 £5050
Meridian M60 Rosewood £1995 £2395
Meridian 551 Integrated £3395 £5950

Quality Speakers

ATC SCM 10 Black £195 £300
Epos ES 14 £795 £1150

CD Players & DACS

EAD 7000 Transport £1795 £2495
P.S. Audio Ultralink £795 £1295
EAD 9000 Series III HDCD £4500 £8000
Wadia 16 £895 £1900
Mission Cyrus Discmaster (Transport) £1395 £2395
Krell SBP 64X £2295 £3995
M C Cormack DAC-1 £295 £595
Wadia 22/26 £4795 £9900
Acuphase DP70 £1395 £2395
Acuphase DP60/91 £9950 £20000
Forsell Air Ref Transport mk II £3295 £6495
Rostel 965 BX £995 £1995
Audio Alchemy Transport DSD 2 £495 £995
Micromega Duo CD £995 £2000
Micromega Minimum C £275 £595
DPA PDM Series 3 £595 £1195
Mark Levinson 30.5/31 £1150 £2495
Sony R1/S1 £495 £995

Turntables & Analogue

VPI HW 19 jr/ RB 300 £550 £750
Pierre Lume JH1LS £1795 £4500
Kuzma Stabi/ Stogi reference £1795 £2950
Stax SR Gamma Pro & SRRX Pro Energiser £350 £500
Basis Ovalton £395 £695
Pierre Lume JH/Sowther mk III £2295 £4995
TNT Wheaton III £1995 £2995
Forsell Air Ref dac £4995 £8995
Complete Audio Gamma 24 CT GoldCoil £1295 £2295
Koetsu Purpleheart Sapphire £495 £995
Wilson System 5.1 £695 £1250
Alon Lotus SE £300 £600
Sonus Faber Extrema + Stands £425 £700

Clearance

Ashton Audio D121 balanced power £1595 £3500
Jadis DA 30 intergrated £1700 £2280
Beard P5 £495 £995
Chameleon Ruby Power Amp (200W) £495 £995
Naim 42.5 Avondale £195 £595
Apogee Silmilla £995 £3000
Dunedin Crown Princes £1650 £3250
Wadia x 64.4 dac £1395 £4750
Ritar Icon & Stands £250 £500
Royd Saphire £175 £245

Choice Hi-Fi - the original and the best!

All equipment is in mint, second hand or as new condition - guaranteed
AMPLIFIERS

SONIC FRONTIERS
ANTHEM INTEGRATED 1

The Anthem produces 36 watts into an 8ohm or 4ohm load, these impedances being options, since valve amps are load-matched devices that do not increase their power as load decreases. This is enough power to go loud, especially with reasonably sensitive modern loudspeakers. Bear in mind that most big floor standers are actually more sensitive than small loudspeakers.

Frequency response measured 20Hz-45kHz, the bottom end necessarily being band limited, but this improves bass 'speed'. The amplifier developed full power at 40Hz so it will still have plenty of slam. Noise was low at -91dB yet sensitivity normal at 200mV. Possessing output transformers, there's no DC output offset from the Anthem.

Distortion was respectably low at normal working levels, right across the audio band. Our analysis shows the presence of second and third harmonics, which will have little impact upon sound quality.

The Anthem is very well engineered and delivers a respectable performance from paralleled EL84 output valves. It is likely to offer the full subjective benefit of valves. NK

<table>
<thead>
<tr>
<th>Power</th>
<th>36 watts</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD/tuner/aux.</td>
<td></td>
</tr>
<tr>
<td>Frequency response</td>
<td>20Hz-45kHz</td>
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<tr>
<td>Separation</td>
<td>61dB</td>
</tr>
<tr>
<td>Noise</td>
<td>-91dB</td>
</tr>
<tr>
<td>Distortion</td>
<td>0.02%</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>200mV</td>
</tr>
<tr>
<td>DC offset</td>
<td>none</td>
</tr>
</tbody>
</table>

UNISON RESEARCH SMART
300B MONOBLOCs

Due to the fact that the Valve Art 6300B valves started sparking we are unable to test these amplifiers.

ORIGIN LIVE TURNTABLE KITS
Standard & Ultra

Now you can save money and build your own high performance deck. The standard kit version is offered at £145, and the ultra version at £249. Both decks come with a full set of drawings and guidance instructions. The kit allows for your creativity or there are optional parts that will enable you to assemble a tried and tested design within 2-4 hours.

"this Vinyl font end had my jaw heading towards the floor with the solidity and transparency of the music it was making"...

"the standard came up with crystal clear images set in a broad sound stage".... "With all these goodies in place, the standard would give turntables at the £1200-£1400 mark a hard time."

HI-FI WORLD SUPPLEMENT NOV 97

"is exceptionally easy to build and professional in both sound quality and appearance"

HI FI NEWS SUPPLEMENT NOV 97

ORIGIN LIVE MODIFICATION FOR THE
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If you are the proud owner of one of these two arms why not turbocharge it into the league of super arms with the Origin live structural modification: - £75 inc post & packing. Those investing in this upgrade report that the transformation is simply night and day. Rewiring with silver litz cable is also offered at an additional £70.

"I have to say the Rega modifications turn this humble arm into a real Giant killer. Gone is the rather grey, sterile sound of the cooking Rega. Instead, tonal colour is fresh, dynamics have great speed and impact, and the sound stage is huge." HI FI WORLD SUPPLEMENT NOV 97 (structural modification only to a RB250)

For arm modifications we normally return your arm in 2-3 days

For further information contact:-
Origin Live, 87 Chessel Crescent, Bitterne, Southampton, SO19 4BT
Tel: 01703 578877 / 442183 Fax: 01703 398905
e mail: origin.live@virgin.net
web site:http://freespace.virgin.net/origin.live/index.htm

HI-FI WORLD MAY 1998
CLASSIQUE SOUNDS
(LEICESTER)
VINTAGE HI-FI & VALVE SPECIALIST

FOR SALE: PRE/POWER AMPLIFIERS/VALVE

- Vintage Phase 3 pre amp £60
- Musical Fidelity $300 pre amp £60
- Musical Cyrus 1 integrated amplifier £50
- Supery 84 amplifier £40
- Musical Fidelity 522 valve pre amp £95

Valves by:-
- GEC, Mullard, Osram, Brimar, Etc.
- Ear, Lumley, Audionote, Thorens, Etc.

Repair of damaged treble or base panel including dust covers. £95

EAR 834Phono stage with volume control. Brand new. Boxed. At only £30

7 DAY MONEY BACK GUARANTEE IF NOT BETTER THAN

- Qed Digit & 3 positron power supplies £140
- Octal Digit Ni positron power supply £100
- Quad remote for 66/606 £60
- Leak Throughline 3 stereo tuner £75
- Entec Mt • step
- Smc 3009 tone arms. Various. From £60
- Quad Fm with Quad stereo decoder. £60
- Linths @ £175.00 (unfinished) or £275.00 (finished)
- Spica Angelus. Cost £1600. Sell for £400
- Rogers LSI speakers. Mint. Boxed £75
- Monitor Audio MI4 Floorstanders £150
- Monitor Audio MA3 & stands. Boxed £250
- Garrard 301. Finished in Hammerite grey with Grease Bearing. Very good original condition. POA
- Notts Analogue Space deck with Paragon I Parallel tracking tone-arm. Nice condition. £999
- Garranl 301s/401S price Varies on condition POA
- Thorens 124. Varied prices and condition POA
- Quad 405/1 amplifer. Good condition £175
- Quad 306 amplifie. Excellent condition. £200
- Roksan L2 pre- amplifier & Dra power amp £600
- Jeff Rowland model one amplifier. Amazing £1500
- Dnm 2A pre- amplifier and power supply £300
- Dnm 2A pre- amplifier and 2 power supplies £400
- Quad 33 pre-amplifier. Good condition. £75
- Quad 303 power amplifiers. Good condition. £125
- Rogers Cadet 2. Pre/power amplifier £150
- Rogers Cadet 3 Valve integrated amplifier £125
- Nlaiched pair Leak TL 10s. guaranteed £500
- Matched pair Leak TL12 amplifiers rebuilt £350
- Rogers zed 2 Valve integrated amplifier £150
- Leak TL 12 in Brinco boxes £50
- Audio Innovations Free Audio Range £90
- Sound by design £100
- Matched pair Leak T112+ amplifiers. Rebuilt £550
- Rogers L2 Jaguar £100
- Richard Allen Class A integrated amplifier £150
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FOR THE DATA BASIC

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WANTED (ring for best price)

- Mission Cyrus 1. Integrated amplifier £99
- Linn £melt Integrated amplifier. Mint. Boxed £225
- Townsend 600c pre-amplifier. Boxed. £125

TRANSCULENT SILVER INTERCONNECT CABLE

- Cabasse all cable terminated £2500
- Cabasse all cable 3m £1500
- Cabasse all cable 1m £500

MUSICAL FIDELITY 1001 amplifier - a really excellent new amplifier - try it !

GARRARD 301S/401S PRICE VARIES ON CONDITION

- £155 SH
- £175 XD
- £195 SH
- £215 XD
- £235 SH
- £255 XD
- £275 SH
- £295 XD
- £315 SH
- £335 XD
- £355 SH
- £375 XD
- £395 SH
- £415 XD
- £435 SH
- £455 XD
- £465 SH
- £485 XD
- £505 SH
- £525 XD
- £535 SH
- £545 XD
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- £695 XD
- £705 SH
- £715 XD
- £725 SH
- £735 XD
- £745 SH
- £755 XD
- £765 SH
- £775 XD
- £785 SH
- £795 XD
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- £815 XD
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- £985 SH
- £995 XD
- £1005 SH
- £1015 XD
- £1025 SH
- £1035 XD
- £1045 SH
- £1055 XD
- £1065 SH
- £1075 XD
- £1085 SH
- £1095 XD
- £1105 SH
- £1115 XD
- £1125 SH
- £1135 XD
- £1145 SH
- £1155 XD
- £1165 SH
- £1175 XD
- £1185 SH
- £1195 XD
- £1205 SH
- £1215 XD
- £1225 SH
- £1235 XD
- £1245 SH
- £1255 XD
- £1265 SH
- £1275 XD
- £1285 SH
- £1295 XD

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Telephone: 01865 798979 Faxnumber: 01865 791665

E-MAIL: Oxford Audio@btinternet.com

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- Vintage Phase 3 pre amp £60
- Musical Fidelity $300 pre amp £60
- Musical Cyrus 1 integrated amplifier £50
- Supery 84 amplifier £40
- Musical Fidelity 522 valve pre amp £95

Valves by:-
- GEC, Mullard, Osram, Brimar, Etc.
- Ear, Lumley, Audionote, Thorens, Etc.

Repair of damaged treble or base panel including dust covers. £95

EAR 834Phono stage with volume control. Brand new. Boxed. At only £30

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VALVES BY:-
- GEC, MULLARD, OSRAM, BRIMAR, ETC.

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Genuine Garrard 401 turntables are available, as approved remanufactured units from Loricraft Audio, the official Garrard licensees.

The first thing you notice is it's amazing bass slam. Notes go deeper and with more power and control than I have heard from any other turntable.....Dominic Baker Hi Fi World

In musical terms the 401 combination was a real winner.......Chris Beeching Hi Fi News

We have test and calibration equipment from the original Garrard factory and can offer turntables rebuilt to “as new” or latest specification. Mounted in our world renowned plinth, all our remanufactured units come with a full 2 year guarantee. We also offer these services to customers with their own motor units.

For further details send an SAE to:-
Loricraft Audio, 4 Big Lane, Lambourn Berkshire, RG17 8X0.
or call 01488 72267

or contact our dealers:-
Byworth Music, Farnham, Surrey 01252 - 710910
Audible Elegance, Herne Bay, Kent, 01227 - 742928.

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HFW 5/98
**The Home of Hi-Finesse.**

Hart Audio Kits and factory assembled units use the unique combination of circuit designs by the renowned John Linsley Hood, the very best audiophile components, and our own engineering expertise, to give you unequaled performance and unbeatable value for money.

We have led the way for easy home construction to professional standards, even in the stodgiest we were using easily assembled, precision printed circuit when Heathkit in America were still using lapboard. Many years of experience and innovation, going back to the early Dimandl and Bailey classics, gives us incomparable design background in the needs of the home constructor. This allegedly means that building a Hart kit is a real pressure, resulting in a piece of equipment that not only saves you money, you know that you have done something right.

Why not buy, read, reprints and construction manual for the kit you are interested in to see how easy it is to build your own equipment the Hart way. The FULL cost can be credited against your subsequent kit purchase.

### 'AUDIO DESIGN' 80 Watt POWER AMPLIFIER

Our John Linsley Hood designed 80 watt Power Amplifier continues to amaze all who listen to it, and is now widely regarded as the standard by which other manufacturers who wish to show their own products to their best advantage. Its flawlessness performance is due to the combination of inspired circuit design and the very best components, specified by the designer. Such innovations as the six rail fully stabilized power supply make great contributions to the overall reproduction quality yet are not found on even the most expensive run-of-the-mill design in the Hi-Fi shop window.

We have long known that the delicacy and transparence of sound from this amplifier placed it in the world class and side-by-side comparisons with amplifiers costing five times as much still show superior performances, which suggests that no higher quality audio expensive amplifiers will only equal rather than exceed, its sound quality. All amplifiers in the range have the same basic quality and if you decided to sell should show the customer what is the best amplifier you have, the STANDARD amplifier has switching for up to three inputs, if you need more than this a preamplifier feeding a SLAVE power amplifier will give you up to seven inputs. SLAVE power amplifier will give you the same output as the main amplifier in the circuit in action then another unit is a part of Wilfow Audio’s new premises at Droughton Airley, near Leckfield. Their number phone number is 01455 296063. Speak to Shaun or Terry.

All amplifiers are available in kit or factory assembled form.

### AMPLIFIERS

<table>
<thead>
<tr>
<th>Model</th>
<th>Kit Price</th>
<th>Assembled Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>K1100 Complete STANDARD Amplifier Kit</td>
<td>£415.21</td>
<td>£425.21</td>
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<tr>
<td>A1100 Factory Assembled version</td>
<td>£415.21</td>
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</tr>
<tr>
<td>K1105 Complete stereo SLAVE Kit</td>
<td>£335.62</td>
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<tr>
<td>A1105 Factory Assembled</td>
<td>£325.22</td>
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<tr>
<td>K110M MONOBLOC Amplifier Kit</td>
<td>£271.20</td>
<td></td>
</tr>
<tr>
<td>A110M Factory Assembled</td>
<td>£261.20</td>
<td></td>
</tr>
</tbody>
</table>

**Super Audiophile (SA) Version of all the above come with selected audiophile components at an extra cost of only £25.90 per channel.**

### HIGH END SINGLE ENDED CLASS ‘A’ POWER AMPLIFIER

A design for the experimenter who wants to try and re-create the warmth and purity of sound given by valve amplifiers from the vintage years, without the problems of cost, deterioration and danger associated with trying to use valve tubes itself, it employs the newly re-discovered single-ended circuit configuration to give the highest standards of construction and to give a sound that is indistinguishable from the famous ‘Williamson’ design, the百破 strain of the field, with its inside connected KT66s and all-tube drivers. See our list for full details.

Report of Article                        | £2.50  
CM4000 Construction Manual            | £5.00  

### MAINS LEADS & POWER DISTRIBUTION.

As all kits use standard IEC mains leads and these are available for a range of countries. We also stock distribution boxes with IEC sockets to increase the space needed for power leads. See our kits for details.

<table>
<thead>
<tr>
<th>Component</th>
<th>Kit Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALPS Blue Velvet Switches</td>
<td>£14.57</td>
</tr>
<tr>
<td>AC-0101 6A 230V 25w Power</td>
<td>£17.91</td>
</tr>
<tr>
<td>SLAVE power amplifier</td>
<td>£115.46</td>
</tr>
<tr>
<td>STANDARD amplifier</td>
<td>£120.46</td>
</tr>
</tbody>
</table>

**SHUNT FEEDBACK PRECISSION PREAMPLIFIER**

If you want the very best sound out of vinyl discs then you need our high quality preamplifier with Shunt Feedback equalisation.

The K1400 also has an output stage of genuine high quality optimised for low noise and maximum output. The ATTUWIK power supply is specially designed to optimise the performance of our Hart audiograde silver solder. A premium offering for the serious audiophile. Not only does it give beautiful easy-to-tune sound, but it is designed to melt at normal soldering temperatures avoiding the possibility of thermal damage to delicate components.

**HART AUDIO KITS**

For your Hi-Fi needs, Hart Audio Kits are available in a wide range of models from the affordable to the top of the line at prices that are unbeatable. Most models can be built as a kit, with parts and instructions included, or as a factory-assembled unit.

### SOLDERING

The selection of solder iron and other equipment is critical for achieving the best possible results. The Hart line-up of soldering equipment is carefully selected to provide the best results with Hart Audios kits. Our soldering kit is a must-have for anyone serious about audio construction.

<table>
<thead>
<tr>
<th>Model</th>
<th>Kit Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>340-003 3mms 235W Soldering Iron</td>
<td>£3.90</td>
</tr>
<tr>
<td>340-006 100g. Reel Special Valve Grade, 20w</td>
<td>£12.90</td>
</tr>
<tr>
<td>MC987 100g. Reel Special Valve Grade, 20w</td>
<td>£12.90</td>
</tr>
<tr>
<td>HC554 4P 6W Motorized</td>
<td>£20.80</td>
</tr>
</tbody>
</table>

**PRINTED CIRCUIT BOARD SOLDERING PRACTICE KIT.**

Unsure whether you can construct a Hart kit, this is your chance to try! Your Hart Printed Circuit Board Soldering Practice Kit comes with a range of modern components, a typical Hart quality PCB, a roll of the correct grade of solder and full instructions. It enables the enthusiast who is uncertain of his, or indeed her, ability to put this kit together and solder a printed circuit to try his hand at minimum cost. The instructions explain the right technique and guide even an amateur engineer through the seemingly daunting, but in fact very simple, task of making a properly soldered joint. Exemplary value for money at only £4.99  

Super Version with Hart Silver Solder          | £6.95    

### LINDSEY-HOOD 400 SERIES HIGH QUALITY FM TUNER.

This ultra high quality analogue tuner system is the ideal companion to the Hart Series Audio Design Amplifier. It is a high quality component that is a must-have for any ultimate system. The Hart Phantom power supply is specially designed for exciting audio use requiring absolute minimum noise, low hum and high quality components.

Utilising linear technology throughout for smoothness and musically it makes it the perfect partner for the above units, or any equipment requiring fully stabilised ±15v supplies. There are two versions, K1350 has a ±15v supplies and a single 15v for relays etc. K1355 is identical in appearance and has a ±15v. Both are in cases to match our ‘Chieftain’ Headphone Amplifier and our K1400 ‘Shunt Feedback’ Preamplifier.

<table>
<thead>
<tr>
<th>Model</th>
<th>Kit Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>K1350 Complete Kit</td>
<td>£76.75</td>
</tr>
<tr>
<td>K1350A Audiofie Kit</td>
<td>£90.94</td>
</tr>
<tr>
<td>K1355 Factory Assembled Full Supply</td>
<td>£147.25</td>
</tr>
</tbody>
</table>

Send For Your FREE copy of our LISTS  
All Prices include UK/EC VAT.
The ASM 100 Active Sub-woofer Module is an easy to build, but very effective, bass reflux cabinet design using the ASM 100 Active Sub-woofer Module and the W200S, compact, 8" driver, with its 20mm maximum displacement. Easy to integrate into a modern living room, the size of the cabinet has been kept as small as possible to fit into 24" high, 303 mm wide, and 385 mm long. To add its ease of positioning in the room the ASM 100 Active Sub-woofer Module is also available with a pre-amplifier ready for you to mount in a suitable sub-woofer cabinet. The unit can be used by simply wiring the unit in parallel with the existing speakers to achieve the lower frequencies.

A speaker kit from the VISATON highly defined, sound stage idiom, giving a full uncoloured, and transparent response. The speakers are angled at 45 degrees, as ultra high quality main speakers as well as ultra high quality separates, square section it can also be used as a separation or for home cinema applications. This kit includes all drive units, necessary support, and finishing materials to your kit for it to fit the box and cabinets. LK5961 Kit £89.42

**VISATON**
**HI TOWER SPEAKER KIT**

A speaker kit from the VISATON range that really fits the modern home, giving a full uncoupled, and highly defined, sound stage combined with an unobtrusive elegance that does not look out of place, even in a smaller room. A frequency response from 38-20,000Hz and a power rating of 250W, this kit is easy to move around in your new home, and for all new arrangement of the high treble section angled at 45 degrees creates a really dynamic sound stage with sharp cut-off even when placed. With its compact 20cm width it can also be used as ultra high quality main speakers for home cinema applications. This kit includes all drive units, necessary support, and finishing materials to your kit for it to fit the box and cabinets. LK5961 Kit £89.42

**VISATON**
**SPEAKER DESIGN SOFTWARE**

All programs are for IBM or compatible computers. VISIONAT SPEAKER PRO 6. Software (PC) for cabinet and crossover design and calculation with full extensively data bank of drive unit parameters with performance curves implicit in text. In VISATON'S own anechoic chamber. This is the essential tool that turns you into a speaker designer. Full Version £45.51

**BASS DRUM DESIGN**
**ALL SENSORS**

This program aids the design of bass enclosures by allowing you to model how a speaker will sound in a variety of boxes and then calculate the maximum loudness of the speaker/box combination. It needs Windows 3.x, DOS 5 or 6 or later, 4MB RAM and 4MB hard disk space. Easy to use - easy printed manual. Shipping £40.80

**REPLACEMENT CASSETTE HEADS.**

From his little "Coupled Cavity Handbook", using the same drive unit and terminals to mount the cabinet. The speaker level inputs are stereo inputs at line level and the unit will use any signal presented or selected to 50. 100 or 200Hz and the bass level can be adjusted by a control. It is the best solution to transform the performance over a worn head. The fact that we have a working condition is highly important. The excellent performance of modern cassette recorders depends on the quality of the head. Even the slightest amount of wear can impair the frequency response and distortion levels. Our special cassette head checks tape speed, head azimuth and VU meter reading without test equipment. Ideal for machine testing or when fitting new heads. The excellent performance of modern cassette recorders depends on the quality of the head. Even the slightest amount of wear can impair the frequency response and distortion levels. Our special cassette head checks tape speed, head azimuth and VU meter reading without test equipment. Ideal for machine testing or when fitting new heads. The excellent performance of modern cassette recorders depends on the quality of the head. Even the slightest amount of wear can impair the frequency response and distortion levels. Our special cassette head checks tape speed, head azimuth and VU meter reading without test equipment. Ideal for machine testing or when fitting new heads. The excellent performance of modern cassette recorders depends on the quality of the head. Even the slightest amount of wear can impair the frequency response and distortion levels. Our special cassette head checks tape speed, head azimuth and VU meter reading without test equipment. Ideal for machine testing or when fitting new heads. The excellent performance of modern cassette recorders depends on the quality of the head. Even the slightest amount of wear can impair the frequency response and distortion levels. Our special cassette head checks tape speed, head azimuth and VU meter reading without test equipment. Ideal for machine testing or when fitting new heads. The excellent performance of modern cassette recorders depends on the quality of the head. Even the slightest amount of wear can impair the frequency response and distortion levels. Our special cassette head checks tape speed, head azimuth and VU meter reading without test equipment. Ideal for machine testing or when fitting new heads. The excellent performance of modern cassette recorders depends on the quality of the head. Even the slightest amount of wear can impair the frequency response and distortion levels. Our special cassette head checks tape speed, head azimuth and VU meter reading without test equipment. Ideal for machine testing or when fitting new heads. The excellent performance of modern cassette recorders depends on the quality of the head. Even the slightest amount of wear can impair the frequency response and distortion levels. Our special cassette head checks tape speed, head azimuth and VU meter reading without test equipment. Ideal for machine testing or when fitting new heads. The excellent performance of modern cassette recorders depends on the quality of the head. Even the slightest amount of wear can impair the frequency response and distortion levels. Our special cassette head checks tape speed, head azimuth and VU meter reading without test equipment. Ideal for machine testing or when fitting new heads. The excellent performance of modern cassette recorders depends on the quality of the head. Even the slightest amount of wear can impair the frequency response and distortion levels. Our special cassette head checks tape speed, head azimuth and VU meter reading without test equipment. Ideal for machine testing or when fitting new heads. The excellent performance of modern cassette recorders depends on the quality of the head. Even the slightest amount of wear can impair the frequency response and distortion levels. Our special cassette head checks tape speed, head azimuth and VU meter reading without test equipment. Ideal for machine testing or when fitting new heads. The excellent performance of modern cassette recorders depends on the quality of the head. Even the slightest amount of wear can impair the frequency response and distortion levels. Our special cassette head checks tape speed, head azimuth and VU meter reading without test equipment. Ideal for machine testing or when fitting new heads. The excellent performance of modern cassette recorders depends on the quality of the head. Even the slightest amount of wear can impair the frequency response and distortion levels. Our special cassette head checks tape speed, head azimuth and VU meter reading without test equipment. Ideal for machine testing or when fitting new heads.
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CATALOGUE PREVIEW

Of Selected Components

Nichicon MUSE KZ Premium Grade Electrolytics
(Made For Audio Featuring Low Distortion, OFC Wire Lead-Outs)

<table>
<thead>
<tr>
<th>VALUE (μF)</th>
<th>PRICE (£) 1+</th>
<th>PRICE (£) 5+</th>
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<td>25V/100</td>
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<td>25V/470</td>
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</tr>
<tr>
<td>25V 1000</td>
<td>3.20</td>
<td>3.00</td>
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Fully Annealed, Long-Grain Pure Silver Wire 99.99% (4N)

<table>
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<th>Value (μm)</th>
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<tr>
<td>0.45</td>
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<td>0.75</td>
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<td>1.0</td>
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Sanyo OS-CON SG Electrolytic Capacitors
(Specially Designed For Audio Featuring OFC Leads)

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<tr>
<td>20V/10</td>
<td>1.60</td>
<td>1.50</td>
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</table>


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Fax: 019154 81469

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Everybody in the tube business knows that the justly famous Brand names of yesteryear like BRIMAR, GEC, MULLARD, RCA & TELEFUNKEN Etc. Etc. are scarce and often very expensive. Although we supply all major brands when available (and have many in stock) our policy is to offer a range of tubes, mostly of current manufacture, the best we can find from factories around the world, which we process specially to suit audio applications. The result - CVC PREMIUM BRAND.

Our special processing includes selection for LOW NOISE, HUM & MICROPHONY and controlled BURN-IN on all power tubes to improve STABILITY and select out tubes with weaknesses Etc.

**A selection of CVC PREMIUM Audio Tubes**

<table>
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<tr>
<th>PRE-AMP TUBES</th>
<th>POWER TUBES</th>
<th>POWER TUBES</th>
<th>SOCKETS ETC.</th>
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<td>KT86 (Standard)</td>
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<tr>
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<td>KT86 (Gold Special)</td>
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<tr>
<td>6146B GE</td>
<td>17.00</td>
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**World Radio History**
EFFICIENCY BEGINS WITH AN E

David Price looks at one of the weirdest ‘speakers to come from Wharfedale, the late ’70s high-efficiency E70.

There were never many great 1970s loudspeakers. Possibly because the wisdom of the time was that big, muscular transistor power amps were the way ahead, ‘speakers became increasingly complex and power hungry. Multi-driver designs using polypropylene and Bextrene meant slow transients, phase problems and hopelessly complicated crossovers that degraded the sound.

British companies were perhaps the worst offenders, turning out ‘speakers with such heavy, reactive loads and low sensitivity that only a brace of Naim NAP250s could get a squeak from them. Everything from Linn’s Isobarik to the BBC LS3/5a ate power amps for dinner - hardly a synergetic approach.

So when Wharfedale launched their E series in 1977, many audiophiles thought they’d flipped their lid. The flagship E70 (81cm high, the ‘E’ standing for ‘efficiency’ and 70 being its internal cabinet volume in litres) had an outrageously high 94dB sensitivity and a benign typical impedance of 10ohms, meaning even a portable radio could drive it! This was all too much for the sniffy BBC brigade, which pointed to its lumpy frequency response (60Hz-16kHz +/-4.5dB), bass reflex design and paper-coned drivers (shock, horror) as a sign of poor breeding.

To make matters worse, the Es had Wharfedale’s corporate garish driver trim rings and ‘cor-blimey’ Ford Capri fish-net grilles, laying them open to accusations of being cheap and flashy. In short, they were a bit of a joke amongst the great and
good of loudspeakers, making it hard to take their admirable design philosophy seriously.

A pity, because underneath its brash exterior lurked an interesting ‘speaker which was nothing like its British contemporaries. Indeed, if anything, it owed more to JBL and Klipsch, two other brands that little-England audiophiles sniggered at.

In action, the E70 was disarmingly fast and loud with real confidence and boldness. On Classical and Jazz it wasn’t much cop, but give it Rock, Soul or (best of all) Disco and it was boogie wonderland! It caught the energy and speed of the music in a way that BBC-style ‘speakers could never do. Drums had great attack and weight, basslines were fast and bouncy while vocals projected strongly out into the room and cymbals hit you between the eyes. Chic’s ‘Le Freak’ was never the same again!

The downside was the bass, of which there wasn’t a lot. All that cabinet volume and the big 25cm woofer were for efficiency rather than accuracy, so things were distinctly light and lumpy downstairs. Nor were the twin 10cm midrange units the sweetest around, meaning that along with the horn-loaded soft dome tweeter, things could get a little tiring. But worst of all was the E70’s stereo imaging, which thanks to its higgledy-piggledy driver arrangement and wide front baffle was as far from a point-source as you could get.

Still, all this pales into insignificance when you consider the E70’s special talent, which is working with valve amps. Give it a good tube power source and the result is almost magic - its amp-friendly load and the inherent smoothness of valves makes for a marriage made in hi-fi heaven.

Nowadays mint pairs of E70s go for £150 (but pay half that for old nails), while their smaller but equally worthy E50 brothers cost £100. In 1979 the monster E90 appeared, the reinforced PRO version of which ended up as a PA ‘speaker in many schools and cinemas. The subsequent E30 and E20 were also reasonable enough but lacked the E70’s star quality - pay £200, £170 and £50 respectively for mint examples. But whatever you do, don’t overlook Wharfedale’s Efficiency series - to paraphrase Jarvis Cocker, your system will whizz when sorted for Es!
"This amplifier possessed a seductive vitality, a marvellous sense of communication with the heart of the music. Vocals were most communicative, subtle dynamic contrasts were portrayed very well, and the music bounced along with a fine sense of rhythm. This amplifier was seriously transparent, showing great clarity, fine stereo depth and very fine presentation of space and ambience in the sound stage."

"It sounded quick, direct, uncomplicated, with an ability to resolve subtle textures in instrumental scoring. Taken overall, the sound quality score (on my usual subjective listening test scale) was an impressive 23 points.

Martin Colloms
HI FI NEWS / RR March 97

The Rhythm presentation as a whole could be described as clean and powerful, in an appealing natural way."..."Whether it was the string quartets of Ravel or Debussy, Alanis Morisette or Joni Mitchell being fed into the Rhythm, what emerged always impressed with its natural, easy power and control. For those in search of an alternative to the 300B, one which couples the organic feel of valve amplification with a rather un-valve-like ear-opening bass extension and control, the rhythm is definitely worth audition."

Jon Marx
HiFi World July 1996

WORLD VERDICT
Partnered with sensible speakers or good bass depth, the Rhythm is capable of impressive performance.

WHAT HI-FI? says
sound ****
facilities ****
build ****
verdict ****

Dan Houston
WHAT HI-FI May 1997

Tel: 01753 526939
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Ivy Lodge, 81 Sussex Place, Slough, Royal Berkshire, SL1 1NN, England.
QUAD 67  second-hand

One of Quad’s best products for a long time, the 67 is warmer and smoother than most, yet is highly musical and revealing.

KENWOOD DP-3080II  £180

Has great clarity and presence for the price. Not quite as naturally expressive as the CD4SE though.

CAMBRIDGE CD4SE  £200

A touch soft in the treble but outstanding in every other aspect.

ARCAM ALPHA 7  £320

This British built player is extremely good value. Upfront, punchy nature suits Techno and Rock.

MARANTZ CD-63MKII KI-S  £400

Similar to the CD-63SE but more powerful bass and an all-round smoother sound.

PHILIPS CDR 870 RECORDER  £500

Replay quality is on a par with £250 machines but analogue and digital recordings on CD-R and CD-RW are outstanding.

ROKSAN CASPIAN  £895

The Caspian has a smooth, even sound with some of the clearest treble in the business. Very engaging, dynamic character.

MERIDIAN 506 20-BIT  £1100

Very detailed and revealing player. More cerebral than visceral though.

DENON DCD-510  £1300

A warm, atmospheric and smooth performer that never fails to involve.

MARANTZ CD-17 KI-S  £1300

The Marantz excels in all areas. Without doubt this is one of the most involving CD players on the planet. Build quality is also exemplary.

PINK TRIANGLE DA CAPO  £1450+

Possesses the same lush tonal colour as the Da Capo but is superior in every other way.

MCINTOSH CDM7009  £2635

A thoroughly inspiring machine. One of the most musical CD players around; sweet, open and detailed.

TEAC P-30  £2500

Cheap it isn’t, but then it sounds like a million digital dollars. Nothing short of superb.

MUSICAL FIDELITY X-DAC  £300

A bargain for normal CD’s and even better with HDCDs.

ASSEMBLAGE DAC-2  £400 (KIT)

Takes little building to produce a clean, clear sound. HDCD filter included.

MARSTON SILHOUETTE  £795

With Crystal Semiconductors’ 18-bit DAC the Marston produces clean-cut images and a transparent sound stage. Very rhythmic too.

PINK TRIANGLE DA CAPO  £1450+

Offers a choice of filter modules, all up there with the best. The Da Capo is impressive in many respects, but is long in the tooth now.

DPA 1024  £6000

Proof positive that today’s CD’s needn’t sound CD-like! Uses an in-house discrete convertor, and DPA haven’t skimped on the build either!

GARRARD 401  second-hand

In a decent plinth with an arm of SME 309 calibre, the 401 has a highly authoritative overall sound with the most solid, expressive bass in the business. Very musical, but treble isn’t up to modern standards.

THORENS TD124  second-hand

One of Thorens’ best-ever turntables. Needs a modern plinth to give of its best. The Da Capo is impressive in many respects, but is long in the tooth now.

PRO-JECT 6.1SA  £1295

The Pro-ject places the listener in the best seat in the control room. Outrageous dynamics and a punchy, seriously deep bass. Comes with Sumiko arm and Ortofon MC30 Supreme.

MICHELL ORBE  £1950

The Darth Vader of analogue, the Orbe builds on the strengths of the Grydec. An ultra-tuneful, expansive sound.

SME MODEL 20  £2495

Including the excellent SME V tonearm, the Model 20 is possibly the last great turntable, unless you’ve got £11,000 for the Model 30, that is.

LINN IITTOK  £1199

This early heavyweight arm benefits from fine engineering. Good dynamics and grip.

REGA RB300  £130

Supremely capable at the price, but not quite humankind’s salvation as has been suggested. Detailed, tight, rhythmic sound but tonally rather grey and cold-sounding.

SME 3005II  £1375

This Paleolithic device doesn’t bother with frequency extremes or detail, but its legendary serviceability makes it a cult in Japan. Oh death, where is thy sting?

GOLDRING 101 2GX  £60

An accomplished MM with a solid bass, slightly forward midband and clean transients. £20 buys the faster, more dynamic 1012GX.
that works happily into most ‘ speakers. Smooth, warm integrated with remote control sound and it images well too. Wonderful.

**SUGDEN A2Ia** £640

**ROKSAN CASPIAN** £695

Class A transistor amp. Rich, crisp, deep, tight and control which leave the competition at up to 70 watts behind.

**ORTOFON ROHMANN** £1000

In a way it's MC2000 meets MC7500 with the tonal strengths and dynamo sound Ortofon put into their moving-coil cartridges.

**LYRA LYDIAN** £649

A really musical, sophisticated device that makes most other MC1 sound frigid.

**DENON PMA-250SE** £160

It might not have bags of grunt but the Denon can sound very natural and open.

**ROTEL RA-970BX** £250

With its smooth and powerful sound, the Rotel sings a seductive song with all types of music.

**MISSION CYRUS I/II** 8/10

Both versions give a detailed, articulate and dynamic sound but can sound lean.

**DENON PRE-1 £1000**

Greater grip. Remote control.

**SONETEER ALABASTER** £995

Builds on the strengths of the Campion with ample control, colour and drive.

**UNISON SIMPLY 2** £995

This single-ended valve amplifier is smooth, sweet and open. An extremely musical performer.

**UNISON SIMPLY 4** £1495

Sonically similar to the Simply 2, but with more power and control.

**McINTOSH MA6800 £3735**

The MA6800 not so much plays music as takes control of it, with effortless bass drive and a three-dimensional sound stage.

**FREDRIK OBERBERG**

It might not have bags of grunt but the Denon can sound very natural and open.

**MISSION CYRUS POWER** £450

This power amplifier is a real honey. Rich and smooth, but with a firm grip; a fine blend of properties.

**DENON PMA-250SE** £160

With 70 watts on tap, the 9P will drive most loudspeakers with a spacious and detailed sound. Good bass drive too.

**MISSION CYRUS POWER** £450

Extremely competitive at the price with 100W of unusually smooth, full-bodied sound.

**SUGDEN AU41P** £530

Partnered with a NAC82, this has classic Naim control, making for a superbly rhythmic presentation. A touch lean for some tastes.

**MICHELL ALECTO STEREO £1300**

A refined transistor amplifier with valve-like transparency and a full, warm, easy-going sound. The £1800 Alecto monoblocks have rare lucidity and three dimensional realism.

**CHORD CPA1800 £1800**

Clarity, insight and control are second to none - an addictive mixture.

**MARANTZ MODEL 7 PRE-AMP £3500**

A '60s reissue, the Marantz pre-amp still sounds superb. Has a great phono stage.

**PRE-AMPLIFIERS**

**AUDIOLAB 8000C £520**

Versatile with superb phono input. Can sound sterile, but latest version is much improved.

**AUDIOLAB 8000Q £995**

Excellent line-level only pre-amp, greatly improves on 8000C with a more fluid, musical sound and greater grip. Remote control.

**XTC Pre-1 £1000**

Almost valve-like in its smoothness, the line-level Pre-1 is a warm and seductively clear.

**CHORD SPM 400 £1400**

There's a sense of effortless power to the Chord that gives music scale and presence.

**XTC POW-1 £2000**

Like the SPM 400 but loads more power on tap. Will drive just about anything.

**CHORD SPM 1200 £2995**

As smooth and composed as the Pre-1, the POW-1 has bags of power and refinement.

**MARANTZ MODEL 9 £8000**

Authentic reproduction monoblocks still more than cut the sonic mustard. The sound combines grunt with great tonal colour and expressiveness.
TUNERS

LEAK TROUGHLINE second-hand
Our favourite way of listening to the wireless. A deliciously mellifluous sound will have you junking your transistor radio in seconds.
NAD 412 £190
The 412 is remarkably musical and natural sounding. Rich sound and full bass are a rarity.

SONY ST-SA3ES £250

MISSION CYRUS FM7 £300
Clear and lucid sound puts it up with the best regardless of price. Superb build too.
ROTEL RT990BX £500
High quality Michi-based tuner with a sophisticated, forward sound with great imaging and soundstage. Sensible facilities and remote control.

NAI.M NAT03 £500
The NAT03's warm, atmospheric sound is further proof of Naim's proficiency with tuners.

NAIM NAT01 £1380
This is the best solid-state tuner available bar none. For better radio, go and live in the studio.

CASSETTE DECKS

AIWA AD-S750 £150
Sonically a very decent machine. For the price there's nothing better. Comes fitted with Dolby B, C and S.

KENWOOD KX-3080 £160
A simple deck, but high quality head and transport give an unusually high level of performance at this price. Not to be missed.

YAMAHA KX-S805E £250
The 'Special Edition' tag is more than a marketing gimmick. Sound is solid and clear with Dolby S.

AIWA AD-S950 £300
A stable transport, superb head and Dolby S make the AD-S950 an excellent all-rounder.

PIONEER CT-S740S £430
A great piece of engineering from Pioneer, with first rate sound on playback and recording.

NAKAMICHI DR2 £600
Where serious cassette decks start. The DR2 pushes recordings to the limit, remaining unfurled at all times.

NAKAMICHI DR1 £850

NAKAMICHI CR7 £1500
Kills every other cassette deck and stamps on their graves.

LOUDSPEAKERS

TANNOY MERCURY m2 £140
A true audiophile bargain which embarrasses many more expensive boxes.

KEF Q15 £199
These stand mounters offer impressive bass and excellent clarity but need a powerful amplifier to perform at their considerable best.

MISSION 732 £200
Characteristically fast, punchy Mission sound. Very well balanced tonally.

B&W DM 602 £300
Deep and strong bass, pure, projected and uncoupled midrange. Treble quality a little metallic, but imaging precise. A lively, enjoyable sound.

REL Q-BASS £350
Few subwoofers match the Q-Bass at the price. The tuning controls can be a bit of a fiddle, but once set up the rest is pleasure.

CASTLE EDEN £450
Impressively vice-free 'speakers that offer great transparency and involvement. Unbeatable at the price.

EPOS ES12 £495
Strong, punchy bass is allied to detailed and articulate midrange and treble. Above all, these 'speakers are thoroughly musical.

REL STRATA £500
The Strata subwoofer is not a toy. It offers superb, true hi-fi bass depth and power, and opens up sound stage depth in particular.

HARBETH HL-P3ES £799
A fine example of good loudspeaker engineering. The top of the mini-monitor league.

HARBETH HL-K6 £975
Clean, musical and classy - Harbeth have done themselves proud again.

KEF REFERENCE SERIES ONE £995
The KEFs combine pin-point imagery and detail with a smooth and polite balance. Good, agile bass too.

JAMO CONCERT 8 £1500
With their inch-thick cabinets and fabulous drive units, the Concert 8s are the most transparent stand mounters around. They don't suffer poor sources gladly though.

EPOS ES25 £1505
Epos' best. Combines near-uncoloured tonality with characteristic fireworks in the rhythm department. Superb by any other name.

SPENDOR SP7 £1970
This big Spendor floorstander is very appealing thanks to its open, lucid sound and valve-friendly load.

TANNOY AMS8 £2700
Bold sounding professional active monitor with solid bass, clearly focused midrange and delicious treble. Built-in amplification.

QUAD ESL 63 £2860
A reference against which all other loudspeakers are judged, the '63s have superb imaging qualities and genuine transparency. Earlier ESL model is a fine second-hand buy.

KEF REFERENCE SERIES FOUR £3099
Superb bass and near-electrostatic sound staging make these involving loudspeakers a reference to others. Need a strong amplifier though.

JBL S2600 £3500
Smooth, detailed and spacious with great dynamics and fine imaging. Capable of producing a superb performance when used in a big room.

TANNOY WESTMINSTER ROYAL £10,000
An incredibly dynamic, detailed full-range horn design with a rich sound. Its high sensitivity predisposes it to valve amplification.

MINI DISCS

SONY MDS-JE500 £300
An impressive overall sound quality and unmatched convenience and editing facilities make this budget MiniDisc player an excellent buy.

KENWOOD DM-7090 £500
Both replay and recording quality are superb through this Kenwood. Nakamichi owners should start getting worried - at last there's competition.
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Now includes support for the Turtle Beach 20 bit Multisound Fiji professional audio DSP soundcard.

(external mic/probe preamp not required with Turtle Beach card)

*** Distortion levels to below 0.003% can now be measured ***

Additional enhancements include:

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- New example script (under QC directory) for production testing of loudspeaker frequency response
- New ASCII text output report for Thiele/Small parameter tests
- Power Stepping in Distortion Analyzer instrument

plus all the other functions of version 2, making this even more the most feature rich system available.

Obtain the complete system with Software and manual, Calibrated mic, Probes, Turtle Beach Fiji soundcard, and cables for only £696.00 excl VAT

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**MATCHING POWER AMP £625**

Apogee Centaur Minor, hybrid ribon speakers, dedicated Apogee stands, frequency contour selectable, mint, boxed £625 (£1600 new). Tel: 01473 281 957 (May)

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B760 tuner, 750MKt, B226 CD player, 795 TTT; all as new and boxed. A77 1/2 track tape deck £1,700. May split. Pioneer F90 AM/FM tuner, sensitive and selective, boxed £120. Tel: 01244 541 014 (May)

**APOSEE STAGE RIBBON Speakers**

Excellent sound. Anthracite colour £950 (£3000). Krell KSL line level preamp £795 (£2200). Boxes, manuals, REL Stendor mahogany subwoofer £500. Tel: Maz 0161 873 **01905 775 759** (May)

**Lihn UP12 Lingo,**

Lingo, K9, £1,000. Linn Majik (£350). Linn LK100 £350. Shahinian Compass, Medium Oak, new £1,200. Arcam Alpha 5+ CD player £200. Two 5m lengths K600 £75. Tel: 01829 741 830 (May)

**NAM CD5**

Mint condition £1900 ono. Tel: 01703 345 188 after 6pm (Southampton) (May)

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**MERIDIAN 557 power amplifier,**

Immaculate, boxed, guaranteed £590. v0H Revelation 6m set speaker cables £800 (15595) Orelle DA190 DAC £320. ATC20 towers £1,200. Kimber power cables £45. **WHY?** Tel: 0131 556 7545 or shusan@ed.ac.uk (May)

**PRIME DESIGNS A100 MK2**

Integrated amp, 100 watts. Sweeter sound than earlier version. Brand new condition, new £600, £350 for quick sale. Tel: Nick 0171 221 0691 after 6pm. Leave message on ansaphone (May)

**Lihn UP12 VALHALLA**

Tisch, mint, boxed £650, with Michi phono equaliser, mint (world class, configured for Troika) £450. Record collection also available. Tel: 01492 580 201 evenings (North Wales) (May)

**WANTED: QUAD 66**

Tuner, 67 CD, 707 amplifier, pair Eel 63's, late model. Preferably all in mint condition and boxed £1,000. Acousta plans available. Tel: 01708 856 860 evenings (May)

**REL Q100E Subwoofer**

£300. Townshend 5 shelf stand £600. Meridian 562 analogue to digital converter, fitted internal moving coil module £300. Rega RB300 arm £65. Tel: 0166 450 922 (May)

**TANNNOY D700 Loudspeakers**

Rosewood, boxed, as new £1,100. May px for Meridian 506 20 bit CD player with HS + £300. Tel: 01355 264 596 (May)

**AUDIO-PRO BI-45 subwoofer**

For sale. £150 ono. Tel: Stockton-on-Tees 01642 559 078 (Cleveland) (May)

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Integrated amplifier; boxed, manual, as new, will demonstrate £450 ono. Tel: David 01090 431 215 (York) (May)

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- AVI 2300AC £969 £598
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Orchid DIP/PSU £2299 £1198
MusicFidelity Digilog £195
MusicWave Trans/DAC £4200 £1998
Parasound DAC-1010 £795 £528
Pink Triangle DeCapo DAC + DC PSU £3000 £1998
Pink Triangle Ordinal DAC £950 £588
Pioneer PD9000 (Muti) £600 £298
Proceed PT202X Trans/DAC £450 £2698
PS Audio UltraLink 2 DAC £2299 £1348
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Teac P700 Trans + Opt Remote £300 £1645
Thetis TIC/LTC Buster £229 £177
TriChord Pulsar 1 £1195 £847
Wadia 2000 Trans (DAC) £15,000 £5998

TAPE DECKS / TUNERS

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- Cambridge TTS Tuner (Black) £79
- Creek T4 £199 £125
- DPA Little Bit 2 (DAC) £250 £148
- Linn Kremmer Tuner £2600 £1548
- Marantz SD55 3 bit/2 mtr £400 £195
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Pink Triangle Vertical £896 £567
Pink Audio FOA-99S 2.1 SM £340 £1458
Quad ESL63 Alnoble £354 £1997
Rega Kien £2200 £128
Rega EAL £450 £289
Rogers Studio 3 £600 £388
Rogers LS3/5a (Black) £799 £398
Rogers AB1 Sub £549 £348
Roksan Ojan 3 (Black) £900 £548
Runik Templar 2 £550 £295
Sonus Faber Electa Amator Mk1 £3292 £2497
Spendor BC1 £1288 £238
Spendor BC110 (Teak) £595 £395
Spender SP23 £1195 £775

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AUDIBLE ELEGANCE

LINN LP12 (Vahlal), Ittok LV2, Troika, black ash plinth, original packaging, offers around £750 or swap for early style Naim 250 + Snako 2/4 with cash adjustment. Tel: 01634 723 308 (May)
MUSICAL FIDELITY A2 CD player, new £350. M.F. X-Pre, new £150. Sugden SF100 amplifier, cost £850 sell £500. Abbey 408 monoblocks + preamp and PSU £350. All boxed, immaculate. Tel: 01572 723 198 (May)

MISSION 753 Speakers, black, Cyrus 3 amp, Cyrus power amp, 3x PSXR, Disemaster, Dacmaster, Chord Company interconnects and speaker wire. £3850 ono. Tel: 01792 885 256 (May)
QUAD EQUIPMENT for sale. Amplifier Type II (one only), control unit Type 22, FM tuner and AM R tuner £200. Tel: (work) 0141 330 5898 (May)
ROTEL RB970 power amp £135. Mendian 101 pre, 103 power, twin power supply £45 watt £135. Tel: 01732 355 500 (Tonbridge, Kent) (May)
AUDIOLAB 8000CD CD player, 1 month old, as brand new £780. Immaculate condition and boxed. Tel: 01222 453 517 (Cardiff) (May)
GARRARD 401, Granite finish plinth. Pristine. Original document £275 ono. Rega RB300, Rega Elys, excellent £100 ono. Four birch welded construction specialist audio stand, cost £239, sell £100 ono. Audioquest Sorbothane feet (large) as new, £50, sell £20. Tel: 01792 885 256 (May)

JAMES DAVIS

ARCAM ALPHAL 5 Plus CD player, upgraded to Alpha 6 status £275. Sound Organisation 5 tier equipment rack (gloss black) £80. Both items as new condition. Tel: 01780 761 149 (Lincs) (May)
ARCAM DELTA 270 r/cd player, cost £800 will accept £350 ono. Original box, manuals. Tel: Chns. 0958 986 544 (Chester) (May)
CLASSE 4 Preamp, immaculate £95. PS Audio 4.6 preamp, good condition £300. Theta DS Pro Prime £1200. Theta DS Pro Prime £550. Tel/Fax: 0171 607 6584 (May)
LINN SONDEK LP12. Esoks, Lingos, Cirkus, Trampolin and Kyde cartridge. Boxed, immaculate condition and recently set up by Grahams Hi-Fi. Bargain at £1400. Tel/Fax: 0171 607 6584 (May)
WANTED: MICHELL ISO phono stage, preferably with Hera power supply. Tel: 0181 452 1452 evenings after 7pm (May)
WANTED: REvox B150 and B250 integrated amplifiers and B258 receiver. Details and price please. Tel: 01736 360 367 (May)
QUAD 34/605 II (Russ Andrews modfied) £600. Pair Monitor Short 25SI speakers £180. All mint condition. Tel: 01977 620 558 (May)
WANTED: MAINS Transformer for Quad 2 monoblock. Tel: 01722 339 497 (May)
CRIMSON ELECTRIK 610 preamp. M/MC, mint, hardly used, was second of second, cost £1450, sell £225 ono or px Naim Nap 140. Tel: Richard 0181 318 7491 (May)
TROIKENWOOD L-07MII monoblocks £500. L-07MII preamp £650, Garrad 301 £150. Esoks £625. Celestion 600SI £395. Al 5m speaker cable £100. Ultra table £150. Wanted: Beefy integrated. Tel: 01273 220 955 (May)
NAIM 135 Pono power amps (new style), excellent condition, very moderate use £1525. Naim NAC72 (new style) pre with moving coil, magnetic, straight through for CD, tape & tuner, excellent condition £125. Naim Hi-Cap (old style) Naim serviced £325. Tel: John 01736 757 721 (Jun)
WORLD AUDIO KLP1 valve preamplifier and 2 x Maplin Millennium monoblock valve power amplifiers. Beautiful sound at bargain price £300 the lot or may split Tel: 01324 638 642 (Scotland) (May)
CHORD SPH1200 power amp 250w/channel will handle any loudspeakers. Bal & phono inputs, 8 posts for bi-wire. Totally neutral sound £3880. £1495. I'm going active. Tel: Simon 01484 429 844 (West Yorks) (May)
PINK TRIANGLE PT1 turntable, one owner £75. Tel: Stan 0181 287 0112 (May)

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WIN LABS FET-10 The ultimate cartridge, eats grashoppers, overtakestheinsiders, unused £2000, T.A.S. reviews available. B.E.L. 1001 the best amplifier in the world. Interesting exchanges invited. Tel/Fax 01642 649 702 (May)(i)

CASTLE PEMBROKE Speakers with stands. £500 when new. superb sound £175. Award winning top of the range Yamaha KX-580 natural sound cassette deck, new condition £95. Tel 01636 626 325 or 07970 644 952 (May)(i)

CELESTION A3s, black ash, virtually brand new, unpacked, boxed, asking £1300 (£2400). Transcriptors hydraulie reference turntable, SME arm, MC cartridge, excellent condition £250, can demonstrate. Tel 01453 546 191 (May)


DAJ 104 MS Speakers 94dB, suitable for low powered valve amps £30. Tel 01592 265 096; Scot)

MARANTZ CD3 63 K Sigature £300 (§200 new). Audiolab 8000 DAC £500 (£950 new), both less than 1 year old. Orella DA-190 DAC £200 (£550 new). Mississauga 770, all boxed mint. Tel 01256 702 573 (Hants)(May)

LDF MISTRAL CD Player, mint, boxed, unwanted competition prize (due to vinyl). Stunning design, can demo, only £800 for quick sale. Tel Patrick 0171 576 7192 (daytime), 0181 365 7884 (evenings/weekends) (May)

BEARD P50 valve power amp. 4 new power valve fitted, brilliant sound £495 ono. Henman P50 CD player 20 bit spec, as new £495. Tel 01274 690 134 (West Yorkshire)(May)

ROTEL RCD 965BX CD player, vgc, new £300, accept £160. Rotel Supra 4 speaker cable, 4x7 mtr pairs, new £120, accept £40. Tel 01908 630 614 after 6pm (Milton Keynes)(May)(i)

ROGERS CADET III integrated valve amplifiers, two for £140. Rogers Ravensbourne amplifiers. Pioneer PL12D turntable £60. Accus power amplifier (very powerful) £375. Thorens TD150 turntable £50. Tel 0181 574 5510 (May)(i)


MAGAZINES WANTED: Hi-Fi Review and The Fiat Answers. Hi-Fi News, anything considered. Tel Harry 0181 664 7090 (May)(i)

FOR SALE: Threshold built Nakamichi amplifier, CAYE and matching case pre-amp. Power output 300 watts per channel with weight 60lb! Originally costs in excess of £2500. Recently serviced by importers Bowers & Wilkins. Offers in the region of £900. Tel 01799 550 208, Email: Grabaseaol.com (May)(i)

CAMBRIDGE AUDIO P110 amplifier £110. Audiolab 8000A £220. Pair Tannoy 12' Monitor Gold chassis speakers £200. Pair Tannoy 315 HDP chassis speakers (reconed) £250. Tel Nigel 01823 325 903 (Taunton area) (Play)(i)

LEAK TROUGHLINE mono FM tuner, prepared by GT Audio, excellent £90. Classic Rotel tuner RT850AL 8m/watt, vgc £85. Dual CS 505-4 turntable, only used 20 hours with DN168E cartridge £100. Tel 01279 724 804 (May)(i)

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MICROMEGA STAGE 4 CD player, 13 months old, boxed, absolute mint condition £320. Tel: 01484 546 436 (May)


ED75 with replacement Musonic stylus. unused £25. Tel: Malcolm Lee (May)

REEL STRATA II Subwoofers- superbly controllable bass that greatly increases system bandwidth. New Jan '98. Tel: 01977 643 629 (May)

AVI PREAMP £280. Michel ISO phono stage £175. Teac D500/P500 2 box CD player £700. Neat equipment stand £90. All with superbly controllable bass that greatly increases system bandwidth. Tel: 01179 247 478 (Bristol) (May)

CROFT MEGA-Micro 2 box valve preamp. Excellent phono stage & line stages. Fully upgraded by Glen Croft. Unused since service. Latest caps £900. Yamaha C600 pre, excellent. £200. Tel: 01902 427 477 (Jun)

B+W PM's in cherry, in perfect condition and have boxes £550 each. Also Micromega Stage 2. RRP £200, sell at £125 ono. Tel: 01953 688 112 (May)

MARantz 5911M stereo power amp £650 (£1500), SC 1000 pre £350 (£1000). Amcron ES 224 electrostats + subs, very efficient. £850. B+W DM70 electrostats £450. Cambridge CD3 £200. Tel: 0121 459 9616 (May)


ORIGINAL PAR of electrostatic speakers (Quads), boxed with manual, mint £400. One Transcriptor hydraulic Michiel Reference turntable, mint £250. Croft valve power amp, 40 watts per channel £400. Tel: 01342 850 414 (May)

FERRAPHONE SPEAKERS (S1) with stands £250 ono. Series Seven tape recorder with dust cover and handbook (Model 722) £250 ono. Ferrophon FM tuner with handbook £75 ono. Tel: 0191 422 3415 (May)

THORENS TD142 II phono preamp £225. Alphason HR 100 MARC. Denon 304DL £225. Quad 33, FM 304, boxed £195. Sugden A2, original £120. Rogers HG88 MkIII £120. Chapman 366 integrated £100. Rogers Ravensbrook, mint £100. Tel: 01709 555 403 (Rochester) (May)

TOWNSHEND ROCK IIIA turntable, Excalibur arm, lid (£2300) £850. Musical Fidelity A1001 integrated amp, two months old £1850. Mission 753 rosewood speakers (mint) £400. Tel: 0181 363 4963 (May)

DOS E514 loudspeakers, black, bargain, stands, £50. Nam NACSA 2x5 metre leads with phone plugs £30. Will sell complete £300. Tel: 01953 688 112 (May)


NAM NAC 25-3 pre-amp (£M) £125. Ruark Talisman loudspeakers, rosewood £300. Arcam Alpha analogue tuner £70. Grundig 9000 Series CD player, cost £1000, scratched on top, hence £125. Tel: 0115 900 564 evenings (May)

KIPSCHEL LASCALA Speakers, 3-way horn enclosures, black ash. Very loud/efficient, 100wpc (500 watts peak), incredible dynamic range, 3D stereo ambience, brand new, condition, boxes, guarantees, cost £2600, accept £1600 ono. Tel: 01902 427 477 (Jun)

QUAD ii/22. Two control units, one unmodified, one with revised input selector, hard wired, RIAA equalisation, new phone sockets. Many new components including S881 output valves, spare KT66s. £500. Tel: 01737 624 724 (Surrey) (May)

REL SUBWOOFER Q100 with manual and switch lead £295. Tel: 0191 386 2211 (May)

WANTED: NAIM 110 Power amps. Can Collect. Cash waiting. Tel: 0161 933 7329 evenings only (May)

INTERCONNECTS: 0.5m pair XLO Signature 1.1 £200 (375). 1m pair Sitches 4/56 £900. (680). 1m pair QED Qnect 2 £180 (£30). Speaker cable: 5m pair Ortofon Speo 300 £55 (£100). Lynwood Mega and Advanced Plans Cleaners £175 and £125 resp. Pioneer PD-5801 CD player, remote £80 (£300) - oldy but goldy! Tel: Jerry 01372 468 266 (May)

LOWTHER AUDITORIUM Accousta folded horn speakers (81cms X 24cms WX 48cms D) with 4 new PM12 drive units, 1978 sensitivity, reworked, test finish £550. Tel: 0171 328 5001 after 6pm (Central London) (May)

FOR SALE QUAD PH4, 34, 306, new Sept 96. Absolutely mint and boxed £630 ono. Wanted: Epos ES2 in light cherry and Audiolab 8000P. Tel: 0115 922 4760 (May)

MONITOR AUDIO PA202 floor standing loudspeakers 2 1/2 years old, excellent condition Gold tweeter (as used in MA Studio series) £160mm bass/mid driver (Ported). B-W compatible £265. Tel: 0115 922 4760 (May)

LOWTHER RM2 £185. Tannoy Mercury M2 £85. Mission 731i £65. Technics SLPG80 CD £85. Cambridge Audio £120. (All new above, boxed) Ortofon Quartz cartridge, mint £65, Snell 2 speakers, mint 'Pirate' stands £125 (£200 new) Tel: 01760 345 418 (May)

TANNOY MERCURY M2 £85. Mission 731 £65. Technics SLPG80 CD £85. Cambridge A3. £120 (All new above, boxed) Ortofon Quartz cartridge, mint £65, Snell 2 speakers, mint 'Pirate' stands £125 (£200 new) Tel: 01760 345 418 (May)

LOWTHER RM2 £25. Q5 £180. Speaker cable: 5m pair Ortofon Speo 300 £55 (£100). Lynwood Mega and Advanced Plans Cleaners £175 and £125 resp. Pioneer PD-5801 CD player, remote £80 (£300) - oldy but goldy! Tel: Jerry 01372 468 266 (May)

LOWTHER RM2 £25. Q5 £180. Speaker cable: 5m pair Ortofon Speo 300 £55 (£100). Lynwood Mega and Advanced Plans Cleaners £175 and £125 resp. Pioneer PD-5801 CD player, remote £80 (£300) - oldy but goldy! Tel: Jerry 01372 468 266 (May)
LINN AKTIV crossover, designed for Chord power amplifier. Tel: 0181 960 9724/9585 560 555 or leave a message. Wanted: Audiolab, AVI or Nord power amplifiers. (May)

KEF C59 consisting B300B bass, Telecoms £800 new bass drivers, mint £650 ono. boxed, mint £450 ono. Acoustic Research £2000 inc. £800. £500. £300. £200. £100. (Sussex) (May)

TRIO LO-70 turntable, complete, boxed, mint condition £595. Akai £1700 valve reed to reel recorder, matching separate speakers, excellent condition £125. 4000DB tape deck, mint £95. Tel: 01472 870 367 (May)

NAM MAC 72, NAP 180. MID boards, mint boxed, with leads and instructions £975. Tel: 01803 315 391 (South Devon) (Jun)


SUMO NINE Plus amplifier, 70w/ch, black panel (£1100) £600. Zoom 9120 reverb unit (£340) £170. Both in good condition, buyer collects. Tel: 01625 425 301 (SE Cheshire) (May)

TEAC CD700 transport £600, and Detec iDA converter model PDM-1 Mk2 £320. No offers. Both must be sold together and are in mint condition. Tel: 0121 553 5759 (May)

CELESTION SL600w (new) plus SL6000 subs and controller, boxed, demo'd once, mint. One of the finest speakers ever made. SL6000 system £950. SL600s £450 or £1300 the lot. Tel: 0181 299 1575 (Jun)

VINTAGE EQUIPMENT: Tripletone single ended valve amp, Garrard 401 + SME 3009 metal bearings, 70s Trio/Kenwood tuners: KT7500 (big), KT-2001 (medium), KT-1000A (small), Sansui SU-555 (round dial). Tel: 01695 272 680 (Unbridge) (May)

REL Q 100E, 4 months old £370 (£500). Marantz CD 675SE, 5 months old £190 (£330) QED Profile 4x4 cable, 2x Smarts £60. Tel: 01948 666 484 (Snaphire) (May)

MERIDIAN 200/2 Triodh clocks £695. Musical Fidelity B3 pre/MA50 monoblocks £595. Snell Type E MkII £850. All boxed, mint. Manton, Mantra, Kef £105, Celestion SL6. Tel: 01992 718 265 (Endfield) (May)

LINN LP12, Ittocc, LVII, Vaihalla, ATUCS, MC, cart, wood surround, excellent condition, any trial £400. Musical Fidelity Class A integrated £150. Tel: 01282 458 223 (Burley) (May)

KRELL MD/TRANS £1750. 5BP6/4X DAC £2150 (£16000) Audio Research LS5 x2 £1600 (£5690). Cardas interconnects. 1m £200. Tara Labs speaker cable, 5m pair £225. All units mint and boxed. Tel: 0181 882 4287 (Meridian) (May)

QUAD ESL 63 loudspeakers, black ash with black grille, as new with pair of Lab 63 stands £1600. Tel: 01444 400 739 (May)

LINN KARL III, recent spec £1200. Linn Kaira pre amp, line level, recent spec £750. Linn Karber loudspeakers, cherry, excellent condition with K600 speaker cable £795. Tel: Peter 01753 866 042 (May)

AUDIO LAB 8000D, preamp, boxed £695. Musical Fidelity P100 power + CRP.S, cost £1500 new, accept £695. Alphason HR 100 MCS tone arm, v.d.h. silver wire £350. Wanted: Musical Fidelity MvK2 preamp. Tel: 01634 383 686 (May)

TDL 0.75m floorstanders with base stands, walnut (£825). 3 years old, too much bass for new upstairs flat. Absolute bargain £275 ono. Tel: 01420 544 962 (Alton) (May)

MICROMEGA DRIVE 2 Plus £8000, preamp/dac £495. Micromega DAC + XLO Ref Type 4 interconnect, boxed £1150. SAE Mk IV CM (1970's Californian power amp) 100W RMS dual mono, unconditionally stable into any load; 12 kg weight £250. Tel: 01608 611 667 (Oxon) (May)

QUAD ESL 63, black, mint with stands £1600 ono. Meridian 203 DAC £780. Sony DTC 55 ES DAT recorder plus tapes £270. Tel: 01703 345 188 after 6pm (Soton) (Jun)

TOWNSHEND GLASTONBURY II speakers £600 (£1500 new). Elite Rock turntable, Merlin P.S.U., Rega RB250, AT OC9 cartridge £300. Audio Analogue Puccina S.E. amp £500 (only 2 hours use). All with manuals and in excellent condition. Tel: 01604 230 673 (May)

AUIDIOVALVE BALDUR 200, 140 wpc valve monoblocks, brand new, unused competition prize. Must sell due to lack of space. Retail £10000, must sell £5000. Tel: 01606 883 880 (May)
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WANTED: ARCAM Delta 250 CD transport and Delta Black Box 500 DAC. Must be mint and boxed. Tel: 01565 873 727 (Cheshire) (May)

MISSION 752 Speakers, rosewood £360. Marantz PM66 SE K1 amplifier £319. Monolith 40/10 speaker cable 20m £180. DHM speaker cable 2x5m biwired £25. Ekos Precision CD player £799. Townsend Seismic Sink £85. Mission Isolators £290. Tel: 01522 724 414 (May)

APOGEE CALIPER Signature ribbon loudspeakers, anthracite, bi-wireable, treble contour control, boxed, manuals £1,395 (£4,000 new). Mark Levinson 23.5 power amplifier, 200wpc dual mono, mint, boxed, £2,350 (£7,450 new). Tel: 0860 850 786 (Jun)

ROKSAN XEREX (black finish) with XPS 2 power supply and suspension mods with Arctemns arm £550. Musical Fidelity A1001, as new, boxed £1,900. Tel: 0181 452 1452 (May)

PROCED CDD, (Mark Levinson). CD transport. 4 outputs £1,700 (£2,400). Proceed DAP, HCDAC 5, 5 inputs, balanced outputs, digital volume control, remote controllable £1,450 (£2,000) Tel: 01284 769 985 (Suffolk) (May)

IMPULSE H6, horn loaded speakers in rare walnut finish £850 ono. Tel: Mark 01765 677 639 evenings & weekends (May)

ART AUDIO Tempo’s. Class A triode, 30 wpc £1,100 (£2,600 new). Furkawara 1 metre interconnect £60. 2x 3.5 metre tri-wire canare speaker cable £60 (£160 new) Tel: Choros 0191 993 2006 (May)

HARBEETH BBC LS/12As, 1 year old, walnut £1,050. Harbeth HL1P £325. Quad PH3 £50. QED Digit £50. Cheap Naimaphon cassette £75. Snell Type K £230 Tel: 01344 873 572 (May)

THORENS 160 SBC M4S. No arm but RB300 board fitted. Boxed with manuals and spare belt. Robust, reliable deck gives excellent sound £95. Tel: 01483 799 081 work - Mr Chambers. (May)

SONY MDS-JA3ES Minidisc deck. 1 year old, immaculate £275 ono. Tel: 0181 657 0816 (May)

CYRUS 2 Amplifier £200. Spendor Prelude speakers with Target stands £135. Tel: 01732 457 712 (Sevenoaks) (May)

WANTED: CAMBRIDGE Audio CD1 any condition, or spare pcb's. Meridian 200 or Tec 11 transport. For Sale. Sony 333SE5D player, mint, excellent transport £250. Tel: 01705 337 269 day, 01590 672 451 evening. Email: gevans@tara.net (May)

MICHELL GYRODEC Bronze, SME 309, Sumiklo, Conrad-johnson PV/0AL pre, Technics Sea 200 power, Onkyo Grand Integra DXG10 CD player, Sequence 400 speakers, Rotel Mic+ 1100 tuner. Offers. Tel: 0181 651 5711 (May)

ROKSAN TABRIZ with SME IV arm £175. Ortofon Quartz MC. Very little use £60. Musical Fidelity ‘The Preamp’. (MM & MC). £70. Armstrong 625 receiver, Garrard GC300 cassette deck, offers. Tel: 0161 628 9515 evenings (May)

GYRODEC BRONZE. Complete with QCS cartridge, mint, £700. Audion Reference valve pre-amp £450. Kelly Ribbon tweeters in Decca London endorses £200. Leak Troughlire Stereo tuner £100. Pair Unboxed Lawford P/C. boxed £150. Tel: 0118 932 8912 (evenings) (May)

GOLDY SALES valve pre amp, power amp, tuner, tape amp. Vintage mono £100. Sudgen AAB amplifier R21 tuner £125. Sondex passive preamp £50. Marantz CD63B, The Original, with XD10 £200. Tel: 01704 530 928 evenings (May)

VALVE AMPLIFIER for sale. 25 watts RMS using pair of 3008 output triodes per channel. Custom exhibition amplifier. Superb sound, new valves (can hear) £500 ono. Tel: 0958 727 638 Email: erve@ezzaban.demon.co.uk (May)

AUDIO RESEARCH D 115 MkII. 100w RMS stereo power amp. 4, 8 and 16 ohm taps excellent condition with packing and manual £950. Tel: 01480 406 295 (May)

EPOS ESX0 (walnut) 3 months old, asking £170. M.U.T. 330 interconnect 1.5m asking £180. M.U.T. TH7-500 plus speaker cable (8 foot pair) asking £400. Tel: 01896 437 314 evenings. (Aylesbury) (May)


PAIR QUADRATICS, active crossover, powered quarter wave sub woofers, mint, mahogany. See Hi-Fi News Jan '96, cost £4800, bargain £1180. Castle Yorke including stands £225. Pair Leak TL12+ £150. Tel: 01704 538 110 (May)

AMC CVT 3030 valve integrated amplifier (uses EL34s). Kessler rave August 1993, immaculate £300. Nytech 302 amplifier £60. Marantz SX72 digital processor, new, boxed £125. Foundation stands, Target wall bracket. Tel: 01704 530 928 evenings (May)

VARIUS OPEN Reel tape recorders: Revox G36, Akai 400DS, Tandberg, Sony, Ferrograph. 10 1/2" NAB spools, loads of tape. Sansor active crossover, loads of loudspeaker drive units. Suit experimenter. Tel: 01704 530 928 evenings (May)

CROFT INTEGRATED valve amplifier, 35 wpc £450. Tannoy corner Chatsworth 12" Monitor Golds £300. pair. Castle Durhams with stands £150. Lux TFI PM tuner, TCK 13 cassette, PD300 vacuum turntable, rosewood £350. Tel: 01704 530 928 evenings (May)

WANTED: LINN Sondek LP12 in rosewood finish. Late '80 or '90 model, with Ittok LVI or LVII arm. Must be in excellent condition. Tel 01484 307 096 (Huddenfield) (May)

LINN LP12. Turntable with Ittok arm, Golding Eroica (high output) MC cartridge and Avonade power supply £550 ono. Tel: Paul 0161 494 0517 or 0161 494 2978 (Stockport) (May)

LINN LP12, arm and cartridge. rosewood, excellent condition £300. Also 250 plus LPs, mostly classical including boxed sets £250. Tel: 01942 878 873 evenings (May)

LOWTHER ACOUSTA. Twin loudspeakers wanted. Made 1960 to 1968. Also wanted, working drawings, leaflets, instruction books, etc, etc. High reward. Barking, Essex area. Tel: Jeff 0181 924 2027 (May)


MARTIN LOGAN CLS lls £2000. Audio Research CL10. £2350. Entec LP20’s servo sub £3500. Meridian 207 CD player/amp £650 with remote, Sudgen P28 amp £150. All like new Tel: 0171 495 1220 (May)

LINN SONDEK LP12, in walnut, Ittok LVII arm, Kydne cartridge. Vahalla, regularly serviced £600. Tel: 0141 812 0337 after 6pm (Erskine) (May)

NAIM 425. Boxed. Some noise from selector switch and MM boards soldered in, but good get you started sound. Could replace selector very cheaply. Only £70. Tel 01834 911 850 (May)

MISSION 754F-5. new top of the range in black ash (£1300) WInnings in unopened cartons (£899). Superbative bargain. Buyer collects. London South. Tel: Edward 0181 682 3251 (May)

SPECIAL INTERNET OFFER SEE PAGE 146 FOR DETAILS

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MARANTZ CD-17 KI Signature £900. Cyrus pre and 2 Xpas £1000. Mission 753 (black) £600. Audiquest Quartz-X3 £75. All boxed, less than 3 months old. Financial hardship forces sale. Tel: 0467 397 992 (Sheffield) (May)

THORENS TD160 E Mk2 with Formula 4 arm AR cartridge £130. Rogers LS6 speakers £160. QED P300 power amp, QED C300 pre amp £250. NAD 4020 tuner £50. Arcam 270 DVB £275. Technics cassette deck £50. Above unmarked and boxed. Tel: 01767 317 166 (May)

AUDIO INNOVATIONS 500s integrated valve amp, 25 watts. Sotavet valves £195. Helus Syrius II speakers £595. Kenwood 9010 transport with Detran, DPA Little Bit 2 DAC £400. Tel: 01278 635 649 (May)

NAIM SBL speakers in walnut finish, excellent condition, less than two years old, hardly used £850. Linn LP12 (black), Valhalla, Akito arm, Goldring 1042 cartridge, recent Cirrus upgrade £955. Tel: Mike 01793 529 367 after 5pm (May)

SD ACOUSTICS ribbon speakers, good condition, genuine reason for sale. cost £250, sell £800 ono, or swap, part exchange something interesting. Tel 01634 365 153 (Kent) (May)

ROTEL RCD 955-BX CD player plus Chord Cobra interconnect cable. Excellent condition, boxed, upgrade necessitates sale £150. Tel: 01780 753 079 evenings (May)


PIONEER A400 amplifier, excellent condition, original packing etc £110 (no offers). Tel: 01403 255 153 (Sussex) (May)


NAIM CDI £1150, 82 pre amp £1350, 250 power amp £850, Hi-Cap £450, all new style and boxed. Can demo. Tel 0 886 880 555 (May)

PINK TRIANGLE Anniversary turntable, battery power supply. Few hours use, only £1275 (£2200) SME V tonearm, perfect £875 (£1350) Emt 859 amplifier £875 (£2200). Rogers LS5/5A loudspeakers, 15 ohm £175 (£650) Tel: 01379 64 584 (Evesham) (May)

AUDIOLAB 8000 CIP, immaculate, boxed, manuals £495, Linn K9 cartridge, little used £20 Tel: 01452 612 460 (Gloucester) (May)

VINTAGE VALVES, unused boxed 524s, plus ex-equipment audio/power types. Leak TU12 mono amplifier, original condition £40. Akai 4000DS open reel £40. Sony TC153SD cassette portable £35. Further details Tel: 0181 930 9413 or mor@7000.md (May)

AVI PREAMP with phono stage and remote £600. Two years old (was £1400 new) Tel: 01233 312 229 (Cambridge) (May)

NAP H-CAP two years old £400. Hi-Cap four years old £300. 200 watt power amp 1 year old £700. All unmarked and boxed. Tel: 01767 317 166 (May)

MUSICAL FIDELITY MA5s0 + 38 pre, mint £1475. Musical MA5s0 £935 mint. Musical Fidelity A100 Class A, excellent £165. Audio Innovations Alto amp, mint £165. Kef Concorde III floorstanders, excellent £95. Ken-McCosh valve monoblocks + pre 'Classic', faulty pre £55. Tel: 0141 571 4947 or 041 1756 829 (May)

SUMO ATHENA Class A pre-amp with MM/MC inputs £425. Sumo Andromeda power amp £500. £850. Tel: 0171 727 4491/9675 (May)

LINN KARK (12 months) £1195. Linn Kain (18 months) £995. Audiolab 8000 CIP £795 (may split), Cyrus DAC7 (mint) £595. Naim 42.5/140 (1993 mint) £455 (may split). Linn Kann (mint with stands) £225, Arcam Alpha 6+ amp £225. Tel: 0113 824 428 (Leeds) (May)

GARRARD 301 cream with original matt. Sti, Onitro, custom plinth, immaculate £295 ono. Stage Sound monoblock with large Partridge transformers and KT88. Good working order. Tel: Julian 01703 471 022 (May)

SPENDOR BCI speakers £120. SD Acoustics SD2 speakers £150. Audiolab 8000A £250. Wanted: Spendor Prelude speakers. Tel: 01257 835 529 evenings or 0121 256 1096 day (May)

NAIM CD2 CD Player, 14 months old, in absolutely as new condition, boxed £1250. Tel: 0181 265 8353 (May)

MUSICAL FIDELITY 500 series CD Player £1200. McIntosh DCD1500 £900. Deno CDX £500 £250. Tandberg CD3 £200. Audiolab 8000C £250. Wanted: Naim or TAD CD Players or preamp. Tel: 0181 265 8353 (May)

QUAD ESL63s (black) latest spec £1500. Epos E514 speakers, new, (warm) inc stands £495. Micromega Stage 4 CD £400. Linn LP12, Circus, Trampolin, Akito £650. Michaelson Audic Odyssey valve amplifier £550. Tel: 01952 502 097 (May)

QUICKSILVER MONO 90s, black lacquer cabs £1250. Quicksilver pre-amp £1250. MCM Phono MC £850. Helus 'Caylent' £700. Source Odyssey (mahogany) £850. AT ART-1 £500. Everything absolutely mint. Tel: 0171 352 4338 or 01799 528 367 (May)

AUDIO INNOVATIONS 300 integrated valve amp, re-valved, boxed £200. Rare Luxman CL32 pre-amp, de Paravicini design, superb build quality £350. Quad 11s mono tuner, boxed £50. Tel: 0161 280 0093 (May)

NAIM NAP 110 and NAC62 amplifiers with MM or MC boards. All leads and connectors. Excellent condition £300 ono. Tel: 01254 389 378 (May)

KEF 103/4 Reference speaker in black ash & Kef Model 100 center channel speaker. Both magnetically shielded. In good condition. £400 and £100 respectively. Tel: 01634 311 675 evenings (May)

AUDIOLAB 5 and P amplifiers for sale. Absolutely perfect, mint condition. Cost new £1500. Will accept £1000 for the pair. Tel: 01608 663 713 Stratford upon Avon area (May)

MIF MVT MXI Pre + supply, mint £375 ono. MH6 pre, mint £175 ono. 2 sets of NAP M50 Class A power amps, both in excellent condition, one set boxed. Sony TA-N78 power + TA-E78 pre + ST-A7 tuner + TCK88 cassette deck. Also available Sony Elac EL5S with tapes. All excellent condition. Phone for prices. Quad 44 - 405 pre-power Quad serviced. Casework slightly marked. Tel: 0141 571 4947 or 041 756 829 (May)
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