SIX PAGES OF BARGAIN USED HI-FI

FEATURE: THE CAMBRIDGE CD1 LEGEND

SINGLE-ENDED DELIGHT
UNISON SIMPLY 4 VALVE AMPLIFIER

SUPPLEMENT NO. 17 (overseas - inside) free with this issue.

ARE NAD TOP AGAIN? WE TEST THEIR NEW 510 CD PLAYER

HEYBROOK'S NEW HEYLO SPEAKERS

COMPETITION - WIN ONE OF FIVE ALCHEMIST AXIOM AMPLIFIERS
Trust your instincts.

FOR FURTHER INFORMATION, A COLOUR BROCHURE OR THE NAME OF YOUR NEAREST STOCKIST PLEASE RING 01722 332266.

NAIM AUDIO LTD, SOUTHAMPTON ROAD, SALISBURY SP1 2LN.
Unison offer one of the few competently designed single-ended valve amplifiers available today. Dominic Baker, a man who’s heard a few amps in his time, relates its wonders on p13.

NAD are the masters of entry-level hi-fi separates, with a string of fine sounding, well engineered products under their belt. Can they do it again with the new ‘take-no-prisoners’ 510 budget CD player? Find out on p20.

Wharfedale are back making big, budget loudspeakers with more drivers than a Chinese bus company. They’re eyeing the A/V market, where big is beautiful and fidelity is judged by the size of explosions and earthquakes. Seismic hi-fi is with us, its epicentre on p26.

Back in the mid-eighties, Stan Curtis of Cambridge Audio designed the mother of all Compact Disc players, the awesome CD1. Read its fascinating story on p36.

Marantz and Kenwood represent the conventional side of the industry. Their best efforts offer fine performance at a great price, necessary to succeed in today’s cut-throat market. See if their latest creations live up to past form, on p29 and p57.
THIS MONTH'S REVIEWS

AMPLIFIERS

UNISON SIMPLY 4
Dominic Baker listens to Unison's single-ended valve amplifier from Italy.

EXPOSURE SUPER XV
How does Exposure's premium integrated amplifier measure up to the best of the rest? David Price finds out.

HARMAN KARDON HK620
More than just a piece of wire with gain? Dominic Todd plugs in Harman's latest budget offering and pumps up the jam.

CASSETTE

ROTEL RD-960BX
Noel Keywood, scourge of cassette decks world-wide, reviews Rotel's latest budget combatant. Can it maintain Rotel's good name?

OPUS 3
Vinyl junkie David Price auditions an intriguing parallel-tracking concrete-loaded turntable from Sweden.

COMPACT DISC

NAD 510
When NAD introduce a new entry-level CD player shock waves resound. We surf the tsunami in the wake of the 510.

MARANTZ CD-72II
How does Marantz's enduringly popular middleweight player compare to their young CD-63SE pretender? Dominic Todd finds out.

TEAC CD-P3200
It looks amazingly good value at a mere £150, but things are not always as they seem, thinks Eric Braithwaite.

HOLD SPEAKERS

HEYBROOK HEYLO
Dominic Baker listens to Heybrook's handsome little Heylo floorstander.

WHARFEDALE VALDUS 500
Although a lowly £299, these multi-driver floorstanders rival the Telecom Tower. Douglas Floyd-Douglass tunes in.

MIRAGE 890i
Just an illusion? Not quite. The tall, stylish floorstanders from Mirage get their first review from Dominic Baker.

ORTOFON CONCORDE 6
Made in Denmark, Ortofon's Concorde 6 is a three-way floorstanding loudspeaker priced at a competitive £329.

VINYL

KENWOOD KT6050L
Eric Braithwaite asks whether Kenwood's new £300 RDS tuner is the best thing since rolling tobacco and Rizlas.

HEADPHONES

SENNHEISER HD 455 vs. VIVANCO SR 850
Professional wearer of headphones Douglas Floyd-Douglass listens to interesting designs from Sennheiser and Vivanco.

WORLD VERDICT

OUTSTANDING - Superb sound, something we'd use ourselves.

GOOD - Has strong merit. Well worth an audition.

ADEQUATE - Mediocre in vital areas. May be worth auditioning.

NEWS
All the latest that’s happening in hi-fi.

LETTERS
World readers expound on issues that concern us all.

QUERIES
We get to grips with your hi-fi problems.

NEXT ISSUE
Don’t miss next month’s Hi-Fi World with yet another FREE DIY Supplement.

COLUMNS
63, 69, 71, 72
Comment, criticism and overviews on the ever-changing hi-fi scene.

COMPETITION
World offers you an instant upgrade!

SUBSCRIPTIONS
No more tedious trips to the newsagent - and you’ll have the pick of the classifieds.

SPECIALIST HI-FI DEALERS
There are no box shifting purveyors of midi systems here! These are real hi-fi dealers offering expert advice and service.

MEET YOUR MAKER
Who makes what and how to get in touch.

WORLD AUDIO DESIGN
A growing range of high performance kits for the enthusiast.

MEASURED PERFORMANCE
The HP356A ushers forth from the lab.

READERS’ CLASSIFIEDS
Looking for a bargain - Hi-Fi World classifieds are the place.

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FEATURES

CAMBRIDGE CDI
36
David Price talks to Stan Curtis about his seminal digital creation, and puts the ten year old player against the latest Pink Triangle player.

DIY SUPPLEMENT
In this month’s FREE DIY Supplement we build and test Maplin’s new Newton valve preamplifier, partner to the Millennium 4-20 power amp; there’s part two of Liberty’s Audiosuite audio measurement system, book reviews, DIY news, readers’ letters and more.

MUSIC
Some excellent new releases for your perusal.

ROCK RECORD OF THE MONTH:
The Verve: A Northern Soul

CLASSICAL RECORD OF THE MONTH:
Henry Purcell: The Indian Queen - incidental music

ROCK AND POP
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JAZZ
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COMPETITION
We offer you the chance to win one of five superb Alchemist Axiom integrated amplifiers worth £300 each, for the price of a stamp. See page 66 for details.
In the early 1970's, KEF founder, Raymond Cooke, and his team devised an entirely new way of designing, evaluating and manufacturing loudspeakers. He couldn't have known it at the time, but he'd begun to build legends and in the process became one, himself.

Using digital computer techniques to evaluate performance, together with radical improvements in design and technology, Raymond Cooke started a process that set the Reference standard for KEF and along the way became the standard for an industry - the Reference by which all others would be judged.

Now, in celebration of those achievements, we are proud to offer the discerning audiophile three of the most acclaimed speakers from the KEF Reference Series. Everything about the KEF Model LS3/5a, Model 104/2 and Model 107/2 proclaims 'classic Hi-Fi' experience, from their impressive technical heritage to their luxuriously finished cabinets - and the ultimate finishing touch, a gold plated limited edition plaque engraved with the signature of KEF's founder, Raymond Cooke.

The name of these very special loudspeakers? There was only one possible choice.

Raymond Cooke Series.
**QUAD’S LOUDSPEAKER SP(L)ENDOR!**
Quad Electroacoustics Ltd. have contracted Spendor Audio Systems to manufacture an exclusive range of loudspeakers to be sold under the world-famous Quad name. The first of the new range is soon to be released to the industry, and will subsequently appear in the shops. It is said to be “built and tested to the same exacting standards as the Spendor Classic and Master range in expanded production facilities at Hailsham in Sussex”.

Quad Electroacoustics Ltd.
St. Peter’s Road,
Huntingdon,
Cambs. PE18 7DB
Tel 01276 451166

**OPTIMA-STIC SUGDEN**
J. E. Sugden and Co. announce their new Optima series of amplifiers, comprising the £325 Optima 80 and the £475 Optima 140. Both models feature a passive input stage with 5 line level inputs including a tape monitor. The power amplifier sections - 40 watts on the 80 and 70 watts on the 140 - are DC coupled with a high gain, low sensitivity front end. An extra £75 buys you the remote controlled R version of either amp.

J. E. Sugden and Co., Ltd.
Valley Works Station Lane,
Heckmondwike,
West Yorkshire. WF16 0NF
Tel 01924 404088

**PRO-ACTIVE CARBON-FIBRE**
ProAc’s new Response Two Point Five is a two-way floorstander featuring a unique 8” carbon fibre-filled paper cone bass/midrange driver allied to a 3/4” soft dome tweeter. The 107x22x25cm speakers are claimed to have “exceptional detail, pinpoint imagery and almost three dimensional soundstaging”.

Celef Audio International
Highpoint House, Riding Road,
Buckingham Road Industrial Estate,
Brackley,
Northants. NN13 7BE
Tel 01280 700147
October 1995

SYSTYM-ATIC

Three hundred pounds buys you a pair of Systemdek’s new Systym 165 floorstanding loudspeakers. Standing a discrete 78cm high, the 165s boast a healthy sensitivity of 89dB and can take 100W before they depart their mortal coils. Weighing in at 23kg per pair, they’re no lightweights, and fully specified with gold plated bi-wirable speaker terminals look good value too. Finish is black Ash or Mahogany.

Systemdek Ltd.
34 Kyle Road,
Irvine,
Scotland. KA12 8LD
Tel 01294 271251

MERIDIAN GO HI-VI

Meridian announce the 541 Surround Controller, a high-end A/V compatible hi-fi preamplifier with extensive audio and video switching facilities. It features on screen display, Dolby Pro Logic and a custom Meridian Cinema mode. Meridian dryly state that “unlike other surround decoders, the 541 has been optimised for both music and film”. Price is £950 including Meridian’s MSR remote, with an optional phono module also available.

Meridian Audio Ltd.
Stonehill,
Stukey Meadows,
Huntingdon,
Cambridgeshire. PE18 6ED
Tel 01480 52144

PHILIPS: MORE FOR LESS

Philips announce the DCC730, a digital compact cassette deck in the vein of the DCC951 which impressed us back in March. The DCC730 has more conservative black box styling, and costs £30 less at £249.95. It boasts 18-bit digital recording, faster track access and sophisticated editing facilities. Philips claim “higher resolution, better dynamics and even less background hiss than standard CD”.

Philips Consumer Electronics Ltd.
City House, 420-430 London Road,
Croydon, Surrey. CR9 3QR
Tel 0181 689 2166

MOBILE CONVERSION

Audio Alchemy announce the £149.95 DAC-MAN, a portable CD convertor for the digitalite with everything. Said to be the world’s cheapest external DAC, it’s designed to improve low priced compact disc and laser disc players. It features the new Crystal CS4330 DAC chip, a high current Class A line driver, custom designed TARA LABS captive analogue interconnects, and auto-switching coaxial and TosLink digital inputs. As with all AA DACs, it can be used with Power Stations One, Two and Three.

Path Premier
Unit 2 Desborough Industrial Park,
Desborough Park Road,
High Wycombe,
Bucks. HP12 3BG.
Tel 01494 441736

BOOM! BOOM!

Following Wharfedale’s foray into mid-range-friendly ‘speakers, Celestion announce the IMPACT range of budget boxes. The capitalised name makes Celestion’s intentions clear – they’re making high perceived value, high power handling budget boxes majoring on showroom appeal. As a possible first rung on the ladder of real hi-fi, the IMPACT 10 is keenly priced at £129, while the 15, 20, 25, 30, 35 and 40 models ranging from £199 to £629, continue the theme. All models from the IMPACT 20 upwards are magnetically shielded for home cinema use.

Celestion International Ltd.
Foxhall Road,
Ipswich. IP3 8JG
Tel 01473 723131

HI-FI WORLD OCTOBER 1995
Here's one hi-fi product you won't find in the new 1996 Maplin Catalogue

If you prefer listening to your hi-fi rather than hanging it in the window for everyone else to admire, then the new 1996 Maplin Electronics Catalogue is for you. Almost 1200 pages of electronic products, including over 50 pages of serious audio products for the discerning listener. Choose from some of the best names in the business, like Marantz, Pioneer, Teac, Sony, Polk, Philips, Harman, Nikkai, Wharfdale and many more.

Now Only £2.95

Pioneer 100 CD Player. The Latest Innovations
£549

Harmon Amplifier.
£199

Active Sub Woofer. Full Range of Speakers for Music and Home Cinema
£495

Teac CD/Cassette Deck. The Names you Trust
£299

Gold Phone Leads. Complete Range of Quality Connectors
£4

Pioneer Laser Disc. The Ultimate in Sound and Picture Quality
£499

Nikkai Pro Logic Surround Sound. Home Cinema Processor
£229

Highest Quality Sound Reproduction
£3

Catalogue available at branches of WH SMITH, John Menzies and Maplin stores nationwide. or order direct NOW on 01702 554161

Catalogue Mail order Price £3.45 (inc p&p). Prices depicted are from the 1996 Maplin Catalogue and are inclusive of VAT. All items are subject to availability. E & OE. Maplin Electronics, P.O. Box 3, Rayleigh, Essex, England SS6 8LR.
MOTH GO WILD IN THE COUNTRY...
The weird and wonderful Moth company have launched two new power amplifiers designed by Huntington's solid-state heavyweight, the ubiquitous Stan Curtis (see Cambridge feature on page 36). Using discrete circuitry with close tolerance components, the £549 Thirty Series 60 watt stereo power amplifier is a two enclosure design with PSU and amplifier each given their own box. The £879 100 watt mono power amplifier is a three enclosure package with a PSU and two monoblocks. All Thirty Series amplifiers are available in Ash, black Ash, Elm, Mahogany, Oak and Rosewood.

MO TH G O WILD IN THE COUNTRY...  

JULIAN VEREKER EXPORTER EXTRAORDINAIRE
Naim Audio founder Julian Vereker has been awarded an MBE for his services to British exports. He says, "I am honoured to receive this award, which says a lot about the drive and enthusiasm of all those who have contributed to Naim's success." Naim exports to 26 countries around the world, including North America, Europe and Japan. Fifty percent of the company's business goes abroad.

GET ORGANISED!
The Sound Organisation has announced a new single pillar speaker stand retailing for £79.95, available in 18 or 24 inch heights. Supplied in piano black finish, the Z118 and Z124 are designed to be sand or shot-filled, and include carpet-piercing spikes as standard.

COPLAND TOO!
Copland's CTA301/I/II £1,349 preamplifier now features higher specification Sovtek 6922 valves, with a claimed sweeter performance as a result. The new unit also sports gold plated palladium switch relays, polypropylene capacitors and metal film resistors for better sound. The new £2099 CTA 505/I/II power amplifier features improved driving capability with a greater 65 watt output, in either tetrode or triode operation. Copland describe the system as, "above all, musically enticing".

SENNHEISER'S DYNAMIC DUO
Featuring Duofoil transducers, copper clad alloy wire drivers and neodymium iron magnets, Sennheiser's £229.95 HD 580 Jubilee 50th Anniversary headphones seem a veritable breeding ground for technological sounding acronyms. If that wasn't enough, this limited edition model uses a carbon fibre frame and forks to reduce resonance, making for a claimed "neutral balance with deep bass and smooth extended highs".

CURRYS' NEW SEPARATES SUPERSTORE!
Currys are opening a new superstore on junction 9 of the M6 motorway near Birmingham. It houses no less than "eleven metres of hi-fi separates", we were told, including brands like Mission AV loudspeakers, Marantz, Wharfedale, Celestion, Philips, Mordaunt Short and Pioneer. There'll even be a dedicated demo room. Surprised? Yep, Currys are moving back into separates.
With two more output valves than the £995 Unison Simply 2, the Simply 4 offers greater power, 16 watts, with the ability to drive a wider range of loudspeakers. In sound quality, all the hallmarks of a good single-ended design are present with the Simply 4. Compared to a push-pull design, the sound stage grows and widens to give a greater sense of the acoustic space around a recording. Whispers at the back of the studio, the rustling of scores, a muffled cough and other imperfections all appear as if by magic from beneath the music.

Listeners often talk of the 'magic' of single-ended as if this extra detail is being conjured up from nowhere, and I can well see what they are thinking. But although good S.E.s appear to have magical qualities, in truth they're just...
With over 63 years experience in producing loudspeakers for recording, for rock concerts, for discos, for instruments ranging from the wickedest rock guitar to thunderous church organs; only Wharfedale has the ability to give your music the power, the realism, the drama that you really deserve. VALDUS speakers are efficient so you get more sound out into the room for each watt of power delivered by the amplifier. VALDUS takes loudspeaker design into a new era; a new age; a new dimension. Connect-up; Power-up; Volume-up; and say goodbye to your neighbours.
SIMPLY
THE BEST?

Dominic Baker listens to the Unison Simply 4, an esoteric single-ended valve amplifier.

showing what a push-pull design conceals or destroys. These qualities are more easily recognisable with well recorded classical works, where the recording environment tends to be significantly larger and more natural than that within the studios used for most rock.

With this in mind, the first piece into the CD player (Marantz CD16) was a foné recording of 1 Violini di Cremona. This was quite apt really, being recorded in Italy where the Unison is manufactured, using Neumann valve microphones. Mendelssohn's Op62 was captivating, the tone and character of the Stradivari violin finding space to breathe and flourish in the gentle hands of the Simply 4.

The firmly struck keys of a Steinway piano were rich with overtones, forming a solid foundation for the violin. This is an especially well recorded piece, and played through equipment of this calibre, gets as close to the clarity and atmosphere of being at a live event as is possible with present technology. A thoroughly convincing performance by any standards.

Unison's Simply 4 uses EL34 pentode output tubes in parallel single-ended mode. They have exactly the character that everyone expects from a valve amplifier, displaying a big, warm sound with good bass drive, smooth, clear midrange and sweet treble. The ECC82 twin-triodes used in the preamplifier stages help inject the spark of detail and attack too, bringing the sound to life. All this was brought through aided by Unison's in-house designed and manufactured transformers, the key to a good valve amplifier.

But does the Simply 4 have blood and guts beneath its genteel front? P.J. Harvey's 'Meet Ze Monsta' provided the answer with its raw electric guitars, heavy bass line and viciously struck cymbals. The Simply 4 sailed through this test, even on less sensitive 'speakers such as Heybrook's 86.5dB Heylos, with more than enough power and dynamics to make a clean stab at each transient. Most impressive though was the depth and power of its bass. This is largely due to output transformer core size, and judging by its weight, Unison have made sure there's plenty of grain orientated silicon steel here.

Moving back to gentler melodies, the Unison continued to impress, showing how even-handedly it can cope with a wide range of music and styles. It has an inherent rightness to its sound, the way it pulls a performance together, each instrument perfectly in time and clearly positioned across a panoramic stage. Imaging was first rate too, individual performers seemingly grid referenced to a position, with a strong central image placed squarely between the 'speakers. Stage depth didn't extend quite as deep, or freely project quite as far forward as some of the better zero-feedback triode designs, but then these do tend to cost more than its modest - when you consider the performance - £1495 price tag.

Unison have done well to provide a range of useful features on the Simply 4. There are 4ohm and 8ohm output taps, essential if you want to get the best match between a valve amplifier and 'speaker. Also relevant to 'speaker matching is the two position feedback selector. In position 1 feedback is higher, reducing output impedance so the amplifier will be affected less by a reactive loudspeaker (one with widely varying impedance across the audio band). In position 2 feedback is reduced, giving better sound stage depth and greater atmosphere, but demanding use of a near-flat impedance 'speaker for a balanced sound.

There are four line inputs, a tape monitor, and Unison also make an external phono stage which we hope to review in the near future. All sockets are gold plated, and the controls, with the exception of the rather squidgy selector, have a firm and positive action. The amplifier's proportions seem a little odd, since it's too deep for a normal equipment rack. But then, the Unison deserves a special place of its own, on view for all to see.

All in all, Unison have put together a highly attractive package in the Simply 4, one that should prove extremely popular with all music lovers. This is something of a classic.

Unison Simply Four
U.K. Distribution,
23 Riching Way,
Iver,
Bucks. SLO 9DA
Tel 01753 652669

With a sweet, detailed and open sound the Simply 4 is unusually musical. Sensible facilities too.

Measured Performance see p113-121

Unison Simply Four
£1495
TRUE MUSICAL

quality hi fi products with style and value for

The much acclaimed ALPHA 1 is Arcam’s most affordable CD player to date. A multi-level Delta Sigma digital to analogue converter means the ALPHA 1 provides musical reproduction of unparalleled quality. As with the renowned ALPHA 5+ CD player, the ALPHA 1 offers slimline styling and minimalist layout, ensuring ease of operation and the traditionally uncluttered look of top quality British equipment. The ALPHA 1 is also an ideal aesthetic and sonic match for Arcam’s new ALPHA 6+ amplifier. The two models combine to provide the convenience of a full remote control system, as well as outstanding sound quality. At Sevenoaks Hi-Fi you will discover the Arcam ALPHA and DELTA series of products.

monitor audio

STUDIO 20SE

The breathtaking STUDIO series of loudspeaker’s from Monitor Audio, offer a no compromise approach to design and construction. This is obvious the first moment you see them. Whether they are finished in a standard satin veneer or a luscious grand piano lacquer, they cater for a discerning palette. The superb STUDIO 20SE’s incorporate a gold anodised tweeter and an aluminium alloy bass/mid range driver. When partnered with suitable amplification they offer remarkable transparency and the necessary focus to reproduce complex passages of music with such accuracy that they are used in many reference systems.

meridian

506

All Meridian components, from the simplest to the most complex, are designed to be operated by the touch of a single button on the MSR remote control. The 506 CD player is no exception. It provides the very high levels of performance you expect from every model within the superb Meridian range. Utilising a high mass drawer mechanism and steel chassis, means that CD transportation is exceptional. An 18-bit Delta Sigma conversion stage ensures that bass notes are delivered with real slam, while detail is incredibly natural. These are characteristics common to all Meridian CD Players, including their finest integrated model the 508 and the remarkable 500 and 563 CD Transport and DAC. However, the real benefits of the 506 materialise when it is used with other Meridian components, like the 551 integrated amplifier and 504 digital tuner. Creating an advanced and flexible, full remote control, digital system.

quad

77 CD

a musical evening with

on Monday 2nd October 1995

The first in our season of musical evenings features two of the finest manufacturers in Britain. The doors will open at 7pm. A musical presentation will follow at 8pm, and concludes at 9pm with a Competition Prize Draw. Prizes include an Arcam Alpha1 CD
The new 77 CD player is available in two guises. The first is a bus powered CD player, which offers all the hallmarks of performance and style you associate with Quad products. The second is a bus powered CD player, which can only be operated when connected to the revolutionary 77 system amplifier, via the new intelligent remote control. The introduction of this second model enables Quads 77 system components to be complete. With such innovative products, it is easy to see how Quad have become such a successful and well respected manufacturer.

ruark

RC/RB970BX II

Designed and developed in the UK, the amazing RC and RB970BXMKII pre and power amplifiers deliver real audiophile sound quality. By adding a second RB970BXMKII power amplifier, you can bridge the two in mono, providing incredible control with a wide range of quality loudspeaker’s. The RC and RB970BXMKII offer the same slimline styling and characteristically solid build as all Rotel products. A separate record and listening facility with tone defeat and a split volume control means you have almost infinite adjustment. While the addition of the RQ970BX phono equaliser ensures vinyl replay of the highest standard. For further details of the Rotel range, including the RCD970BX CD player, and RA970BX integrated amplifier visit your local Sevenoaks Hi Fi branch.

TALISMAN II

If a talisman is something that possesses mystical powers, then the superb TALISMAN II loudspeaker’s from Ruark are aptly named. Refined musical presentation and style are the hallmarks of all Ruark loudspeaker’s. With knowledge gained from years of experience, as a member of the Guild of Mastercraftsmen, Ruark have the ability to design loudspeaker’s that blend seamlessly into any living room.

The TALISMAN II’s incorporate a two way bass reflex design. A Seas tweeter and bassmid driver combine to offer controlled, yet smooth bass lines and crisp, clear mid range. To audition the complete Ruark range, including the new ICON, contact your local Sevenoaks Hi Fi branch.

marantz

CD63SE

Marantz are one of the audio manufacturers that enjoys making recorded sound as realistic as is possible. This development of pure hifiidelity has led the Hi Fi press to bestow numerous Best Buys and Recommendations upon models within their range.

The CD63SE offers the kind of sparkling performance you associate with more expensive CD players. With a high mass drawer mechanism, and copper screening, ensuring unrestricted CD transportation and air flow, music is always reproduced faithfully. The CD63SE also offers an easy upgrade path, via coaxial and digital outputs. With this pedigree, the CD63SE represents exceptional value for money. For more details on the Marantz range contact your local Sevenoaks Hi Fi branch.

GYRODEC

The GYRODEC has always been a class act. Beautifully styled in either a gorgeous bronze or a standard silver finish, it looks like no other turntable. Like all of the products designed and built by John Michell, it offers outstanding performance, extracting every last nuance from a variety of music. The GYRODEC incorporates a three point suspension system, so it is very easy to set up. It can also be used with a multitude of tonearms and cartridges, making it one of the most flexible turntables available. Over the years the GYRODEC has evolved. With the addition of the new QC power supply it provides fine vinyl replay normally associated with more expensive turntables.

a r c a m a n d r u a r k

at the Stakis Hotel, Dartford Bridge

Player, a pair of Ruark Templar Loudspeaker’s, and Cable Talk Speaker and Interconnect Cables. There will also be special offers available on the night. For tickets, contact your local branch or telephone the SEVENOAKS Hi Fi information line on 01732 742299.
MUSICAL HEYDAY

With a quality finish and sound, Heybrook’s new £389 floorstanding Heylo loudspeakers catch Dominic Baker’s attention.

If you don’t have a sub-£500 floorstander in your loudspeaker range, you’re not in the running these days. But why the sudden interest? Well, with today’s trend towards sensitive loudspeakers that need little power to drive and match a wide range of amplifiers as a result, insensitive miniatures are out on a limb. They trade sensitivity against bass power, needing muscle amps to get them going. The larger cabinet volume possible with a floorstander removes this compromise. It allows lighter, more efficient drivers to be used to greater effect.

Personally, I find them a more acceptable domestic alternative to a miniature on an ugly, spiked metal stand. An elegantly proportioned floorstander looks attractive in the home and takes up no more space than a box on a stand. Heybrook’s first such floorstander that falls well below the £500 threshold is the exquisitely finished £389 Heylo. Our pair came in a real mahogany wood veneer, richly polished to give a deep shine.

Sitting at just under two and a half feet tall, the Heylos fire their sound well below normal ear height (seated). To counter this, Heybrook have engineered the Heylos to integrate best just above the axis of the drivers, providing a welded steel foot plate that tilts the whole cabinet back by 10 degrees or so. The Heylos are wider than they are deep, and the drivers are mounted in the top half of the cabinet which, combined with the backwards tilt, does
make them a little unstable. Lifting the front of the cabinet by just an inch causes them keel over. I had to ensure the spikes were firmly pushed into the floor to avoid any likelihood of this.

The bass/midrange driver is the same as those used in Heybrook’s bigger floorstanding Heystaks, a doped paper 6inch unit. The tweeter is a quality fabric dome type, partially horn loaded by the face plate to improve efficiency. These give the Heylos a neutral tonal colour. I found it made them good for acoustic and classical music; they have the ability to reveal subtle changes in pitch and inflexion.

The Heylos are characterised by a light, open and breezy balance which exploits the ambience and space around a performance. Insane Jane’s ‘Why Am I Living This Way’ on vinyl was performed within a pleasingly open sound stage, the echo of the steel strung guitar’s harmonics bouncing around the room to create a great feeling of acoustic space. Vocals were projected well forwards, characterised by a cold but sharply etched clarity that gave real insight into the track.

A dry, slightly hard bass quality - not soft and warm - accentuated speed and punch - something these ‘speakers have in abundance. Bass couldn’t be described as deep and powerful, but it’s tight and tuneful. This is certainly a better compromise than being slow and undynamic, allowing the Heylos to resolve a remarkable amount of the detail of bass lines, capturing the resonant and woody quality of cellos for example. There wasn’t quite the richness and texture of more costly designs, resulting in a thinner portrayal with less body and depth, but the Heylos did well tonally, giving them a natural ease.

With up-tempo pop tracks, led by dominant bass lines, accompanied by crashing cymbals and wailing guitars, the Heybrooks could sound a little compressed. Inspirai Carpets’ ‘Saturn 5’ pushed them to their limit at higher volume levels, the powerful bass punch, massed layers of guitars and vocals through the midrange and strong treble all becoming too much. The effect wasn’t unpleasant, but dynamic compression blurred leading edge detail, softening the blows, rather than cracking under the strain.

REM’s ‘Bang and Blame’ really opened out on the Heylos, their delicate and detailed treble bringing a crystalline clarity to cymbals. Their tonally pure midrange helped push vocals and lead guitars to the front of the mix. Bass was tactile and controlled, firmly underpinning events, without becoming overblown. I found the Heylos a tidy performer, bringing order and control to a performance.

To summarise, these ‘speakers are a civilised and polite performer. Even when provoked, they don’t bark or bite, staying on a tight lead. Tonally, they are neutral, helped along in this area by their quality doped-paper bass unit and fabric dome tweeter.

I suspect Heybrook will do rather well with the Heylos, being a cut above the more forceful Mission 734s and Wharfedale Valdus 500s we have auditioned recently. They have a level of clarity in their sound and a quality of finish that few match at this price level, making them sonically confident and domestically acceptable. It may just be a winning combination.

**The Heylos resolve a remarkable amount of the detail of bass lines**

**Heybrook Heylo £389**

Heybrook Hi-Fi, Estover Close, Estover Ind. Est., Plymouth. PL6 7PL
Tel 01752 731313

**WORLD VERDICT**

The Heylos have a neutral, fast and dry sound. Good match for soft sounding systems.

**Measured Performance**

see p113-121
NAD are famous for delivering quality hi-fi to the audiophile at extremely competitive prices. The new 510 CD player continues the tradition, in a modest, unassuming sort of way. Expect a few surprises and raised hackles from the opposition.

The 510's loading tray is stable, and clicks in and out smoothly, an assurance shared with more expensive players. There is no remote control, so all the standard gizmos are catered for on the front panel, giving it a busy appearance. For audio adventurers, the 510 has a Random button, which plays the tracks in no particular order - missing your favourite track every time! This is an invaluable commodity at boring dinner parties where you can reassure your guests that you will change the music just as soon as the CD has finished...

The front panel is smart and functional - serious, yet unpretentious. The only quibble is that the track indicator LED is exactly the same as the minutes and seconds display, which can be confusing from a distance. In the absence of visible add-ons you have to wonder where the money's been spent. The good news for audiophiles, is that, as with their 402 tuner, NAD have concentrated on the sound, and it is here that most attention has been lavished.

Gorecki's moving and sometimes quite maudlin 3rd Symphony is haunting, with a treat of string arrangements. The 510 certainly had grace and composure here; the soundstage was wide, deep and well suited to such an orchestral work. Some of Gorecki's string sections contain long, sustained chords, which are demanding on the ear and the performer. There was no sign of strain in the 510, and all passages were delivered with a pleasing and warming characterisation of this enlightening piece.

Dave Matthews' recent platinum album in the USA, produced by the Musical Maestro Steve Lillywhite, is a charming testament to the acoustic reproduction capabilities of the 510. In 'Ants Marching', bass guitar was tight and fast in complement to the deep, cracking snare. The strummed guitar in unison was clearly placed in the soundstage and played marvellously off the responding violin. The vocal was well projected, if on occasion just a bit thin. Imaging was excellent for the price, the 510 creating a strong central image between the 'speakers.

NAD has always been the choice of the Floyd-Douglass finds out if the new...
Matthews' gifted songwriting ability in 'Lover Lay Down' was made mystically magical by the breathy, open vocal (extremely close-miked) and soft, brushed snare. The melodic and crooning sax set a warm, composed atmosphere, punctuated only by occasional articulately plucked guitar.

Harry Connick Junior's 'It had to be you' had excellent vocal composure, and the 510 delivered effortlessly. The soundstage, dominated by the projected centre vocal, was wide with muted trumpets on the right and a cheerful, trilling bassoon taking the occasional guest riff on the left. Strings were warm and piano was natural and not at all 'glassy', as is often the case with budget players. Brass crescendos with the floor toms were powerful and exciting, with a wonderful live feel.

For piano fans, especially jazzists, it is well worth a listen to Harry's 'Our love is here to stay'. The solo piano has a fantastic lower midrange with demanding attack, which once again the 510 cruised through with utmost pleasure. Triplets in the higher register of the keyboard, as well as the resounding bass notes, revealed the tonal quality and action of the instrument. The 510 delivered musical expression really well. This emphasises the performers' 'feel', which at all times was emotive and impressively authentic.

Serious analogue recordings like Cat Stephens' 'Tea for the Tillerman' worked really well with the NAD; most impressive was the lack of hiss in what is a fairly noisy recording. At one point, the guitar reproduction was so good that I could hear a mistimed bass drum clearly. Ah, the bygone days of timecodelessness - delightful stuff.

Female vocals sounded smooth, crisp and deep. So were backing vocals, in a commendable lifelike soundstage. High frequency dynamics, especially in Rickie Lee Jones' 'Livin' it up', were especially impressive. The bell-trees, chimes and triangles really do have acoustic timbre, revealing all the essential harmonics, an ability beyond the reach of many machines.

I tried a number of rock, dance and fusion tracks, which all sounded equally well performed. The NAD 510 is a more-than-competent all-rounder which will find many a home. Real piano lovers will drool, and might well be encouraged to trade down in price and up in musicality. Take a listen - you have been warned!

**NAD 510 £199.95**

NAD Marketing, Adastra House, 401-405 Nether Street, London. N3 1QG. **Tel 0181 343 3240**

**WORLD VERDICT**

The 510 is hard to criticize at the price, having a sweet and musical sound. Super value.

**Measured Performance**

see p113-121

FRIEND financially-challenged audiophile. Douglas

510 CD player can keep the side up!
To Doctor Livingstone's surprise,
someone had swapped his Brubeck CD for Beethoven.
The Opus 3 Continuo turntable is a seriously specialist design, using mass to suppress vibration and resonance. A massive 24kg concrete marble composite plinth forms the base, whilst the rotating platter weighs 7kg and is made from the same material. Our review turntable, price £550, also came with the optional £350 Cantus parallel tracking tonearm, which can be fitted, claim Pentacone, to almost any deck in a matter of minutes.

The platter is driven from a high quality Papst motor by a belt that looks strong enough to be used for bungee jumping. Although the standard power supply was tried, I opted for...
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The latest example of TEAC's expertise in tape engineering features a 3-head Dual-Capstan drive transport, Dolby S Noise Reduction and separate Bias and Level controls - proof indeed that the cassette is still a viable source. Also available is the V-6030S.

---

**A-BX10 INTEGRATED AMPLIFIER**

An Audiophile amplifier which gives superb dynamic power and performance. Featuring a balanced stereo input and a fully balanced circuit configuration, the A-BX10 offers 100 Watts per channel and an optional phono board for MM and MC cartridges.
Pentacone's own beefed-up external supply, costing an additional £125 which, I found, smoothed things out no end. The Continuo's finish is not what you'd call elegant, but in the best Scandinavian tradition it's still perfectly functional. Those wanting a slice of the good life don't need to look elsewhere however, because special finishes can be built to order, including a delicious looking piano black version.

Massive plinths and platters have been tried before by the Japanese in the Seventies, the idea being that heavy plinths absorb colouration-inducing resonances better than light, boxy designs, but this approach, as designers of suspended subchassis decks point out, doesn't work so well with airborne vibrations, which don't disturb the deck's heavy plinth but still affect the delicate, deck's heavy plinth but still affect the delicate, airborne vibrations, which don't disturb the deck's heavy plinth but still affect the delicate, lightweight stylus. Likewise parallel tracking was once regarded as the way to track a phono cartridge, eliminating as it does geometric tracking error and the resultant (mainly innocuous sounding) second harmonic distortion. But it's worth bearing in mind that while this design solves some obvious problems, they're usually a flimsy platform for a cartridge to work from - as their sins are worse than those they seek to cure, this is why so many parallel trackers have died by the wayside.

The Continuo/Cantus combination was actually far more straightforward to set up and use than I expected - fitting the cartridge to the arm simply involved sliding the cartridge holder from the glass arm assembly, bolting the cartridge in, connecting up the wires, sliding it back in place, and balancing the tracking weight with the two screw adjusters at the other end of the cartridge holder. With a Goldring 1042 firmly in place, driving an EAR834P valve phono preamp, Audiolab 8000Q/Ms and Mirage 890i speakers, we were ready to go.

The Continuo has an instantly recognisable sound that reminds you of its concrete origins - 'hewn from stone' is the best way of putting it. Kicking off (appropriately enough) with The Stone Roses' 'Ten Storey Love Song', it delivered thunderous deep bass that underpinned the track in no uncertain terms. Midband was fairly neutral, but perhaps a tad sterile compared to a similarly priced Michell Gyrodec/RB300 combination. Still, there was a lot going on, with a large, expansive soundstage that oozed solidity and poise. The Opus imaged behind the plane of the speakers, with all but the guitar work at the forefront of the mix hanging well back. This imbued the Continuo with a feeling of lazy confidence, with all the strands of the mix handled with decorum.

Unfortunately, the higher frequencies lacked the stability of the lower regions. Although there was plenty of space and depth to the sound effects at the start of 'Ten Storey Love Song', the Opus displayed a slight softening of the leading edges of treble detailing. This was more marked with the subtleties of Spiritual Vibes' 'One Blue Moment', with triangle work that comes across super-fast and clean on the Gyrodec gently rounded off. Not an unpleasant effect, it suited the smooth, gutsy lower frequencies nicely.

Image stability was good too, not quite up to the standards of the best £1000 combinations, but satisfying nonetheless. Vocals were smooth and precise, Kikuko Nonaka's vocal having a solid, almost mastertape-like ease and naturalness. Piano, always a tell-tale test of a turntable, assumed a satisfyingly full tone, with no signs of the vagaries that bedevil cheaper entry-level vinyl players.

Moving to a vintage piece of new wave from the Teardrop Explodes, the Continuo/Cantus returned a seriously impressive performance, with bass guitar thundering confidently from a well conveyed acoustic. Like the Gyrodec, there was a good deal of space around Julian Cope's voice on 'Treason', plus a deep, penetrating kick drum and rock-solid imaging. But the Opus 3 again fell down on treble detail, with a tendency to coarsen maracas and blur the subtest of tambourine work. Despite the great weighty sound, dynamics weren't quite up to par either. Although the deck was far from leaden, it wasn't quite as quick off the mark as it could be.

If you like a big, sumptuous, lazy sound from your records - the hi-fi equivalent of a Harley Davidson motorbike - you'll like the Opus 3 Continuo/Cantus combination. It doesn't quite have the fire-blade agility of some similarly priced packages, but not everyone wants to be Kevin Schwantz. Although it's ultimately not up to the red hot Michell/Rega combination, the Opus 3 will still find admirers who appreciate solidity and dependability.

Opus 3 Continuo £550
Opus 3 Cantus £350
Pentacone
4 Cross Bank Road, Batley, West Yorkshire. WF17 8PJ
Tel 01924 445039

WORLD VERDICT

Solid as a rock and almost as heavy, it's a satisfying performer, but not quite the best.

Measured Performance see p113-121
POWER TO THE MUSIC

With powerful drivers and plenty of them, Wharfedale’s new Voidus 500 loudspeakers are certainly capable of adding scale to a performance. Just ask Doug: Floyd-Douglass.
The younger denizens of this planet collectively spend more on music software - especially singles - than other age groups. There is literally a new mix or single out every week, leaving the musically up-to-date little cash for the hardware to play it on. This favours the budget black box from the East.

This cloned merchandise, devoid of individuality - and often decent sound as well - is stamped with every conceivable grabline and freebie in order to achieve sales. The 'speakers in these systems are strongly compromised, robbing music of life and detail.

Recognising this, Wharfedale have designed a loudspeaker to deliver better sound quality from a midi or small separates systems. Big, powerful and efficient enough to be driven by even modest systems, the Valdus 500s deliver more music for your watts.

At 92dB - an exceptional sensitivity figure - the 500s could lift the roof off most living rooms driven solely by the bathroom tranny. It might not seem logical, but big loudspeakers are potentially more sensitive than little ones and Wharfedale have capitalised on this, producing monsters that stand more than a metre high. The reason is to make the most of low power midi/mini/micro systems. Who'd imagine such systems could drive imposing monoliths like these. Three 8inch drivers, two for bass and one for midrange, and a fuse-protected fluid cooled tweeter make for a large, late seventies style appearance.

Reggae seemed a good area to start, and Sly & Robbie did the honours. Bass, as expected was almost overpowering. Jimmy Cliff's 'Power and Glory' sounded lively and drum sound was powerful and tight. What was noticeable after a while, was that the bass did seem to centre around 80-100Hz. I found that the Audiolab monoblocks drove the Valdus 500s too well here, resulting in unnatural, thick bass. I switched to the Aura VA-80, which sounded better, having slightly dryer and more controlled bass.

Definition was not one of the characteristics that came to mind, but projection certainly was. Midrange had detail and presence; treble was clear without being overtly harsh. There was adequate, although narrow stereo separation, and the image was forward and lacked real depth. The Valdus is a product that clearly sets out to achieve an objective, in this case filling a niche in the mid-market and in this it is successful, even if in terms of fidelity alone it is compromised.

Brian Adams' 'Cuts like a knife' had the vocals sounding thin and sadly, quite unlike Brian Adams. A lack of breathiness made his voice restrained and lacking in openness. However, intelligibility was crisp and would certainly lend a hi-fi sounding hand to a struggling midi-system. Lead and rhythm guitar sounded excellent, which I'd attribute to the paper cones - a favourite choice used in hundreds of famous electric guitar amplifiers. Their partiality to rock was further emphasised by Richie Blackmore's scorching lead and powerful backing on 'Rainbows Power' and 'Miss Mistreated'.

The Valdus 500s would not be out of place at a throbbing party, where they certainly have the dynamics and power handling ability to deal with a prolonged dance onslaught.

The Valdus 500s will no doubt find a delighted audience in the midi/mini/micro market where they seem almost magically able to elevate a minito, well, a Ford Capri 3 litre. They've got grunt and go, but don't cost a lot.

Wharfedale Valdus 500 £299.95
Wharfedale Loudspeakers Ltd., Sandleas Way, Crossgate, Leeds LS15 8AL. 01532 601222

WORLD VERDICT

Good for adding scale and power to a weak system or budget separates.

Measured Performance see p113-121
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Tel: 0181 952 5535
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BIG BROTHER

Is Marantz's mid-market CD-72 always destined to be the poor relation of its giant-killing younger brother? Dominic Todd finds out.

With all the recent publicity surrounding the CD-63 and 63SE, Marantz's middle order CD players have been rather ignored of late. One such player is the £600 CD-72 which...
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has now, in MkII format, undergone improvement.

The basis of the original CD-72, first launched in 1992, is unchanged. This means a Philips CDM-4 transport and a bitstream digital-to-analogue converter. Marantz have now added their pukka HDAM op-amps. First seen in the CD-63, the HDAM op-amps used in the CD-72MkII are copper clad and proper audio grade devices, rather than the general purpose ones used in many machines of this price.

Features and build quality are exactly as before, which means above average in both cases. The CD-72 is built at Marantz's Japanese factory, although seems to be far more solidly constructed than the CD-53/63s also constructed there. This may be down to the fact that the CD-72 uses an older (less cost-effective) chassis first seen in the late eighties on the CD-50/60. Although this design has been criticised for its ergonomics (since improved), many will prefer its slab-like styling to that of the glossy organic look of newer players typified by the CD-63. The comprehensive features are similar to the CD-63 with the addition of Philips' ubiquitous Favourite Track Selection.

The CD-72 faces tough competition not just from other mid-price players like Micromega's Stage I, but also from within in the form of the £350 CD-63SE. To discover if the extra £250 is justified, I plugged the Marantz into my system, and listened in. With Jackie Leven's 'Shadow In My Eye', the breaths taken at the beginning of the track were clearly depicted. Vocals were presented in a clean and articulate manner, yet not quite as expansive as some. During more complex sections, the CD-72 maintained a tight control on the music, resisting confusion and mush. At times though, the resulting sound could be a little sterile.

The Oysterband's 'Blood Wedding' is a lively folk rock number that can sound brash with some CD players. Despite its aforementioned control of complex passages, the Marantz suffered from a slightly splashy treble here. Other machines manage to produce greater definition and a better decay with cymbals. I wasn't altogether surprised to hear this characteristic, as it's long been a Marantz trait, only recently stamped out with the CD-63SE. That said, it's less noticeable than with the previous CD-72. It could also sound slightly edgy and sibilant with certain vocals, often exposing crude recording techniques. The upside of this is the ability the Marantz has in being able to capture subtle nuances of vocals and instrumentation. It doesn't gloss over the detail, but merely tells it how it is, warts and all. It's certainly more analytical and less coloured than its baby brother. Despite this analytical side though, the CD-72 managed not to fall into the trap of sounding thin and aggressive; violins were full-bodied and convincing.

'Fathers Day' by Weddings, Parties, Anything, showed other advantages of the CD-72's lean, clean balance. It sounded punchy when the music demanded it, without smearing. This was helped by bass that was both tight and always commendably in tune with the rest of the mix. With sympathetic partnering, the sound didn't become too forward and tiring to listen to, but in a bright system it could all become rather overbearing. Bass, although tuneful and solid, wasn't especially deep, in this respect offering little over the CD-63SE.

The piano in June Tabor's 'False, False' sounded anything but, its timbre a great improvement over the earlier CD-72 which could make a Stein sound like a Honky-tonk! Background noise during quieter passages was extremely low, allowing contrast and space between the instruments and vocals to be fully appreciated. Tabor's vocals were accurately portrayed, with no undue sibilance or congestion. Backing instruments were faithfully placed within the sound stage, which itself had respectable width and depth, although nothing outstanding.

It's hard to believe the CD-72 comes from the same family as the CD-63SE, because the sound of the two machines contrasts in so many respects. Whether the CD-72 is better or not is down to personal preference. It's certainly better built, but the sound quality misses the euphonic yet involving temper of the CD-63SE. What it offers instead is crystal clear transparency and openness, with freedom from serious colouration. Show it a rough recording though, and it'll show you no mercy. It's difficult to recommend the CD-72 over the CD-63SE. Yet for those looking for an integrated, well built machine to brighten up a dull system, the CD-72 is still worth a listen.

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WORLD VERDICT

Highly transparent, well built player, that's rather in the shadow of its famous younger brother.

Measured Performance see p113-121
YOUR HI-FI COST £1000...
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Just an Illusion?

Dominic Baker listens for the magic in Mirage's bipolar 890i floorstanding loudspeaker.

Mirage aren't just another loudspeaker manufacturer, their approach is a little different; the 890is are bipolar. A conventional loudspeaker only fires sound forwards, the rear energy from the drivers being contained by the box. A dipole loudspeaker, like Quad's electrostatic, fires sound forwards and backwards, but the rear energy is out of phase with the front, causing cancellation lobes either side where there is effectively no sound. But Mirage's bipolar system uses identical sets of drivers on the front and rear baffles in phase with each other, radiating sound in a spherical pattern. This all-round sound distribution pattern means that a high proportion of what you hear at your listening position will have been reflected off walls and ceilings, giving a sense of spaciousness. Mirage suggest this is a more accurate way of producing music, mimicking the reflections you get from a concert hall.

A tall floorstander, the £1075 890is are a two-way reflex design. The bass unit is a 5.5inch injection moulded
polypropylene cone and the tweeter a 1 inch vapour deposited titanium dome. Partly because of the doubled-up drivers, they are inefficient and need a powerful amplifier for decent sound levels and good control. In the bass the 890is can become a little thick and over-prominent if they are positioned too close to room boundaries. I quickly found they needed to be placed well out into the room, settling on 3ft from the side walls and 4ft off the back to give a dryer, cleaner bass quality.

Using a pair of Audiolab 8000M monoblocks, the Mirages were tightly controlled, with deep, solid bass extension. They have superb upper bass punch too, giving bass lines real attack. Pink Floyd’s ‘What Do You Want From Me’ had fantastic drive, lending real scale to the track, although dynamics were limited a little, the leading edge thwack slightly blurred. As with many ‘speakers using polypropylene drivers, the 890is had a rich and mellifluous character through the upper bass and midrange, which gave them a rather laid back character. Luckily, they are rescued from becoming too soft by the titanium tweeter, which adds a bright and clear edge to cymbals, but some edginess to string harmonics.

Primal Scream’s ‘(I’m Gonna) Cry Myself Blind’ suited the 890is well, with deep resonant bass, well projected vocal harmonies and crisp, detailed strings. These ‘speakers imparted a naturalness to the sound, which made it easy to sit back and listen, without worrying about being in exactly the right spot for best fidelity. This makes the 890is an extremely attractive proposition, but there is a price to pay. When track 6 arrived on the Primal Scream album, ‘Free’, Denise Johnson’s smooth vocals were exactly that, free to spread across the stage. Normally tightly located, straight between the ‘speakers and a couple of feet forwards, with the 890is she was drifting in space, dispersed across the stage and out beyond each ‘speaker. In imaging terms this makes them a bit of a non-event, but then they do balance this with a fabulous openness and natural ease.

Lacking the directly aimed punch and focus of more conventional loudspeakers, the 890is take a little getting used to. The stage isn’t really in front of you anymore, it’s all around, which can be a little disconcerting. Listening to The Stone Roses’ ‘Tears’ I was waiting for the powerful, soaring electric guitars to explode forwards, but it never happened.

Although the 890is create the impression of detail and atmosphere, they don’t resolve as much of the low level detail in a recording as, say Heybrook’s Sextets. The fundamentals are all there, but some of the insight is glossed over. I’m not sure if I’d actually live with the 890is. I’d miss the strong central image presence and more directly focused sound of good conventional loudspeakers. But I can see why listeners could be drawn to them; for some I’m sure they’ll be irresistible.

Mirage 890i £1075

Audio Illusion
23 Langley Broom, Langley, Berkshire. SL3 8NB
T: 01753 542761

WORLD VERDICT

An easy going, open and natural sound makes the Mirages an attractive proposition.

Measured Performance see p113-121
If there's one CD player that deserves legendary status in Compact Disc's short twelve year lifetime, it has to be the Cambridge CD I. In the mid-eighties, CD had already been sold to the general public as the bee's knees, but was yet to garner any serious critical acclaim.

Compared to high end turntables, players from major combatants at the time, like Philips, just didn't get a look in, while many hi-fi journalists found it hard to hide their doubts about the Digital Audio Disc. But then the Cambridge CD I arrived and blew the debate wide open.

Cambridge's CD I was regarded as the first real high end CD player when launched in 1984, many believing it to be the best.

David Price looks back at this classic piece of digital audio.
same. He built a simple error counter to find out what was going on.

Using this circuit, which later became known as the "Quality Assurance Module", Stan started experimenting with a Philips CD104 player to find out how to reduce the amount of errors that occurred when CD players tried to read discs. This resulted in the development of a lead beam suspension system designed to provide better isolation from external disturbance than sprung designs. He also produced several different analogue filters, each replicating the performance of designs used in professional products employed in the recording process. These gave complementary "mirror image" behaviour in the domestic replay chain. The filters were user selected to give the best results with a disc.

So successful was this cannibalised CD104 that listeners remarked how different it sounded to ordinary players. Duly, the decision to go into production with the Cambridge CD1 was taken on the day before Christmas Eve 1984. As Cambridge Audio was exhibiting at the Las Vegas Consumer Electronics show in January, it was the logical place for a new player to make its debut. This meant time was of the essence.

Stan decided to use the CD104's CDM1 metal diecast transport mechanism (Philips' very first transport, for which he still has a lot of respect), along with his custom suspension and switchable analogue filters. But there was still a lot of work to do. The dimensions of the parts had yet to be laser measured for the machinist, but this proved difficult over the Christmas break, so one of Stan's friends who worked for a major Austin Rover subcontractor illicitly sneaked in to AR to do it. After the break, Stan discovered there'd been a mistake - the CD1's casing was too small to accommodate everything. With little time left he took the most pragmatic option and put the analogue circuitry and D/A converters into one box and the transport in another.

"So was born the world's first two box CD player," says Stan, "not for some brilliant engineering reason, but because we couldn't fit everything into one box." Instead of using the now standard SP/DIF connection, Stan took the clock signal and the data signal directly from the transport to the other, at a stroke eliminating synchronisation and jitter problems. How did he join the two boxes? With DIN connectors, because that was all Cambridge had on the shelf - Radio Spares were, like everyone else, closed over Christmas!

The CD1 made it to the Las Vegas show and proved a great success. Six months later, as a direct result, other manufacturers started marketing two-box players for sonic reasons, following Stan's example without realising his discovery had been a fortunate accident! Because the CD1 hadn't been carefully production-engineered, it proved expensive and inconvenient to manufacture, meaning - in the best Cambridge traditions of yore - reliability was patchy. In Stan's words: "It was another classic Cambridge product that sounded great and, if everything went well, would last forever, but some of them failed the day you took them out of the box."

So awkward was the CD1 to produce that Stan had to personally cast every one of the lead beams used in the suspension mechanism over a gas ring using an old cast iron pan - because of health and safety regulations, he couldn't find any subcontractors to do it.

The analogue circuitry also benefited from the Curtis touch, having a more powerful bass response than existing players. Again, this was almost by accident. To make it harder for anyone to copy his design, Stan decided to encapsulate the D/A converters, analogue filters and the output coupling capacitor in a solid block of epoxy resin, which was then glued down on the board. "I've never attempted to justify this," confessed Stan, but when he did it, "solid bass appeared from nowhere!"

How does he view the CD1 with hindsight? These days he's no fan of the "quite crude" Sygnetics 5534 op amps used and would have preferred a discrete stage if he'd had the time to design one. Despite this, he's still pleased with his baby even today, "the big characteristic of the CD1 is a bit like listening to a horn loudspeaker - tremendous dynamics, music just surges at you."

The big characteristic of the CD1 is a bit like listening to a horn loudspeaker - tremendous dynamics, music just surges at you. But he's still got reservations, not thinking the CD1 the most transparent of players by today's standards.

Despite Cambridge's attempts to kill it off several times to concentrate production on the more profitable CD2, it sold and sold. Stan also has fond memories of the terror the QA module, with its intimidating line of digital counters, instilled in the hearts of player manufacturers and disc producers alike. How could CD be "pure, perfect sound forever" if the QA module counted three and a half thousand dropouts across the surface of a disc? Conversely,
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*Review of PASSION - Martin Colloms*  
*HiFi News April '93 and November '94*

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for the first time ever, the CD1 opened people's eyes to the fact that Compact Disc could sound so much better if done properly. It was a truly anarchic, yet ground breaking design that pointed the way forward. In short, it was a real classic.

THE CD1 IN USE
There's something undeniably impressive about a CD1 in the flesh. It's not so much its build quality, which apart from its metal disc tray is nothing to write home about, but its bulk. The main transport box is a real blast from the past, with the early Philips bright green six digit display. Loading a disc means watching the disc tray amble back into the unit, whereupon nothing seems to happen for a few seconds, until the display starts flashing "P" to indicate it's found something. Sure enough, after several seconds the track gets going.

Underneath the transport is a smaller black box housing the DACs and analogue circuitry, with a variable output control on the front and two sets of fixed and variable phono sockets at the back. Beneath this is the CD1's masterstroke, the "Quality Assurance Module" error counter. Its row of large four-digit displays notch up minor uncorrected errors, medium corrected ones, and major signal dropouts. Watching this can be a fairly depressing experience for silver disc aficionados, as even with brand new, untouched discs, the errors build up with disconcerting speed. Twenty seconds into one new disc straight out the foil, the QA module had counted 94 minor errors and 61 mediums, trashing any claims of "perfection".

SOUND QUALITY
Plugged in and warmed up, our Cambridge CD1 was put against our resident Audiolab 8000CDM/Pink Triangle Da Capo, through Audiolab 8000Q/M amplification and Technics' revealing SB-M300 loudspeakers. First the Beatmasters' "Rok Da House' disc went into the Audiolab/PT reference, giving a big, powerful sound with masses of treble detail and a wide, expansive soundstage. Moving to the CD1 and the high frequencies became duller, softer and more velvety. Upper bass lost some body, but lower bass gained a substantial wallop that happily coincided with the lower regions of the Beatmasters' beloved TB303 bass synthesiser. This gave the Cambridge the edge, sounding faster and more punchy.

Moving to Intastella's 'People', the Audiolab/PT produced a delicious silvery treble that caught the intricate hi-hat work beautifully, bass was powerful and midband super-clear. I was impressed - the Da Capo on top form mixes great refinement with real musicality, a rare combination. The CD1 had its work cut out, but fought back valiantly. Where the PT's soundstage had been extremely wide, imaging behind the plane of the 'speakers with reasonable stage depth, the CD1's was narrower, imaged further forward but also showed greater space behind the 'speakers. Stella's voice projected better, the Cambridge separating the main strands of the mix with greater ease. Conversely, the CD1 struggled with low level atmospheric detail that the PT effortlessly churned out - main instruments and vocals were bigger, while low level detail was more veiled.

Moving to Miles Davis' 'So What', the pattern continued, with a super-wide soundstage, deep fulsome bass and super-detailed treble from the Pink. The Cambridge on the other hand sounded duller, with less emphasis on the recording’s analogue tape hiss. Bass was less powerful until the double bass got right down to the bottom string, whereupon it kicked like few other players I've heard. Meanwhile, solo instruments separated out from the bass, drum and piano backing more convincingly. Indeed this was its forte - an uncanny blend of dynamics with a very convincing soundstage, making for an eminently musical performance.

CONCLUSION
So how does it rate overall? Very well I'd say: The basics - rhythms, dynamics and sheer cohesion - are hard to match by even today's best players. But it does show its age in other respects such as low level detail and atmosphere. In this respect it was an eerie trip back to Compact Disc of the mid-eighties. Yet I'm still more than a little surprised at how well it stands up to today's superplayers in sheer listenability. If all Stan Curtis' Christmases were as productive, heaven knows where British audio would be.
Meet Mike Martindell.
The man who broke the sound barrier.

In the world of hi-fi there are those who have it and those who have not. And Arcam’s Mike Martindell has it in spades. This is a man who did more for the anorak than Chuck Yeager did for the flight jacket. A man with only three things on his mind. Your left ear, your right ear and the final frontier... your wallet.

It took plenty of the right stuff (what Chuck would drawl ‘moxie’ ) to even dream of producing a CD player with Arcam’s standards of sound quality for under £300. But if anyone could do it, Mike could. Our chief engineer and his team of self-confessed audiophiles have a rather compulsive habit. They like to break old records (of which Arcam has a rather inelegant sufficiency).

Combining a liberal dose of obsession (and we’re not talking after-shave) with the same principles and techniques that produced the first complete UK manufactured CD player, they created the new Alpha One.

The British-built A1, as it is affectionately nick-named (for reasons you will fully understand when you check it out at your Arcam dealer), has all the hallmarks of Arcam’s legendary quality. Best sound performance in its class? Check! Elegant appearance? Check! Future proof digital output? Check! Unique Arcam Fibreglass printed circuit board? Check! Military specification flow soldering? Check!

In fact the only thing that has been scaled down in this single-minded pursuit of glorious sonic performance...is the size of your cheque. Check!

The Alpha One CD Player. Around £299*

For more information about the Arcam Alpha One CD player and the name of your nearest dealer, please complete and return this coupon to us.

In addition, if you would like independent reviews of any of our hi-fi equipment, please state which products and we’ll be happy to send you the relevant material.

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World Radio History
Rotel's RD-960BX cassette deck is a careful exercise in costing. Noel Keywood listens out for cut corners.

As I explain in my column this month, cassette decks at any quality level are rapidly becoming more expensive. They've become something of a moving target in this sense - what cost £180 yesterday costs £230 today. And with the Yen growing in strength daily, who knows what they will cost tomorrow.
WHO SAYS THE
BRITISH DON’T
PLAY BRILLIANTLY
IN EUROPE?

EUROPEAN LOUDSPEAKER OF THE YEAR

At B&W we’ve just scored another major success. Our CDM1 has now won European Speaker of the Year, which was judged by the Editors-in-Chief of leading photo, video and audio magazines from thirteen countries. High praise indeed. But with a winning team of engineers coming up with a hat trick of technological innovations: outside tweeter mounting, kevlar drive unit and contoured edges for reduced sound diffraction, it’s not an entirely unexpected result. For more information call B&W UK on 01903 750750. And see that the best European players don’t have to start at £8.5m.
This injection reviewer confusion! At first I thought the Rotel's new RD-960BX was bad value then, on ruminating and considering the opposition, I changed my mind. Here's a solid, sensible but budget cassette deck, with remote control, all for £230.

Yen? The Rotel comes from Taiwan, not Japan, but Rotel are a Japanese company and likely the value of the Yen comes into the equation indirectly, if not directly. But although key components like the head and transport didn't measure so well, this doesn't necessarily condemn it to the ranks of also-rans. Cassette decks are such complicated bundles of tricks that there's leeway to make the package work effectively by avoiding weaknesses in design and final alignment.

Although the front looks sombre - you get brighter boxes at funerals - the Rotel looks sturdy enough and has a good set of controls with a light but positive action. Neither is the bare minimum of facilities an inconvenience, as it still boasts a good digital counter with zero-stop, music search, Dolby B & C and HX Pro, auto-tape selection and user-adjustable bias for tape matching. The indicators have 0VU set low at Dolby level, just as well because the head isn't good enough to cope with more. The RD-960BX deck didn't clank or feel flimsy in use, but its design has obviously been "subject to budget restraints", shall we say! Contrary to this impression was the provision of remote control, which is always useful.

Tests showed the deck had been well aligned, but the head couldn't handle the strong signals needed to magnetise metal tape. While a deck of this price could be relied upon to hit +3 or thereabouts with metal a year or two ago, the RD-960BX managed a miserable -1. This means recording levels have to be kept down when using metals, making hiss 4dB more obvious. However, TDK MA is sufficiently quiet these days not to hiss badly with Dolby B in action, allowing good recordings with only a gentle background hiss. All the same, I decided this was yet another cassette deck best run with TDK AR ferric tape. We listened to TDK SA (chrome bias) and thought that on balance, although a little quieter than AR, its sound was more congested.

As is often the case, TDK AR sounded warm, smooth and a touch dull until bias was cranked right back to minimum. At this point some upper treble emphasis appeared, but it helped counteract the innate warmth (saturation) of AR's sound. Using Dolby B the combination worked fine with Eddie Reader's bass-rich recordings, the record indicators dancing around +3. She seemed clear enough on the sound stage - bass didn't wallow and strummed guitar chords sounded crisp. I guessed the more prominent transients of Latin American percussion on Songhai 2 would suffer - which they did, sounding dulled with an easy, unchallenging warmth. Purists would object, but casual users generally wouldn't take offence.

I was surprised the transport could handle Chopin's Opus 48, No1, with its sustains and testing crescendos. Expecting to hear piano waver, it proved stable enough. However, there was some 'pollution of tone', where the purity of a note seems greyed and coarsened, caused by random wow. All the same, the RD-960BX performed well enough in reproducing piano, a revealing test of transport stability. Single capstan transports can sound shaky at the start of a tape, but not the RD-960BX. The laconic intro to Miles Davis 'So What' exhibited just a little random note wobble, as it were, on TDK AR.

Recording onto TDK MA metal tape was successful just so long as the indicators went no further than 0VU on peaks, to avoid muddle. Then, hiss was minimal with Dolby B in action and transients came over with conviction. The deck made clear and forceful recordings, displaying the sort of clean-lined dynamics that come from good record and replay circuits.

On pre-recorded playback, Swing Out Sister sounded bass light and lacking in conviction. There was a distinct lack of high frequency detail and vocals were blurred by the Dolby B noise reduction - what you'd expect from cassette, even though it can sound better. Madonna's True Blue album had its moments though. The bass line was tight and the mix clean, giving the playback circuits the chance to show their stuff. Frankie's 'Two Tribes', with that wonderfully throbbing bass line, sounded solid and powerful. Dynamics were good, and with matching kit, this deck might just be a reasonable choice amongst dance fans. Spoken word also played back particularly well, and piano sounded convincingly steady in pitch.

The Rotel RD-960BX put up a reasonable performance all round, but it's no marvel. Remote control makes it easy enough to use, but balancing this is limited ability with metal tape. However, for those who stick to budget ferrics in any case, and don't much care about pre-recorded replay quality, it offers a competent enough package. The way the Yen is going these days, it offers as much as can be expected, it would seem, especially with remote control.

Rotel RD-960BX £229.95

Gamepath Ltd.,
25 Heathfields, Stacey Bushes
Milton Keynes, Bucks. MK12 6HR
Tel 01908 317707

**World Verdict**

A solid, competent machine that's reasonable value for money.

**Measured Performance**

see p113-121
UNBIASED BASF

We refer to your feature in the July 1995 issue of Hi-Fi World on "Winning Formulations" and are somewhat surprised and disappointed to note your comment that "brands like Fuji, Scotch, JVC and BASF are as rare as Tory voters".

The marketplace for audio and video cassettes has changed considerably within the last five years with enormous growth in the supermarket sector. All business, especially new business, is good for the blank tape market, and the players in it. Being valued at an estimated £62 million for 1995, it is still a large value market. In share terms to date, Audio shares are as follows (source: Nielsen):

- BASF 7.0%
- Maxell 4.0%
- Memorex 7.3%
- Sony 7.6%
- TDK 60.0%

It is quite clear that the market is dominated by TDK, but music and hi-fi stores are not representative of the whole market. In order to achieve a totally representative test, a wider brand range is more often featured, and this type of test is fairer and unbiased, which ensures customers draw their own conclusions as to which product to buy.

Sian Roone,
Marketing Department, BASF plc Middlesex.

I walked the streets of Central London to check actual availability of blank tapes, heading south from our offices down the Edgware Road, East along Oxford Street, then North up Tottenham Road, bolting like a rabbit into numerous and various specialist hi-fi stores, as well as Virgin and HMV megastores. BASF tapes were all but invisible. TDK tapes were everywhere. Knowing TDK have a tight grip on the market, in technology and market analysis, I phoned them for info. Here are the GfK figures they supplied on sales by volume:

- BASF 3.0%
- Maxell 5.6%
- Memorex 13.7%
- Sony 13.2%
- TDK 48.7%

They differ from your own, but not to any degree that would have affected what I said.

I've carried out numerous comparative tape tests over the years and consistently, front runners have been TDK, Sony and Maxell. Were BASF, or anyone else for that matter, ever to have shown greater ability in this field, and were your tapes more widely available, then I would be amenable to running a long comparative test. As it is, we have to devote precious space to more popular items. NK

Simon Roone,
Marketing Department, BASF plc Middlesex.

I can't quite see the point of your campaign against CD sound. Unlike your campaign against early CD players, it doesn't seem to have a productive purpose. CD is here to stay whether you like it or not, and harking back to the days of vinyl and its supposedly superior sound is simply a waste of time.

You're wrong when you say CD's raison d'être is superior sound, as it has no raison d'être - it was developed almost by chance, started life as a laser video disc and wasn't a great success when it was first launched on the market, mainly due to overpricing. A market place doesn't need justifications for new products, as the market itself is value-free. (Only governments impose values on markets through regulations.) It is simply supply and demand. Therefore CD has no raison d'être, it simply fulfils a need that LP didn't satisfy - it's more durable, portable, doesn't suffer from surface noise and is more convenient. In fulfilling a need for consumers it also fulfils a need for producers, end of story!

If you prefer LPs, fair enough, so do I as far as sound quality goes, but nostalgia is a waste of time. You can't turn the clock back on progress, you can only look forward. Many hi-fi critics are impatient, and constantly bemoaning CD's limitations compared to LP, and can't wait for super CD. This attitude is negative and pointless. CD has already greatly improved, with better players and superior mastering processes like SBM.

My prediction is that DCC has failed, Minidisc has shown only moderate success in countries like

Letter of

LACK OF CHOICE

I find there is an abysmal lack of choice in appearance of audio products. Audio equipment is bulky and makes a considerable impact in the appearance of your living space and I find the endless rows of black boxes dull and uninspiring. Of course many U.K. and U.S. manufacturers provide an alternative, but at a price which many of us cannot afford. This is where the provision of home built products can allow us the choice of finish in order to fit within the home environment. I am still the proud owner of a Michell Hydraulic Reference turntable which is now almost 20 years old - where is the imagination in design shown by products such as this in today's product, other than at Michell?

Please, you manufacturers out there, give us some choice but please not at the expense of usability - it is possible to manufacture simple, attractive, ergonomic
Japan and CD-R is too limited in applications. In my view, the future music medium will be solid-state with data reduction. As for CD, I don’t know. Solid state technology lacks the consumer appeal of CD, and it would be nice to think that record companies would be interested in sound quality, but they’re working within the limitations imposed by a mass market. Without the demand for super CD, record companies aren’t in the position to launch it, even if they want to. They can’t force consumers to buy new CDs, especially when consumer penetration has reached a certain level.

I enjoy reading about new technology like super CD, but I think you’re on a hiding to nothing in trying to promote it.

Julian Osborn, Bristol.

Commercial products don’t just diffuse into the market - they are aimed to fulfil the perceived need you talk about. So CD did have a raison d’être, that of bringing superior sound together with convenience and durability. Large Consumer Electronics Companies are very directed in their strategies, even if they are defeated by the exigencies of the marketplace.

Is writing about what CD is capable of in a different guise really “negative and pointless”? As we revealed in last month’s issue, the ARA - a group comprising some of the world’s leading audio academics and industrialists - also believe there’s much scope for improving on today’s geriatric seventies digital audio specification.

This is the crux of the problem. Some have read World’s criticism of CD as a dislike of the medium itself. This is missing the point - we’ve nothing against CD as a storage medium, it’s the current 16bit digital audio specification that we find deficient. This is most definitely not “here to stay” - changes are afoot and it’s no longer a question of if but when.

You suggest that we’re nostalgic for vinyl, wheeling out notion of “progress” as justification for CD, but progress or not, it doesn’t stop a fifties analogue music carrier sounding better than a seventies digital one.

I think World readers would agree that campaigning for something that’s real progress - 24bit digital audio with 96kHz oversampling on a 5 inch silver disc, bringing analogue-like sound with digital convenience - has to be the right thing to do, for vinyl lovers and CD buffs alike.

[Continued on page 46...]

The writer of the most interesting or funniest letter will receive a choice of either: a free set of Hi-fi World’s silver plated copper interconnect cables, worth £69.95, or a Francinstien CD convertor enhancer worth £150.

WIN HI-FI WORLD INTERCONNECT CABLES
OR PERFECT PITCH’S FRANCINSTIEN CD ENHANCER

The writer of the most interesting or funniest letter will receive a choice of either: a free set of Hi-Fi World’s silver plated copper interconnect cables, worth £69.95, or a Francinstien CD convertor enhancer worth £150.
...continued from page 45

comprehensively, which is difficult, demanding use of a sophisticated spectrum analyser, and well know that CD is not a convincing improvement technically, once psycho-acoustic effects are taken into account. So I don’t swallow the argument that CD is objectively better either.

Finally, continued complaints about CD sound quality did, in the end, strike home, I can assure you. Philips engineers and executives are a little rueful about the whole thing in private. So the great buying public - especially our ever vociferous readers - really have had an influence. If you shout long and hard enough, you get heard, it seems. Improved CD is now firmly on the agenda, but LP has been the quality yardstick that has helped it along. NK

FOR THE RECORD

Whilst I believe LP sounds better than CD, there has been precious little mention about the sound quality of current LP releases, which sound digital simply because most are new recordings. In fact a high quality turntable playing digitally mastered records sounds similar to CD. Just as many in the eighties noticed the degradation in sound quality the analogue to digital transfer made. We’re now seeing the reverse, and I must confess I actually prefer some CDs to LPs. But ultimately the main determination of sound quality depends on the recording.

Dr M.C. Tan, Leicester.

We’re certainly had a lot of talk about the relative merits of the two formats, without touching on recording quality. In this respect it’s difficult to generalise. I don’t think digital recording is necessarily bad, but different. But you rightly identify those god-awful digital remasters of the eighties. I’ve yet to hear any remaster that approaches the sound quality of the analogue master, or even a decent digital master. Why record companies boast about it is beyond me - it’s tantamount to saying “the sound quality of this classic analogue recording has been obliterated”.

I think D/A and A/D convertors are pretty bad news for music, so engineers should keep things in the analogue or digital domain, but not change between them needlessly often. Interestingly this practice has recently started catching on, especially in the jazz field where Blue Note have digitally remastered (and Super Bit Mapped) only for the CD versions, leaving vinyl versions with the original analogue masters. This company, for one, knows on which side its bread is buttered. DP

IT’S FAB - ‘TIL NEXT MONTH!

It’s good to find a hi-fi magazine which is not anti-Quad. Other mags advise Quad owners to ditch them, and buy the latest Japanese wonder kit. I’m very pleased that you don’t fall into the game category. You’ve probably guessed I’m a Quad owner! I have had a 34/306/FM4 system for about 6 months. The 34 and FM4 were bought second-hand, both absolute bargains at less than half new price. The 306 was bought new only because a second-hand 405 was too loud for our small living room.

I have a great deal of respect for Quad and other companies like them, who pride themselves on looking after the customer. I have always had excellent service and advice from Steve Halliwell and others at their factory. It is a great pity that other manufacturers couldn’t take a leaf from their book.

My reason for writing is the interesting letter Julian Osborn wrote back in February. Like many others, I have bought a Marantz CD63 due to magazines raving about it. It is sad that so many of us get taken in with these reviews. When it first came out, it was hailed as the best sub £500 CD player money could buy. Within two months, the new Pioneer was better, then the Sony. Next, out comes the CD63SE. Another gift from the Gods by Marantz. Where does it stop? When will we learn?

Mike Newell.

Keniworth, Warwickshire.

I’ve also respect companies like Quad who greatly when they see it in other countries’ products.

It’s a shame that magazines trumpet new products with such voracity, only to suggest that next month’s new product is even better - it’s unhelpful, and promotes the built-in obsolescence ethos that companies like Quad are so against.

When reviewing good new designs it’s easy to make dramatic pronouncements, but you often find in the cold light of day, things weren’t as they first appeared. That’s why we’re so careful and sometimes over-equivocal, such as our controversial three-way DPA.

The classic Quad line up of 34 preamplifier, FM4 tuner and 306 power amplifier. Good reliable engineering and a smooth sound to match.
Anyway, it seems that Julian has put pen to Renaissance review! And high density formats, I thought I would add some views of my own.

The computer industry is now taking a firm lead in promoting the home entertainment system of the future, namely the computer. They have successfully demonstrated that not only can you word process and do the accounts, but you can watch TV, listen to music and communicate with the outside world. Yet it's ironic that to achieve some of the above, you have to use severe data reduction - even though we are told we're in the 'information age'. While the film industry has actively promoted multimedia discs, it will be the computer industry that has the major influence on the final format design, relegating film and music to add-on extras to attract consumers into purchasing a particular computer brand.

So where does this leave specialised hi-fi? Somewhat isolated! In some ways, yes. While Philips and Toshiba have said their respective systems could offer 24-bit, plus higher sampling frequencies, it would mean record companies having to produce both high density and normal CDs. I doubt if there is a large enough market to support this, and with their bad experiences with other formats, the music industry might lose interest very quickly.

Nevertheless, I still don't believe the future is all doom and gloom. With new multimedia CD formats, hi-fi companies that have gained experience with designing CD players could easily create equivalent high grade multimedia equipment, and in doing so the tables could be turned. Instead of the computer taking centre stage, the hi-fi system becomes the main element in a home entertainment system.

After all, only hi-fi manufacturers can produce good sounding speakers, amplifiers, DACs and transports. With some extra circuitry, video cards could be installed in players or stand alone units providing video playback and connection to a computer while the audio side remains unaffected. Now the computer has become the peripheral item. There are certainly a number of British hi-fi specialists quite capable of producing such equipment and even moving into actual computer system manufacture.

I would like to see hi-fi companies cheekily attending computer exhibitions promoting these ideas. And who knows, when the visitors are growing weary of the latest spreadsheet upgrade, one could introduce them to that universal data storage format, the vinyl disc! Who knows, you could end up with a system incorporating a Pentium processor and a 211 valve. There's a thought.

Robert Fraser
London.

I'd like to see the 7" single return to the High Street. As kids have decided it's not for them anymore, let's use it as a computer data storage medium. After all, any multi-media computer sound files are bound to sound better on vinyl aren't they! No - just kidding. That said, last week Andy Grove confessed that he wanted to build a valve computer, and the frightening thing is I really believe he was serious! DP

In all this excited babble about our multimedia future, where we whizz around the Internet and exist in cyberspace, we've all forgotten that half the population (more?) still has a problem changing the mains plug. In 20 years time I believe techno fear or loathing will have driven those not ecstatic about silicon (not implants, you fool) into gibbering techno-phobes who'll deeply love and empathise with homely, glowing 211s and pieces of black vinyl with a wiggly groove. NK

AN IMPOVERISHED SPOTTER'S GUIDE... I often recommend systems to my friends, many of whom are students or on low incomes, so money is very tight. Unlike most hi-fi magazines you don't subscribe to the "newest is best" approach so I thought I could pass on my experiences as they might be useful for those without too much dosh!

Goldring Lenco GL75
This is my favourite cheap deck, which can usually be bought for between £5 and £25. They often need new arm pivot bearings (indicated by the arm's inability to lower properly) readily available from Technical and General for about £8. The cartridge is best replaced by Ortofon's VMS-2E, an absolute bargain at £12. It's best to clean the platter's groove. NK

Leak Delta FM
This tuner is good and cheap, approximately £10 to £20, and it sounds better than more modern designs.

Sugden A48, A21
These are excellent amplifiers but a lot more costly at £60-£120.

Celestion 3, Wharfedale Diamond IV, Mission 761
Good budget speakers are more difficult as a lot of older designs now sound somewhat woolly, but it's possible to buy the above models cheaply for between £25-£50.

Trio KA2000a, 2002, 4002
These classic early seventies models are also good to use and can be picked up for approximately £10-£30.

CD Players
Sorry I've no comment to make on CD players as none of my friends feel they are worth the expense.

Davies McGuire, Leicester.

While we're in train spotting mode, here's some more silvery seventies super-budget separates: Turntables: Micro Seiki MB10, Trio KD1033, Amps: Trio KA3700, JVC JAS11G. Receivers: NAD 7020. Tape decks: Pioneer CTF-500, TEAC A103. CD players: Sony CDP-101...and there goes the Great Western Railwa...oops, sorry. I could continue, but I'm sure someone somewhere can do it better... DP

I've found these amps to be good and reliable, with prices ranging from £10 to £40, while a friend recently picked up a mint Stereo 70 for a couple of pints of beer. The 30s give 15watts per channel and the 70s a more modern 35watts per channel. Some of the inputs have high/low gain switches which help if using a CD. Five of my friends use these and are happy with them.

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Davies McGuire, Leicester.

While we're in train spotting mode, here's some more silvery seventies super-budget separates: Turntables: Micro Seiki MB10, Trio KD1033. Amps: Trio KA3700. Receivers: NAD 7020. Tape decks: Pioneer CTF-500, TEAC A103. CD players: Sony CDP-101...and there goes the Great Western Railwa...oops, sorry. I could continue, but I'm sure someone somewhere can do it better... DP
The Exposure Super XV integrated gave me an eerie sense of deja vu as I prised it from its box - the feeling of coming across something once familiar, but long since forgotten. For a short while at the end of the eighties I used Exposure's smaller X, and enjoyed it a lot. Back in the days of Moonlighting and Maggie, competition between high-end integrateds wasn't so fierce. Although the X's aesthetics and build were 'basic' (to put it kindly), it was no different in this respect to its home-grown competition, while foreign amplifiers were regarded with such disdain that the high quality of their finishes wasn't enough to redeem them.

Nowadays, things have changed. For the £800 that a Super XV will set you back, most buyers expect a smooth operating, svelte looking product. But despite italicising the silk-screened logos on the front panel, Exposure haven't really progressed much in the style and finish stakes. Were I a hi-fi newcomer who saw the Exposure XV sitting next to a Meridian 551 or Quad 77, it pains me to say that the high quality of their finishes wasn't enough to redeem them.

World Verdict

A strong sounding transistor amp for rock. Build and finish could be better and price lower.
Harman's new HK620 integrated amplifier doesn't look set to steal the limelight, says Dominic Todd.

For as long as I can remember, Harman Kardon have had a fine reputation for their budget amplifiers. Here we take a look at the remote-controlled £280 HK620, which continues in this tradition. The only disappointments on the feature side are the lack of a tone bypass switch and the fact that a Phono stage will set you back another £30.

This new amplifier continues to use discrete components, but with measures taken to simplify the design. The Zobel network coil on the speaker terminals has been removed (as with Naim amps), output transistors have been up-rated, signal and current paths are minimised and star-earthing is now used. During the test, I ran the Harman using my usual sources and a pair of Celestion 5 speakers. Yet despite a modest output of 40 watts, a (claimed) hefty current swing of +/-40amps should ensure all but the most difficult of speaker loads can be driven.

The instant impression, gained with Rory Melody's 'Huge Sky', was one of a gutsy, powerful sound. Bass was firm and deep, but could occasionally conspire to over-ripen the mix. Vocals were smooth and, in contrast to older Harman amplifiers, refined too. Yet it could sound slightly veiled - in comparison with a Pioneer A-400 it lacked transparency. Having said that, this wasn't to the detriment of detail. Although not brimming with every subtle nuance, background detail could still be heard, if not quite as finely etched as some.

Simpler ballads from June Tabor and Tom Waits showed the HK620 in its best light. Vocals weren't projected quite as freely as they might have been, but remained smooth, articulate and lacking sibilance. Just the tonic, in fact, for an over-exuberant CD player. The deep, rich low frequency presentation suited the double bass playing on the Tabor tracks, although it lacked some texture.

With the live sections of Pink Floyd's 'Pulse', the Harman sounded a touch mechanical and lacking in atmosphere, sometimes becoming confused on more complex tracks, with vocals not given sufficient differentiation from the rest of the performance. It occasionally lacked excitement, with some softening of dynamic contrasts, but its freedom from compression smear, and sturdy, well integrated bass saved the performance from anonymity. Whilst nothing particularly special, the spatial width of the sound stage was good enough to create a credible performance.

Despite its best efforts, the Harman Kardon HK620 can't really cut it as a top audiophile amplifier. Were it £100 cheaper like its non-remote sister it would be a different story. But in this highly competitive class, sound quality is simply unexceptional, and not quite as transparent or informative as the best at the price. Don't write it off altogether though, as it will suit systems that need taming or drive relatively difficult 'speakers. It's also an extremely appealing package in terms of features, style and build quality. So although probably not one for the dedicated audiophile, the HK620 should find its niche.

Harman Kardon HK620 £280
Harman Audio UK Ltd.,
Unit 2,
Borehamwood Ind. Park,
Borehamwood,
Herts. WD6 5PZ
0181 207 5050

WORLD VERDICT

Not quite a giant killer, the Harman is nevertheless a good solid budget buy.

Measured Performance see p113-121
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Ken Kessler - Hi-Fi News & Record Review August '94

Michell Engineering, 2 Theobold Street, Borehamwood, Herts WD6 4SE
Tel:- 081 953 0771
This binaural showdown involves the brand new Sennheiser HD 455, part of the new ‘expression line’ and the Vivanco SR 850. In terms of specification and design, the two models are quite different. The HD 455 is a lightweight, open ‘phone intended for multipurpose use, including the much neglected personal stereo department (in terms of decent quality headphones). The SR 850 is a half open design, combining the transparency of an open ‘phone with the efficiency and bass control of the studio preference, a closed, ear enveloping cup. The only similarity between the two models really, is the price-tag; around £50 each.

SENNHEISER HD 455

The Sennheisers are commendably lightweight and comfortable to wear. An added bonus is that all the leads and pads are replaceable, which is great value long term if you intend to clock up musical mileage.

Midrange had a clear presence and real attack, particularly on the snare drum in Dave Weckl’s ‘Heads up’ and the bass was tight, fast and clean. Female vocals, courtesy of Rickie Lee Jones, sounded refined and distinctive. The HD 455s were easy to listen to, if somewhat restrained, or should I say ‘polite’.

On Jean-Michel Jarre’s ‘Magnetic Fields’ synthesisers were well balanced and dynamic. The 455s were capable of delivering distortion free music at more than reasonable levels, without disturbing fellow commuters. The external padding does well to absorb most of the potentially offensive high frequencies, like those annoying hi-hat cymbal repetitions - a not uncommon experience on the underground among youngsters brandishing ‘jungle’. Classically speaking, the 455s really shone when exposed to serious orchestral music. Rimsky-Korsakov’s ‘Scheherazade’ was inviting, and sounded mature - the new Sennheiser drive coils handle the dynamics with such conviction and control in much the same way that their far more expensive designs do. Impressive. Excellent ambience and the real feel of a concert made the 455s a pleasure to listen to. The woodwind and strings were soothingly smooth, and the lows of the cellos bowed through with warmth and elegance.

VIVANCO SR 850

The Vivanco SR 850s in contrast were equally plausible, but in a more robust, alive and kicking sort of way. The immediate sensation, other than the difference in weight, was that the Vivancos gave an extremely wide perception of dynamic range.

There was a hint of colouration in the sound (lift at frequency extremes), as I discovered when listening to the Stones’ ‘Under Cover’. But this does not detract from the pleasure of listening to music. In fact the SR 850s were particularly good at delivering live recordings with the impact you’d expect from a throbbing PA system. Even Rickie Lee’s vocal and jazz band sounded unusually ‘live’ and involving. Consonants were clear and crisp, allowing the Vivanco’s to translate the emotion behind the lyrics really well.

Despite transparency and near electrostatic quality of the treble, the SR 850s tended to sound slightly sibilant on occasions. J-M. Jarre’s synthetic pop sounded really superb on the Vivancos, taking me back to Docklands, with the lights and the megasound system filling the atmosphere with music.

CONCLUSION

Headphones as exiting as the Vivanco SR 850s are rare. But while they are capable of reproducing single instruments well, their ability to handle a full orchestra is not as good as the similarly priced Sennheiser HD 455. But, who’s complaining? For the price of a pair of really good show tickets, you can bring the excitement and real feel of live music to all your favourite bands. For those with a more conservative musical taste, the Sennheisers offer a civilised and refined performance. At the end of the day though, both are easy on the head, the ears and for the price, the pocket.

Sennheiser HD 455 £49.95
Vivanco SR 850 £49.99

Douglas Floyd-Douglass gets heavily into new headphones from Sennheiser and Vivanco.
My system comprises a NAD 5425, Quantum I02/207DA pre/power amp and Rega Kyte speakers. The amp has DIN inputs, but because the volume control is of such poor quality to be useless at very low levels, the interconnects have had to be mildly attenuated.

Attenuated DIN-to-two (or four) phono cables aren’t widely available at a reasonable price, so mine are cheapos, as are the ‘speaker cables.

I think my system sounds wonderful - anything substantially better would be very expensive. It would have to be British made, and I cannot imagine spending more than £500 on any one item.

I listen almost exclusively to classical music. Although solo piano and chamber music sound great, I’m concerned that:

1] sopranos singing high and loud tend to break up, as if they were peaking.

2] big vocal and orchestral climaxes (even in excellent modern recording such as Handel: Israel in Egypt, Parrott, EMI) seem congested.

I feel the only answer is for someone to bring round a selection of possible upgrades to my house and to try them out in situ. Do you have any suggestions?

Keith McCullock
Malvern, Worcestershire.

It sounds like your Quantum pre-power is past its prime, and your attenuated DIN interconnects don’t seem to be helping matters either, and are probably responsible for much of the harshness.

As the NAD is a pretty smooth player anyway, consider changing the amplifiers for Sugden’s beautifully sweet A21a. When funds permit, buy some Chord Flatline ‘speaker cables and some decent CD-amp interconnect such as Chord Cobra. If the problem persists, a change of speaker to the smoother, more civilised Mission 752 might be just the job. DP

I’d suggest you also consider the super-smooth Aura AU-80 amplifier, which is great for classical music. It is warmer sounding than the Sugden, if not as crystal clear and rock solid. High level breakup is, I suspect, attributable to your loudspeakers. As David suggests, check out Missions. NK

WHICH WAY NOW?

I have a Linn Axis/K9, Pioneer A-400X, Creek CD 60 (excellent despite the odd poor review) and Linn Index speakers (vintage 1987), plus Rotel RT830 tuner and Technics tape deck.

I’ve abandoned the idea of upgrading to an LP12, and have had the amp 12 months and consider it superb for the money. I feel I would get more out of the system with new speakers, although I’ve been very happy with the Linn’s over the years. With a budget of around £500, which direction should I go in?

G.W. Knowles
Bromley Cross,

Bolton.

Without saying anything about your tastes and room, you make it difficult for us to point you in the right direction. I’d guess, however, that you listen to rock music (Linn) in a medium sized room (Index ’speakers). Try auditioning Mission 733 floorstanding loudspeakers or TDL RTL2s or the bigger 3s, both of which have real bass slam. All these ’speakers are basically well engineered, pretty truthful as a result, but punchy and fast. I’d also suggest you trade in that K9 for something a bit more proficient, like a Goldring 1022GX for example. NK

ON THE RECORD

Whatever happened to record cleaners? Back in the eighties when I started hi-fi and bought a lot of records there were many record cleaning products about - but where have they all gone?

I was particularly pleased with a spray called Permostat, which seemed to remove dirt and reduce static. There was also the Pixall roller and Zerostat gun. I prefer to buy new vinyl but because am now reluctantly having to buy...
second-hand records, thus the greater need for record cleaners.

I am also looking for an upgrade of amp. I'm currently using a humble NAD 3220 with Audiovector Trapez X speakers. I use two turntables, a Rega 3/VMS2E and a Pioneer PL51/AT110. I am looking at the Audiolab 8000A or Sugden A21 a. I intend to upgrade both cartridges to something like the Ortofon MC15 Super II. I also need to purchase an extra phono preamp to allow both turntables to be permanently connected. Can you help me out?

Morten Svendsen
Chesterfield.

In my experience, the likes of Permostat and the Pixall roller were somewhat flawed. I too buy second-hand vinyl, and attack the problem of dirt in two ways. If the disc is dusty, static laden and full of fluff, use a carbon-fibre cleaning brush such as a Goldring Exstatic. This type of cleaner is still commonly available at dealers, and does the job superbly. If the disc is covered in fingerprints and ingrained dirt, then a spin on a Keith Monks cleaning machine works wonders, and is far superior to Permostat. Many hi-fi dealers can clean a disc for you for around £1 a go, and you'd be surprised how it can revitalise even the dirtiest of discs. Alternatively, Lorcraft Audio offer a postal record cleaning service using a similar machine - contact Terry on 01488 72267. Also, Techical and General on 01892 654534 can advise you on spares for record cleaners.

As for your phono stage, I've got a money saving suggestion for you. The Audiolab 8000A effectively has two phono inputs, one for MM and the other for MC, switchable by a fairly accessible switch at the back. Why not kill several birds with one stone and buy an 8000A, an MC15 for the Rega and a Goldring 1042 for the Pioneer, and switch between your two turntables from the rear of the Audiolab? The phono stage(s) sounds excellent, by the way, sweeter sounding than the Rotel, albeit a touch less detailed. DP

HARSH WORDS
My system consists of a Quad 67 CD player, Naim 32.5, Hi-Cap, Nap 250 amp and Epos ES11 loudspeakers. Interconnects are

Continued on page 55...

The writer of the most interesting system query will receive a free set of super Connections Jade interconnects.
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*[See 'Switched On' at G-Mex]*

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Audioquest: Quartz and Naim 'speaker cable. It doesn't have so much a weakness as an over-emphasis on an aspect of the performance that makes prolonged listening tiring. I enjoy the drive and punch of my system, but am finding the reproduction of vocals rather harsh.

I have been given some suggestions that I would value your opinions on. One dealer suggested upgrading to a Meridian 508 CD player, which did not bring the hoped for improvement. The salesman told me it was more detailed with improved focus and soundstage. To be honest I rarely listen with my system, but am finding the system, for all its speed and slam (it's a Rockers system) is just not to your taste in this respect. Alternatively, you could just be suffering a fault, or perhaps just pushing the 'speakers too hard with your NAP250. Then, harshness would arise from cone breakup.

Firstly, you should audition an easier, sweeter amplifier. You would suffer least culture shock (a Naim is difficult to follow) with a DPA200S Pre/power. DPAs are fast and tight too, but sweet and somewhat less "in-your-face". The only other amp that may appeal is a Sageden, either the A21a, which has limited power, or a Stemfoort.

Then you have to consider the Epos ES11 loudspeakers. These are generally accepted as an easy listen, but perhaps they are being pushed too hard. The NAP250 will drive Harbeth HL-P3s, or perhaps Mission 752s would suit. You will have to listen to decide. NK

SPEAKER DESIGNS (SLIGHT RETURN)

I am a student in my final year at London Guildhall University studying Music Technology (BSc). I am currently writing a dissertation on the design of loudspeaker enclosures. As the reasons for employing the different types of enclosure design are so subjective, I am trying to obtain an expert opinion on the advantages/disadvantages of various enclosure types.

There are a number of text books that explain the principles involved, but do not cover the audible effects or drawbacks that the listener will experience from different types of enclosure. It would be helpful if you could supply any information you consider helpful on the subjective comparisons between the various types of enclosure: sealed, bass reflex or horn loaded, etc.

I would also like your views on which system is generally the most popular and which produces the most pleasing results irrespective of cost, plus any information on the latest developments in designs or trends.

John Bidder. Bristol.

Here's a brief outline of the most common enclosure types. The majority of loudspeakers use either a sealed or ported cabinet, for practical reasons; they are small and easy to manufacture. Generally it is easier to get a tight, tuneful bass from a sealed cabinet. Reflex types, although more efficient, take a lot more tuning to get right, and even then they sound very different from room to room. I personally prefer reflex loaded bass, but only when it is properly tuned in the room that the system is going to be used in. It tends to give a cleaner more dynamic bass with less compression of transients.

Horn loudspeakers are an acoustic transformer, coupling the drive unit to the room which gives them terrific drive and power. The scale of sound you get is in a different league to sealed or reflex designs, but horn loudspeakers have to be large to produce low bass (the mouth area would have to be 5.9m2 for 40Hz), and are difficult to make because of the flare of the horn. They are clear and open through the midrange, but I find the bass quality dry and a little hollow, lacking the richness and fullness of reflex or sealed designs.

Transmission line speakers are completely the opposite. They have very strong bass, which is full and rounded. Bass tends to be a little sluggish though, in comparison to a good horn which has lightning dynamics and attack. TLs tend to have very deep bass for their size.

Of course there is also the open baffle, where there is no cabinet at all. There are very few of these around, the only recent commercial design I can think of is Celestion's SL6000 sub bass system, which isn't available any more. Open baffle 'speakers are my current favourite. By eliminating the cabinet you get rid of a lot of the problems of box colourations, and are listening to the character of the driver alone. With a good drive unit this gives a super clean sound, but there are numerous design difficulties.

There are also a number of variant designs around, truncated transmission lines (TDL RTL series), resistively loaded horns (Castle Howards), passive bass radiators (KEF Q90s) etc. There isn't room to go into these here, I can only suggest you try and track them down in a hi-fi dealer and audition them personally.

On top of all of this, the actual size and shape of the cabinet affects the sound. Small, narrow cabinets tend to image better than large wide ones. Offsetting the drivers to the inside of the baffle tends to give better imaging due to less reflection off the front surface. I could go on and on!

As you can see from the Continued on page 61...
13 weston road
guildford
gu2 6au
tel: 01483 454 993
fax: 01483 454992
First of all, the bad news. This review of Kenwood’s KT-5050 mentions opera. Rock fans will just have to wait in patience. The reason is the good news: at £300, this is an extremely good tuner. Years ago, tuners were always marked down as a second-rate source, but that frankly was a whole load of the substance that scatters the streets of Pamplona.

Tuners like this have you sitting in your seat wondering at the sheer wealth of music out there, pulling you deeper into music you thought you didn’t like. I even found myself listening to Keith Jarrett’s Cologne 75 concert with rapt attention. I normally find him a bore, but there was the full, gorgeous ECM sound. On Jazz FM were Miles Davis and Herbie Hancock, with an unmistakable electric piano. The former

was as ear-opening as ever you’d hear it off CD, the latter coming over with the phraseness that bent some of the notes around the speakers, which you would also hear off CD, but would not expect off any tuner but one with serious pretensions.

Classical piano was almost beyond approach. Chopin’s Fantasy in D minor was absolutely real, with a solid image and a completely integrated sound. Catching a bit of Berlioz’ Les Francs-juges on R3 tempted me to listen later, and longer, to an unfamiliar opera, Verdi’s Aroldo. The reason was that the range of orchestral colours in the Berlioz was startling. Sweet strings, clarity and near-perfection in woodwind tone, and above all a rich, warm sound that differentiated trumpets, horns and even a bass trombone from a tuba. It even produced a thoroughly credible sound stage with depth as well as the kind of breadth that does not appear to stop short at the edges of the speakers. The opera was, as anticipated, splendid. The same good stage perspective and range of tonal colour and art from a touch of lateness on high notes to the harmonics, absolutely no complaints.

despite Virgin’s compression. Even then, Bob Marley’s ‘One Love’ was strong enough in this department for all but Carnes-Vega fans - very, very tuneful and as clear and detailed as the CD.

On the facilities side, while the tuner display is full of gizmos (IF selection, three-bar tuning indicator, a choice of aerial attenuation and all the usual memory and programming aids), Kenwood has missed a trick by having RDS but not Radio Text. Tut, tut, especially as Denon put it in their £150 tuner. With other Kenwood products in line it is remote-controllable. AM? A little richer and warmer and more listenable than some, but as usual competent rather than special.

Now, if you’ll excuse me, I have a list of recordings I’ve heard on the wireless, I’ve passed them by in the record shops before, but the Kenwood KT-6050 has told me I must have them. Try the experience.

Kenwood KT-6050
£399.95
Kenwood House,  
Dwight Road,  
Watford.  
Herts. WD1 8EB  
Tel: 01923 816444

WORLD VERDICT
A good value, excellent sounding RDS tuner, but lacks full EON facilities.

Measured Performance see p113-121

Heavenly
Eric Braithwaite enjoys scanning the ether with Kenwood’s impressive KT-6050 tuner.
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Thanks to its accessory bag, Ortofon's beautiful MC7500 arrives in a fairly sizeable box, considering how small a cartridge is. But a pair of boxes labelled 'Ortofon' each a metre long? What sort of cartridge is this? It's a pair of loudspeakers, that's what. A pair of three-way ported floorstanding loudspeakers, even, the top model of a range of three.

Diversification is the name of the game these days, especially among companies that have been associated with vinyl records all their life. Vinyl revival there may be, but in all honesty compared to CD it is such a wispy shadow of its former self it would slip through the eye of a needle and vanish in the flutter of a camel's eyelid.

Hence Ortofon's liaison with Kinshaw, for electronics, and its venture into loudspeakers. However wise from a trading point of view, the Danish company is going to be up against it though. What with the number of speaker manufacturers in the UK, Ortofon has entered an already overcrowded soukh.

Be that as it may, a three-way floorstanding speaker for £329, which is what the Concorde 6 costs, is a bargain in any bazaar, especially considering the stickers say 'Made in Denmark'. Mind you, they've joined the EU and the Single Market, come to think of it, so this is perhaps one of the Euro-challenges the Brits are so good at ignoring until it's too late.

The bass issuing out of these relatively slim boxes, given the right propulsion, is very effective. If you want good thumping bass (even thumping good bass), there is an engine inside the Concorde 6 not far removed from the Olympus engines of Concorde. Evidence of clean and relatively deep lower frequencies was provided by a satisfying twang and burr from the bass guitar notes that begin Morrissey's 'Spring Heeled Jim'. Timpani thwacks from the last movement of Shostakovich's Fifth were not earth-shattering in real dynamics the way big horn loudspeakers do it, but were very plausible and clean.

All in all, the Concorde 6s flow freely. Blur sounded good. Heavy metal sometimes caught the bass driver out, where it kicked in and out a fraction late, not quite keeping up with the axework.

Watch it, though, because trying the Concorde 6s with a few different amplifiers, I found that they do sound more smoothly integrated, if then rather laid-back, with those that deliver well into 4ohms and have a neutral balance. Any with a bit of a tilt into the treble or a warmed-up lower midrange give the three drivers a bit of an identity problem. Imagery was competent, reasonably focused, but depth could vary, according to the behaviour of the amplifier.

If you don't want the extra expense of stands buying an equivalent bookshelf speaker involves, the Concorde 6 represents very good value without adding to the negative equity burden too much. But they aren't the final answer.

Ortofon 6
Ortofon UK Ltd., Chiltern Hill, Chalfont St. Peter, Bucks. SL9 9UG
Tel 01753 889949

WORLD VERDICT
Good value floorstanders with clean enjoyable sound - not quite supersonic, though.

There was zip enough to deliver a good leading edge to rhythm guitars too. Trouble is, though, that the upper midrange sounded rather recessed, so the electric guitarists tended to stand back.

Where the Concorde is at its best, ironically, is where many stand-mount speakers in the price bracket below are good. With small acoustic groups, when a real guitar or double bass allows the cones to move unstressed, the 6s flow freely. Blur sounded good. Heavy metal sometimes caught the bass driver out, where it kicked in and out a fraction late, not quite keeping up with the axework.

Watch it, though, because trying the Concorde 6s with a few different amplifiers, I found that they do sound more smoothly integrated, if then rather laid-back, with those that deliver well into 4ohms and have a neutral balance. Any with a bit of a tilt into the treble or a warmed-up lower midrange give the three drivers a bit of an identity problem. Imagery was competent, reasonably focused, but depth could vary, according to the behaviour of the amplifier.

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Measured Performance
see p113-121
IN THE NOVEMBER ISSUE

Want to know what's new in hi-fi? Are you looking to upgrade? Do you need some advice and helpful hints on how to get the best from your system? Hi-Fi World carries in-depth reviews on all the latest equipment and has a team of experts dedicated to audio. For news, reviews, features, music reviews, a fabulous competition, six pages of bargain used hi-fi, a free DIY hi-fi Supplement and more, don't miss the November issue of Hi-Fi World. Here's just some of what we hope to bring you next month:

**VIRTUAL REALITY TURNTABLE**
(Systemdek/RB300/1042GX)
Working with Systemdek, Rega and Goldring, Virtual Reality have come up with this highly tuned turntable system. Just some of the tune-ups include a precision Swiss motor for the Systemdek, new wiring for the Rega, and a carefully selected Goldring 1042GX. We take a close listen to this high performance LP system.

**LInN TUKAN LOUDSPEAKERS**
The long awaited replacement for the Kans is finally available. The Tukans are a miniature loudspeaker designed for a fast and clearly projected sound. David Price, a long term user of the original Kans, weighs up the new design.

**WHARFEDALE VALDUS’ REPLACEMENT**
In the November issue of Hi-Fi World, there's a chance to win one of 15 pairs of Wharfedale Valdus loudspeakers worth £2039.25 in total. With so many prizes on offer, make sure you don't miss out!

Hi-Fi World is still only £2, but with more editorial than most rivals. With the most enthusiastic and expert editorial team in hi-fi journalism, can you afford to miss it? Make sure you don't by filling in this order form and handing it to your newsagent.

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MAGAZINE MARKETING
above, all are compromises, each with their own set of strengths and weaknesses. It’s also all subjective as you yourself recognise, and depends greatly on what loudspeakers you’ve heard, and whether they were well engineered or not. Sadly, as you’ve noticed, none of the books available on loudspeakers discuss the subjective qualities of different arrangements, at least not in any I’ve come across. It may be worthwhile contacting either KEF, Tannoy or Celestion, all of whom have a great deal of experience in loudspeaker design, and may be able to point you towards a source for your dissertation. DB

HI HO (QUICK) SILVER

I am writing to you with a cry for help. Noting that Hi-Fi World fully appreciates the superior sound quality offered from valves, you are probably the only source of help I can find to save my bacon.

Some years ago I purchased a second-hand pair of Quicksilver mono block power amps. They were in a sorry state at the time. A friend who is an engineer repaired them, doing a few mods including putting an earth on. (They probably the only source of bacon.) I believe they are American design. I used an old pair of Magnaplanar MG IIs with them and was gobsmacked - they sound very much like Audio Research Classic 60s which must cost a few thousand more.

Now to my problem. The Quicksilvers use a valve (output) of type 8417 which I cannot get hold of from any source I can find advertising valves. There is no information available on the 8417 to find an alternative valve or maybe a way to modify the amps to take another valve. It will be a sad day if they are destined to become bookends.

Andrew Footman
Wolverhampton.

The 8417 is a beam tetrode, and very rare. It is strange that Quicksilver chose to use this valve, especially as it has no modern equivalent. Billington Export had three left listed in their catalogue last year, but they have since been sold. The only place I could find an 8417 in the UK was Colomor Electronics (Tel: 0181 743 0899). They had one left, and didn’t think they’d be able to get another one, ever! Considering how rare the 8417 is, it is surprisingly cheap too, at £18 + £3.35p&p. DB

BURN MONEY, WHY DON’T YOU?

I wanted to upgrade my Denon PMA797 amp, DCD1520 CD, DRM44 cassette deck, ADC graphic equaliser and JBL TLDC9s. I sold the lot and now I think I have gone the wrong way. I have two kids that were playing with them all the time, so thinking I needed more space I bought an Onkyo L909 mini system with 3 head cassette deck and processor for £1700, plus a pair of Aura SP50s and stands.

A couple of weeks later I listened to a friend’s system comprising a Roksan/ART1, Bryston pre/power with AE speakers, and he said I’d made a big mistake. Trying to put it right, I brought a Linn LP12 Valhalla/Akito/K9 with Majik-1, but after reading the report on the Audiolab 8000A and Naim Nait 3, I think I have made another mess, and run out of money.

Can you help me? How can I rectify my problem? I listen to jazz, soul, classical and pop. I see Hi-Fi World has second-hand ads, but I’m a bit frightened to buy this way. Is it a wise idea to leave them alone and buy new?

G. Scot
Oxtrey.

With your track record for impulse buying, I’d tear out the Classified section from the back of the mag and burn it, if I were you! Step one is to slow down, and step two is to find a good dealer. Why do you think you’ve made another mess? Is it the amplifier you’re unhappy with? You’ve certainly got a good front end, so that’s a start. If funds are limited, I’d look to replacing the ‘speakers with Mission’s excellent 752s, and also get rid of the K9 which isn’t quite up to the likes of Goldring’s 1042. If you’re still unhappy, look around for a second-hand Naim Nait 3 which will bring more punch and detail, or Sudgen’s A21a which will give a bigger, richer and smoother sound. DP

SOFT ROCK

I have put together a basic CD system comprising an old Philips CD104, Quad 77 integrated and Meridian A500 speakers. The sound is OK but I’m looking at the possibility of a Meridian 508 or a new Quad 67 CD player. The present system has a poor soundstage, not very deep front to back. Also, treble doesn’t seem very bright. Is this my ears, the CD, or the room, with soft furnishings absorbing the energy? The tone of the system is very natural, with good dynamics and bass drive. I like a broad spectrum of music including jazz, soul and acoustic rock. Your views please.

A. Cooke
Swindon.

The Philips CD104 is well past its sell-by date, and is definitely first in the queue for an upgrade. Of the players you mention I’d go for the Quad 67, which has a lovely full and musical sound. It will help to give a better sound stage (although CD players have never quite managed to conjure up the same kind of stage depth as a good turntable), but unfortunately the 77 amplifier and A500 ‘speakers both tend to sound a little too dimensional in this respect.

It may be worth trying the mirror test described by Douglas Floyd-Douglass in our November ‘94 issue. Basically this involves getting someone to hold a mirror on the side wall of your listening room whilst you sit in your normal listening position until you see the ‘speaker. Placing an obstacle here, such as a plant or bookshelf, will break up this first reflection path. It may also be worth toeing in your ‘speakers a little to place more of the image in the centre, something that CD players with their super wide channel separation fail to do, and again where vinyl scores.

The A500s are quite smooth through the treble because of the silk dome tweeter they use, and if you have been used to a sharp metal dome tweeter, I can understand why you say they don’t seem very bright. You are right that soft furnishings will also soften the sound, reducing the amount of treble energy that is being reflected around the room. Losing some of this furnishing will certainly help. The A500s’ upper treble does roll off a little too, aiming the tweeters directly at your listening position will also help here. DB
When we listen to music, both the high and low frequency sounds help our brains to paint a 3 dimensional stereo picture. But when we listen to CD, the high and low pictures do not perfectly realign. With their clinically clean electronics, CD players lack the beneficial, subtle signal handling of analogue equipment which can actually "re-converge" the two stereo images. So creating the convincing illusion that is the hallmark of good analogue systems.

Francinstien, designed by Hi-Fi World columnist Richard Brice, breathes life into digital stereo. By simulating the best aspects of analogue equipment, it restores the sense of depth - and even height - to digital recordings. And it does it without introducing any of analogue’s vices!

Simply plug Francinstien between your CD player and pre-amplifier (or integrated amplifier) and you can have your cake and eat it. Analogue imaging and "involvement" with the clarity and "bite" of digital. But you don't have to believe us because you can try Francinstien on home trial.

"It's a gentle elegant effect - and a very even one...One simply becomes more aware of the music."
— Eric Braithwaite - Hi-Fi World

"CDs sounded better defined, the soundstage having a more definite shape. It was as if there was more air around each strand in the mix, allowing you to hear it more distinctly, more separately...I didn't immediately want to switch the CD player off and relax with some LPs, instead I went on to make further explorations of my CD collection"
— Andrew Cartmel - Hi-Fi Choice

Let the Francinstien improve the audio quality and stereo imaging of your system. To send you a demonstration unit we require either cheque or credit card payment for £7.00, to cover postage and administration. If you wish to purchase a Francinstien please call us and £7.00 will be deducted from the total price of £150 inc. VAT. However, if you do not wish to keep the Francinstien then simply return the unit to us within 10 days.

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Life is deserting the old cassette. This antiquated technology - brewed up in the sixties and steadily getting left behind by lasers and digital storage - is being undermined by economic pressures from another direction. Cassette hardware is rapidly becoming more expensive, meaning manufacturers have to pedal ever-harder to make competitive products. Cosmetic cost cutting is the last thing they want to do, so performance at all price points has got worse. Rotel's £230 RD960BX (full review in next issue) is a testament to this as well as NAD's 614 tested last month.

Why the increased costs? These days electronics comes cheap, but mechanical parts don't. Cassette decks are a complex amalgam of mechanics and electronics, the Japanese being undisputed masters of the former, manufacturing the best transport mechanisms and heads going. Throughout the eighties, Japanese electronics giants moved manufacturing abroad to save on spiralling labour costs, while keeping innovative technologies at home to discourage competition. This included the manufacture of high quality cassette parts from companies like TDK and Canon (heads); Denon, Sankyo Seiki, Aiwa/Sony (mechanisms).

The go-go late eighties seem an eon ago in terms of global economic history. Whereas moving production out of Japan capped labour costs, I doubt if anyone could have foreseen a time when an overvalued Yen would price their high technology components off the market. To make further economies now they would have to move production of these parts out, but because mechanical parts have been downgraded by other developments, that's not going to happen either.

Philips reached key conclusions about the future of global consumer electronics manufacturing well before the Japanese, who have proven slow to understand important global trends. But unfortunately Philips have never been able to exploit their ideas as well as the Japanese. Yet while the commercial arm of Philips couldn't sell an ECU to a Frenchman, the marketing and research side are impressive, long ago realising that mechanical sophistication can be replaced by electronics, bringing enormous cost savings.

And that's what Dolby S, DCC and MD are all about. Each in its own way improves performance by electronic processing, obviating mechanical complexity. Nakamichi make great recording heads, but you can bet they're a far more costly way of obtaining dynamic range than Dolby S. DCC is an astonishingly cheap-to-make, yet effective digital tape system. It uses a standard cassette transport, relying on a digital buffer memory to iron out speed variations, digital error correction schemes (Reed-Solomon code) to counteract tape dropouts, and low rate digital code to use cheap chrome video tape, rather than metal tape. The low data rate again comes about through use of electronics: PASC digital data removal (compression is too misleading a description) makes it possible. So DCC is an ingenious way of swapping mechanical complexity for electronic complexity, which comes a lot cheaper.

The marketing men tell me that cassette has had it simply because people fall out of love with such things and, irrespective of their practical value, stop buying. It's the truth and terror within the Bell Curve, which depicts the way sales of a medium perform of a period of time, starting slowly, increasing rapidly, slowing to a peak, then following a similar pattern in decline. Blank and prerecorded cassette sales peaked during 1989 and have been heading South ever since. They'll continue to do so, I'm told, absolutely irrespective of the fact that there's little sign of alternatives - DAT, DCC and MD - being taken up as a replacement. Weird! So what will replace the cassette? Well, not a lot. The Consumer Electronics industry has fallen into a sullen silence over the whole business of replacement. Once the second most popular electrical item in your average global home, beaten only by the lightbulb, buyers have resisted all potential replacements.

Tape, we are told, just isn't acceptable anymore, simply because it has an old fashioned image. If this is true, then we can kiss DAT and DCC goodbye without another thought. Perhaps MD will succeed in the end, or do people want recordable CD (CDE)? The ideal would be recording into solid-state memory, but we are a long way from that.

At the moment we are faced with a curiously blank future. Complex mechanical systems are kaput. Manufacturers aren't interested and, in the cassette, neither are buyers it would seem.

So another piece of yesteryear is fading away. Never again will we see such extraordinary concomicions of mechanics, magnetics and electronics as the tape deck. It will be consigned to the dustbin of industrial history, to rest alongside the LP.
Golden Dragon

RETAIL PRICE LIST
Golden Dragon Pre-Amplifier Tubes
- 6AQ8/ECC85 £6.50
- 12AX7A/E81CC/ECC83 £6.95
- 12AU7A/E82CC/ECC82 £6.95
- 12AX7A/E88CC/ECC83 £6.95
- 6J9B/E88CC/ECC88 £10.95
- 6SN7/TE33 £8.95

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- Octal PCB (EL34 etc.) £1.25
- Octal Chassis (EL34 etc.) £1.25
- B9A Chassis (pre amp) £2.50
- B9A PCB (pre amp) £2.50
- Screen ing Can & Skirt (pre amp) £3.50
- Damping Can (pre amp) £4.50
- Power Valve Retainer (EL34 etc.) £5.50

Golden Dragon Triodes

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A selection from our stock of over 2,500 different audio quality valves. Please enquire for items not listed

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EXTRA BLEND CARRIAGE AT COST
P.M. COMPONENTS LTD., Springhead Enterprise Park, Springhead Road, Gravesend, Kent DA11 8HD, England

Sales Desk Tel: 01474 560521. Fax: 01474 333762
When you try to be all things to all men, you often end up being nothing to nobody. This may be the case with the £150 TEAC CD-P3200, which has all the usual features including remote control and even a full display which shows the now-elusive index numbers. No hair-shirt minimalism here, but look under the hood and you soon see where the savings are made - you won't find a VRDS transport in this TEAC.

At first listen there isn't much wrong with this player - music progresses in a superficially reasonable fashion, acoustic guitar with a happily tuneful sound, firm percussion with kick drums coming through strongly. But it's not a player for subtleties, more on the rough and ready side.

Play some jazz, and although double bass is tuneful and strong, when the music gets more complicated, things start to go astray. Sax, trumpet, Hammond organ and percussion were all present and correct, but squeezed into the middle with as little space between and around them as though they'd been recorded on the tube in the rush-hour, the Tokyo Metro at that.

This kind of perspective, allied with a compressed dynamic range in parts of a score where the 'tadpoles' are most populous, was curiously reminiscent of budget turntables of yore. Arturo Sandoval's 'A Mis Abuelos' started well, the guitar work warm and pleasant, but fell into disarray as soon as the brass came in on the action. Mutes in the bells had the effect of making the brass sound uncouth and uncultured - almost painfully raucous in fact.

Discrimination isn't the TEAC's strongest point as you may've gathered. Blur's 'This is a Low' was, a rather subdued and uninspiring performance that sounded ploppy (this year's attempt to get a word into the Oxford English Dictionary coming up: 'ploppy' - plodding and stodgy). Initially pleasant as laid-back background music was the Decca/Dutoit recording of de Falla's Three-Cornered Hat. Here we had good tonal discrimination between violas, cellos and the generally darker-toned instruments, and tight timps, but above the middle register things went awry again, the distant soprano sounding as though she had soap in her mouth.

Still, what do you expect for £150? Instead of spending money on better internals, TEAC have lavished it on the neat front panel. They're obviously after price-conscious buyers looking for real hi-fi separates. This is a laudable aim, but given the excellent sound of TEAC's higher-end VRDS range it's a pity more of that serious quality hasn't percolated down into the murkier depths of this budget player.

Eric Braithwaite finds that TEAC's new CD-P3200 CD player can't match their VDRS players' value.

TEAC CD-P3200 £149.95
TEAC UK Ltd., 5 Marlin House, The Croxley Centre, Watford, Herts. WD1 8YA T 01923 819630

WORLD VERDICT
A valiant attempt at rock-bottom hi-fi separates, but none the better sounding for it.

Measured Performance see p113-121
Alchemist have recently introduced a new affordable integrated amplifier, the Axiom. We reviewed one last month and, finding it very musical, we've decided to give away FIVE in our October competition.

The Alchemist Axiom is a 30watt integrated amplifier with six line level inputs including tape. In true Alchemist fashion the styling is a little out of the ordinary, with a lavish brushed aluminium front panel adorned by polished gold control knobs. Inside, component quality is high, and the

WIN ONE OF FIVE
ALCHEMIST
AXIOM
INTEGRATED
AMPLIFIERS
WORTH £300 EACH!
We auditioned the £300 Alchemist Axiom for our September '95 issue, and found many favourable qualities. Douglas Floyd-Douglass praised it highly - here are some of his findings. "John Lee Hooker's 'Chill Out' had good depth of soundstage and a warmth so befitting the blues. Cymbals were open and gave a good indication of the ability of this amplifier to handle transients with musical dexterity. The percussion was tight and fast and skin drums sounded natural and were given good space amidst the full band accompaniment."

If you want one of these stylish, musical Axiom amplifiers, make sure you enter this competition. Simply complete the questions and tie-breaker opposite. Please send your entry (completed in block capitals) on a POSTCARD or the back of a SEALED ENVELOPE to arrive no later than 5th OCTOBER 1995 to:

ALCHEMIST AXIOM COMPETITION
Hi-Fi World Magazine,
64 Castellain Road,
Maida Vale,
London W9 1EX

AUGUST ISSUE COMPETITION - WIN MERIDIAN HI-FI SYSTEM WORTH £2500

In the August issue of Hi-Fi World we offered a superb Meridian 500 series hi-fi system, comprising 506 CD player, 551 integrated amplifier and A500 floorstanding loudspeakers. The lucky winner is:

J. Espley of Stroud.
Congratulations.

COMPETITION ENTRY QUESTIONS
Cut out and affix to the back of a sealed envelope

1) How powerful is Alchemist's Axiom amplifier?
   A. 20 watts  B. 30 watts  C. 50 watts  D. 100 watts

2) What inputs are provided on the Alchemist Axiom?
   A. 5 line level, 1 tape, 1 phono  B. 6 line level, 1 tape  C. 6 line level  D. 4 line level, 1 phono

3) Playing John Lee Hooker's 'Chill out' Douglas Floyd-Douglass found that the Alchemist Axiom had?
   A. great driving bass lines  B. good detail and attack  C. great depth of soundstage  D. good depth of soundstage

4) If you don't win this competition, how much would an Alchemist Axiom cost you?
   A. £250  B. £300  C. £350  D. £400

TIE BREAKER (obligatory)
Alchemist are considering designing a matching CD player and tuner to go with the Axiom. What do you think they should be called, and what name would you give to the system?

Name: ..........................................................................
Address: ..........................................................................
Post Code: .......... Tel No. ...........................................

COMPETITION RULES AND CONDITIONS OF ENTRY
[1] Only one entry per household will be accepted. 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 December 1995 issue. Purchase of the magazine is not a precondition to entry.
[3] No correspondence about this competition will be entered into and the editor's decision is final.
[4] No employees of Audio Publishing Ltd. or any companies associated with production or distribution of the prizes may enter.

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

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E&OE 07/95
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\over the last year at Hi-Fi World we’ve become increasingly aware of the way a room affects the sound of loudspeakers. Our own listening room has been treated with RPG acoustic tools, to give a more neutral and balanced sound which better reveals differences between loudspeakers. But this RPG treatment is aimed at the professional market and won’t be domestically acceptable in many circumstances.

Recently I came across Aedon Audio, an Italian manufacturer of acoustic carpets and wall panels. Their fabric coverings are designed by Missoni, which does make them a little pricey, but finish is superb. They are available in the UK from Picture the Sound (tel: 01483 31410) who kindly delivered a medium sized Audiocarpet, which was quickly nicknamed the ‘magic carpet’ and two wall panels.

My home listening room is an ideal place to experiment with these acoustic tools. Being four stories up in a solidly built building, it has a reinforced concrete floor, making for a hard and reflective surface. My (landlord’s) carpet is quite cheap and is reflective itself, and underneath there is just the thinnest layer of rubber. This has compressed, making it more like a plastic sheet than soft, absorbent underlay. I have a thick pile rug that sits between me and the ‘speakers to absorb the floor reflections, and it works well, cleaning up the treble and upper midrange to give better focus.

The magic carpet took my rug’s favourite spot between the speakers and sofa. Aedon Audio suggest in their instructions (well, I think this is what they mean - the translation from Italian to English hasn’t been entirely successful) that you massage the carpet once it is in position. This is to help settle the layers of acoustic material and smooth out any wrinkles, or as they put it “settlement of its stratification and elimination of the covering cloth wrinkles”.

Also supplied with the magic carpet were Aedon’s wall panels, designed to be hung from a picture rail or supplied mounting bracket. I used the mirror test described in Hi-Fi World’s November ’94 issue, which basically involves getting a friend to hold a mirror against the side wall, moving it until you can see the tweeter of your loudspeaker from your normal listening chair. This places the wall panels at the point of reflection above the CD rack. Again, with the help of a friend and a mirror, I found the reflection point on the same wall for the other loudspeaker and positioned the other wall panel.

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The wall panels also worked well. Listening over a couple of days I was less aware of the acoustical differences between the two sides of the room. The sound stage opened out on the side with the panels to give a wider, more open stage overall, with better balance. It also helped to clean up the midrange and treble splashiness which, combined with better image focus of the magic carpet, improved the overall standard of sound quite considerably.

It’s interesting that the capabilities of a system in these areas are so strongly affected by the room and its furnishings. You could spend a lot of money on equipment chasing after more precise imaging or a wider, more natural sound stage, only to find that the key all along was getting the room set up properly. I would urge anyone who takes their music seriously enough to have spent a couple of thousand pounds on a system to consider such acoustic tools. They help to bring out the very best in a system and once installed, will have the same benefit with any system or upgrade you move on to in the future.

**Dominic Baker**

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70 OCTOBER 1995
It happens in the fashion industry regularly. It has infected the car industry and now it seems to be reaching the hi-fi industry. What is it? It’s an appreciation (some would say infatuation) of all that has gone before. Or, to use a nineties buzzword: retro. The fashion industry slavishly looks back as far as the 20s for annual revivals of twin sets, perhaps without the pearls, back to the 1970s for platform shoes and luminous socks. Witness, also, the motor industry. The likes of the Nissan Micra and Mazda MX-5, good cars though they may be, have provoked much debate as to whether or not it’s right to draw so heavily on the past when styling a car.

Now retro is creeping into the hi-fi industry. Despite originating from stern Teutonic stock, Sennheiser have been making some risky moves in differing from the straight and narrow and offering something with more than a hint of the past. First off were the Charleston headphones. Offering up to the minute engineering, but with the usual nineties swoopy plastic look being shelved for a decadent twenties style.

Now they’ve gone one stage further with the reintroduction of the HD 414s. And it’s not just a reincarnation of the name either. For those unfamiliar with headphones, the HD 414s were the first ever open-back headphone, introduced in 1968. Like the slab sided architecture of the time, the rather kitch black and yellow 414s have been modernised. Modern drive units and OFC cable do the business, but the point is the 414s look almost identical to their famed predecessors. Capitalising on the product’s heritage and a pool of watery eyed nostalgia, Sennheiser’s move is shrewder than it first appears. And who knows, if the limited run of 414s prove a success, we may see similar comebacks from other stalwarts.

Yet you don’t have to have 27 years of history behind a product when retro styling a new product. Take Alchemist’s Kraken, with its gothic fins and green crackle paint work that brings back memories of 1950s laboratory equipment. It’s not just those that originally made kits who have returned to the plinth.

Now, as this magazine’s letters and numerous component company advertisements show, building your own ‘speakers and amplifiers has made something of a comeback.

Audio Innovations’ Alto also offers something different with its 50s sky-fi inspired curves and shiny chrome. Even conservative radio manufacturers Roberts (some of whose products have never even stylistically progressed anyway in the past several decades) have gone all retro on us. Apparently, their bright red portable radios with sixties styling have become strong sellers.

Another ghost from the past that has returned is DIY hi-fi. The move from valves to transistors in the 60s and 70s, and the later dominance of CD over vinyl saw a decline in kit amplifiers and source components, with kit ‘speakers being less in demand too. Now, as this magazine’s letters and numerous component company advertisements show, building your own ‘speakers and amplifiers has made something of a comeback.

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Another ghost from the past that has returned is DIY hi-fi. The move from valves to transistors in the 60s and 70s, and the later dominance of CD over vinyl saw a decline in kit hobby either. The lure of a soldering iron and the satisfaction of having produced something yourself has won favour with those from a generation brought up in today’s world where the transistor and digital reign. The kits being built revolve very much around valve and analogue hi-fi, rather than a load of small, black silicon chips.

So why is there such a fascination with the past? Well, there are several points to be looked at here. The cynic would argue that retro hi-fi is merely a marketing ploy, cashing in on nostalgia and even, in some cases, reducing development costs too. Also it could be seen as yet another U.S.P. (Unique Selling Point) with which to relieve punters of their loot. That having been said, it should be argued that retro inspired hi-fi offers the consumer wider choice, and a break from the endless stream of black boxes we otherwise face. Expanding this point further, it seems to me as though there is a feeling, in some parts, that the hi-fi industry has lost its momentum.

Technological advances are fairly piecemeal compared with previous decades, and now people turn their attention to the computer industry to get a technological fix. The increasing perceived stagnation of the audio industry has led to renewed interest in DIY by consumers, as well as a feeling of trying to recapture former glory by the manufacturers.

Of course, there are some products that have been immune to advances in technology and have merely evolved as time has gone by. The evergreen Linn LP12 and various incarnations of the BBC L53/5a loudspeaker, for example. Proof that with proper development and planning, provided manufacturers produce good hi-fi there’ll always be a demand for it, whatever the fashion of the day. Now, where did I put that pogo stick?
Working in the rarefied climes of Hi-Fi World towers, it's sometimes nice to press the elevator Down button and take a trip to ground level. So imagine discovering that the AMEX-clutching punters weren't talking about $350 Western Electric 300B triodes. And as for time-aligning Audax gold dome tweeters in glass-lined open baffles, forget it.

Shocking as it was, valiantly listening in on everyday conversations was an education. The world of "graphics", "bass boosts" and "3D sound" was new to me. A midi boasting "40W per channel at 10% THD" Ten percent? Not even sixties hi-fi measured that badly! Midi speakers with plastic boxes and fake tweeters - is this a toy shop I asked myself? And as soon as an obliging salesperson switched one on, my interest disappeared faster than a racoon in a room full of rocking chairs.

Nasty paper cones breaking up, a silly bass peak at 100Hz and treble, Jim, but not as we know it. Asked to give an accurate summation of the sound, "abysmal" would be my chosen adjective.

But don't get me wrong, I'm not going to bemoan the very existence of the mini system, because it's a thoroughly rational - if somewhat uninspired - response to everything that marketing intelligence reports currently tell us about the UK state of play.

As managing director of a new consumer electronics company, I'd be only too aware of the divide between average High Street rubbish and the expensive exotica found in specialist retailers. And I'd be looking at the company's profitability on both sides of the river. Unfortunately, my choice would be to go for manufacturing cheap and nasty high volume stuff, because all the marketing information available suggests Britain is currently an intensely price-sensitive market;

"The mini system is a thoroughly rational - if uninspired - response to the UK state of play"

people expect a lot for very little, comparing homogenous units on a feature-for-feature basis (bass booster, mike mixing, etc.), rather than making any qualitative distinctions.

But if I was an enlightened MD I'd be looking at that marketing data more carefully. People are still spending money in this country, it's just that they've more things to spend it. This means you have to persuade them to go for hi-fi, rather than a new mountain bike for little Johnny or a week of family sunstroke and indigestion in Ibiza. You've got £500 and were going to buy a budget separates system, but you've just seen a Megadrive and a mini system in the High Street for the same money. You could get a 'hi-fi' and a 'computer' for the price of the separates - thinking in those terms, which would you have?

Manufacturers of separates have to provide a convincing answer to this, and so far they haven't.

In Japan many manufacturers have given up on budget separates because they can't make them cheap enough anymore - the odd two million yen gold-plated CD player and valve amp sell easier instead. Many affordable separates have been usurped by "mini-compo" (mini component systems). Unlike the UK variety, these are quite expensive (typically £600 plus), and comprise reasonable quality miniature separates styled keenly enough to have Bang and Olufsen worried. With acres of brushed aluminium, tray loading tape decks and intelligent remotes, they feel far better evolved than the average Japanese kit that reaches Britain's shores, and are keenly differentiated from their hi-fi separates brethren.

But things aren't the same in Britain. Mini systems don't look so different to budget black boxes, and more importantly (for Britain at least) are far cheaper. Why then go for separates?

Now, British separates manufacturers with "the vision thing" are stepping in and making waves. Interestingly, these budget separates aren't black boxes - a chrome Aura or Alchemist integrated doesn't look like your average box - they're clearly differentiated from the audio plankton swimming around the primordial consumer electronics sludge, and affordable too.

NAD hit precisely this winning formula in the early eighties with their 3020 amplifier, which was visually different (everything back then was covered in brushed metal), sounded great and was cheap enough to grab sales from music centre buyers. Further upmarket, the fact that Quad now consistently produce attractive, innovatively styled products has to be the mother of all surprises. Twenty years ago, I'd never have thought the young bloods of the day would be aesthetically outmanoeuvred by everyone's grandfather's favourite wireless maker.

Mitchell is another case in point, a very long established company that's finally got the balance right between class-leading performance and jaw-dropping styling. One look at a Gyrodec and all thoughts of updating your computer or renewing the TV go walkies.

It's this critical mix of sonic performance, keen pricing and that magic third factor - a kind of visual appeal to the heartstrings - that makes a product succeed.
Mr. Young’s not put a foot wrong for a good five years, from ‘Freedom’ to the sublime ‘Sleeps With Angels’. Sad to say that this collaboration with Pearl Jam in their Seattle hometown just doesn’t do it for this boy. The sound’s messy, the songs are often uninspired thrashes, and try as I may I cannot find what I’d call a classic Young song. But Pearl Jam sell discs by the zillions so this’ll probably be one of the man’s biggest sellers ever. Good luck to him and who’s to say I won’t love it in another week or three. Reviewers are nothing if not fickle creatures after all.

And one last thing, this is one of those sets you just know will sound terrific live - stadium rock pure and simple but still disappointing from a man of Neil’s talent.

THE CLASH
Super Black Market Clash
COLUMBIA 474546-10

If ever there was a classic British punk band, these geezers were it. Name dropper that I am, I recall meeting Joe Strummer (only lately one from the highly underrated 101’ers) in the toilet of Dingwalls’ Dancehall in Camden Town. Strummer promptly introduced me to a mop-topped Mick Jones, his partner in a band he proudly announced would travel under the name of The Heartdrops. I thought that was pretty naff and promptly told them so. Imagine my surprise therefore when, a mere few weeks later, I - along with a score odd of other pop press gunslingers - was invited to a sleazy Camden warehouse to witness the debut performance by a combo now re-christened The Clash.

And were they brilliant? Yes indeedy. They were all sound and fury, much of which is included on this extended version of the original ‘Black Market Clash’ EP. Here then, in all their princely glory are the likes of ‘Jail Guitar Doors’ ‘Capital Radio 2’, a re-fried version of the much bootlegged original single of the same name minus the Tony Parsons interview (what a shame eh, Tone!) and various items produced by the pseudonymous Pepe Unidos - alias Strummer - bassman Simonon and manager Bernie Rhodes, as the concise but ultra-bright sleeve notes clarify with equal doses of accuracy and good taste.

With rumours of a Clash reunion rapidly heading towards becoming concrete, this is a timely reminder of
probably the greatest British band of the late Seventies. Mind you, I still can’t help feeling they owed more to NYC’s David Peel & The Lower East Side than anyone ever seems to have acknowledged, but that was then and so is this, for that matter.

FUGAZI
Red Medicine
DISCHORD CD DIS90CD

They’re eight years old, hail from Washington D.C. and are the definitive indie band, US stylee. Like, say, the Dead Kennedys before them or our own (pre-hit singles) Levellers. Fugazi play bare-knuckle rock with a political conscience that’s backed up by their untainted policy of keeping the price of their records/concert tickets as low as humanly possible. They probably even live on a diet of Corn Flakes and water - they’re, in short, so damned P.C. it almost makes you want to vomit.

What saves their bacon (oops! I wager they’re all strict vegetarians or vegans too) is the fact that they make great balls of fiery rock’n’roll that has oodles of bite, distinctive character and all the bluster the most dedicated stage-diver could wish for. I don’t know if it’s Ian McKay or Guy Piccotto - both of whom share lead vocal and guitar duties but one of the geezers sounds remarkably like Alex Harvey. This is a high compliment in my book and only serves to remind me how quickly one of Scotland’s finest sons seems to all but have vanished from public memory. But that’s another story - Fugazi are here and now and, on this fourth LP, in fine and furious form as ever. Most long-term fans will have a good many of the sixteen cuts on this latest compilation - ‘War’, a rousing live take of ‘Trenchtown Rock’, ‘Who The Cap Fit’ and so on. For me there were still sufficient surprises above the nostalgia to make this a refreshing experience - the canny ‘Pimper’s Paradise’, an aptly cheery ‘Sun Is Shining’ and the bottle-shaking ‘Keep On Moving’, to name but a few. Crisp production, wondrous playing, and the sort of sublime arrangements that made Marley the master song-writer he was, transforming even the merest wisp of a tune into bliss itself. This is the stuff of which legends are made, and Bob Marley, like Hendrix, will always be around to inspire and enchant.

BOOBY MARLEY
Natural Mystic
ISLAND BMGCD 7524 103-2

As the success of ‘Iron Lion Zion’ more than proved, Bob Marley’s music remains as topical and attractive as ever. Most long-term fans will have a good many of the sixteen cuts on this latest compilation - ‘War’, a rousing live take of ‘Trenchtown Rock’, ‘Who The Cap Fit’ and so on. For me there were still sufficient surprises above the nostalgia to make this a refreshing experience - the canny ‘Pimper’s Paradise’, an aptly cheery ‘Sun Is Shining’ and the bottle-shaking ‘Keep On Moving’, to name but a few. Crisp production, wondrous playing, and the sort of sublime arrangements that made Marley the master song-writer he was, transforming even the merest wisp of a tune into bliss itself. This is the stuff of which legends are made, and Bob Marley, like Hendrix, will always be around to inspire and enchant.

BOOTSIE COLLINS AND BOOTSIE’S NEW RUBBER BAND
Keepin’ Dah Funk Alive
RYKODISC RCD 94123/24

Following the recent double retrospective comes this live set recorded in Tokyo earlier this year. And, yes, it’s pretty much a Greatest Hits package in itself, including such firm faves as ‘One Nation Under A Groove’, ‘Aah...The Name Is Bootsy Baby’, ‘Flashlight’, etcetera. But it’s all done so splendidly - great playing, especially from new-found boy wonder guitar man Mudbone Cooper - fine mixes and production that feel as if you’re hearing it for the first time. Fans’ll love it. Newcomers should do their best to get a couple of lugs full of one of the most innovative and entertaining musicians of our times. To say he’s the black Frank Zappa is no insult either. Sure his puns stink, but Bootsy Collins is still a major mover, and on the strength of this collection back with the proverbial bang. Tune in and find out where Prince stole a good many of his chops.

VARIOUS ARTISTS
Serious Selection Vol 1.
REWIND SELECTA LPREG 3

David Rodigan’s surely one of our best reggae deejays. So this double set of Seventies’ classics simply can’t be faulted. If you’ve never encountered the likes of Fred Locks, The Abyssinians, and Sugar Minott, you simply haven’t lived. Classic reggae cuts one and all. Don’t pass this one by if you want to hear some of the best dance blasts ever to come out of Jamaica. Groovy times indeed.

Jon Clarke

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Roots & Culture
Serious Selection Volume 2

OCTOBER 1995
THE VERVE
A Northern Soul
CD JIVE 27

- The Verve is a name more redolent of the Beatles and their assorted following sounds than anything to come along in 20-odd years. A Northern Soul takes a lot to live up to but take this cloth-ears word for it - the quartet in question live up to their high aspirations more often than most past pretenders. They are not mere Moptop impersonators; the ballsome title cut for a start nods more subtly in the direction of early Who in a surprising enough wedding to say vintage Happy Mondays which - believe it or not - is by no means a bad thing. In short The Verve combine all the wild electric blazes of early Who or Yardbirds with the ultra-subtle sound-layering of the best of contemporary pop. The wildly wacky 'Brainstorm Interlude' for example could only be a product of a Sixties sensibility filtered through Nineties technology. Not that subtlety is forsaken for the sake of high-tech - one merely has to investigate the delicate melody and arrangements of 'No Knock On My Door' the sort of delicate and moving ballad McCourt's so often striven for and so rarely scored. For the record The Verve are most definitely a group to keep one's ears open for. Ace combo.

- In a turbulent, changing world it's comforting to know that certain good things still exist out there, ready to be visited at a minute's notice. With the weather hot and sticky again we should look around for that little thing that is pure and unadulterated soul.

Various - Summer Compilations

- It's holiday time again and the shops are crammed with summer compilations all peddling the feel good factor. You know the message - this is your number one beach accessory; the soundtrack to enhance your two weeks in the Med: buy, buy, buy.

And it works of course. There you are two hours before your flight, hanging around at Heathrow at the Global Village shopping centre just looking around for that little thing that you might have forgotten, when bang! It's staring you in the face - 20 hot summer anthems - the sound of Ibiza, or something like that.

The names say it all. These three little gems picked at random are Summer Swing, Jive West 25th Vol.2 and Jungle Heat.

Pick of the bunch is Jive West 25th Volume 2 (6/10) - a cool mix of street rap and soul. These 13 cuts from the underground jive label, while being completely varied and obtuse somehow sit together nicely giving an all-in jolly good après beach chill out.

The reworking of Snoop's gangster rap goodie 'Who Be The Dopest?' by Level 6 is superb, as is 'Sum Dum Monkey' by the Fu Schnickens. But best of all is Keith Murray's and Eric Sermon's (of EPMD) contribution with 'Get Lifted'.

The way the album speeds up and slows down into R.Kelly and Silk and then picks up with basketball fruittcake Shaq, Neal and 2Pac pure style. Summer stylee. Summer Swing (2/10) slaps 20 tracks onto the platter, built around Bobby Brown's 'Humpin Around' and Ini Kamoze's 'Hotstepper', around Bobby Brown's 'Humpin Around' and 2Pac's 'Sum Dum Monkey' by the Fu Schnickens. But best of all is Keith Murray's and Eric Sermon's (of EPMD) contribution with 'Get Lifted'.

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Jazz record reviews

Simon Hopkins

TERJE RYPDAL
Terje Rypdal
ECM 527 645-2

ECM seem to be getting round to reissuing their very earliest releases from the early Seventies. For its first hundred releases or so the label was still finding its feet and hadn’t really established the aesthetic agenda which would come to define its two-and-a-half decade history. The joy of this is that there are some real unexpected gems in there, from the schizo egghead searchings of the Music Improvisation Company to the sublime psychedelic jazz of Julian Priester’s Love Love.

Trouble is, ECM have such a strong sense of what their label should be that a goldmine of obscure, wonderful sessions remains steadfastly unreleased.

So it’s something of a surprise to come across guitarist Terje Rypdal’s staggering debut album, a challenge in every way to received truths about Rypdal specifically and the label generally.

A set of four long, relatively freeform, darkly explorative tracks, the album presages many of the obsessions which would dominate Rypdal’s work over his following albums: soaring, melodic guitar solos which draw as heavily on Coltrane as they do on Hendrix, Miles-inspired freeform funk, a great debt to Northern European folk melodies (and their attendant sense of ascetic pastoralism), and a certain late-Romantic scoring which owes much to Mahler and perhaps Nielsen.

But where later albums would see these areas of interest more and more...
pinned down to through-composed forms - from his group The Chasers’ tight songs to his recent chamber works like QED - where these strands are braided together with a much greater sense of freedom and with a wholly psychedelic impulse.

There’s certainly a fine band at work here. Pianist Bobo Stenson is a fine, emotionally charged improviser. Drummer Jon Christensen would become one of the most underrated percussionists in modern jazz, alternately hard-swinging and deftly colouring. Likewise, bass player Arild Andersen remains a major musician, whose visibility has been lower than it should have been for twenty years or so; on the other hand, saxophonist Jan Garbarek has, of course, become just about the most highly visible jazz musician working today, whose own brand of Holy Minimalism and trademark plangent soloing has become one of the most copied styles in all current jazz. This basic quintet is augmented with singer Inger Lise Halverson, oboe and english horn player Eckerhard Fintel and pianist Tom Halverson.

The textures these nine musicians conjure up are intensely rich, at times a swirling tone poem from which broken solos emerge, at times a thick impasto splattered across urgent, loping rhythms. Rydval, of course, shines at the helm. While his soloing lacks the grace it would acquire over the years, its inchoate agonies rip out from the music around it. And Garbarek, too, is a million miles from the lyricism which typifies his playing now; here his playing owes as much to Archie Shepp and late Coltrane as it does to the Nordic folk which would dominate his playing later. Witness his wailing as it erupts over the album’s strengths and origins. Its sassy, swaggering rock shuffle is pure classic Seventies electric Miles Davis, at times a complete doppleganger for passages from Jack Johnson. Which is intriguing; the ECM artist roster filled up with expats from Miles’ great electric groups: Jack De Johnette, Chick Corea, Keith Jarrett, Dave Holland, and so on. Yet these musicians took up entirely different musical paths, largely turning their back on Miles’ dangerous, malevolent jazz rock. And here’s Rydval, and a bunch more young Scandinavian musicians, unknown at that point to the world at large, making music that owes its very existence to the voodoo of Miles’ electric bands.

As we’ll see, Rydval too would follow other paths - though not before making the gothic-psychedelic jazz masterpieces Odyssey and Whenever I Seem To Be Far Away. It seems to be a truism that the appeal of involvement in music this intense seemed to wear off on even the most adventurous musicians; many of Miles’ acolytes soon woke up to the financial lure of a much slicker, easier-going, lighter fusion of jazz and rock, while others - and young European players involved in sessions like this - would take up a more pastoral, generally acoustic music altogether. We can mourn, but also rediscover; this album adds to an increasing body of work - a body of work that includes Miles’ Seventies records, Herbie Hancock’s Mwandishi-period recordings, early Weather Report, early Mahavishnu and so on - being rediscovered by a musical audience grown hungry after the visceral excitement of techno and hip-hop.

The whole business of record company reissues is still viewed with some suspicion by many music fans - that it’s money for old rope, that it diverts money and attention from the serious business of developing new talent, that it simply turns up long-forgotten crap that deserved to remain that way - but when the serious business of rediscovering and reissuing records of this magical quality turns up trumps, then it’s an essential enterprise, clearing a path to foolishly abandoned possible futures and parallel universes. In short - at last! - utterly essential.

TERJE RYPDAL
After The Rain
ECM 523 159-2

• And here’s Rydval five years later - an entirely different musical proposition together. After The Rain is a suite of ten highly lyrical, pastoral songs developed from a beautiful opening theme. Joined only by singer Inger Lise Rydval, Terje has multi-tracked instrument after instrument - various guitars, synthesiser, pianos, reeds and percussion - building up by turns incredibly deep and gorgeously sparse musical textures.

If this all sounds a tad proto-New Age, rest assured, Rydval’s sense of melody elevates all this music from the endlessly anodyne naval-gazing meanderings by lesser musicians (and generally, notably, musicians with no background in jazz) that followed in its wake. Throughout the record, Rydval’s electric guitar - thoroughly more refined than the agonised screeches of his debut, but still soaked in distortion and echo - soars with a violinistic grace and beauty.

ENRICO RAVA
The Plot
ECM 523 282-2

• ECM have also recently reissued three very desirable Seventies albums by Italian jazz trumpeter, Gato Barbieri alumnus and sometime film soundtrack composer Enrico Rava.

1978’s Enrico Rava Quartet record (ECM 523 283-2) featured a fine band of musicians with whom Rava had worked in various contexts over the years: the great Free Jazz trombonist Roswell Rudd, fiercely swinging bassist JF Jenny-Clark and drummer Aldo Romano. The record easily straddles the line between Free Jazz and hard post-bop.

Previously, in 1975, Rava had formed another fine group with whom he played on and off for several and who debuted on the essential The Pilgrim
and the Stars (ECM 847 322-2); guitarist John Abercrombie, bassist Palle Danielsson and drummer Jon Christensen.

Now this is a classic mid-Seventies, essentially European, mid-period ECM group whose finest moment was 1977’s The Plot. Elsewhere this month I’ve banged on about how some of the more extreme, fecund and psychedelic possibilities of the very earliest jazz rock were widely abandoned in favour of lighter fusion. But some of the musicians working in Europe at this time, many recording for the ECM label, eschewed both jazz rock paths in favour of a style which encompassed bebop improvising, hard bop rhythms, a kind of considered rock attack and a tendency towards European impressionist melodies. Elsewhere, the like of Pat Metheny watered down even this approach and made themselves very successful in the process.

But here, with the classic ECM line-up, and with a set of largely his own compositions, Rava creates a music of labyrinthine, searching solos, heart-stopping melodies, mesmerising rhythms and breath-taking, crystalline arrangements. Rava’s trumpet playing is, at times, awesome, with sparkling runs torn off at random across Christensen and Danielsson’s darting rhythms (they remain, for the record, one of the great rhythm sections of European music). And check out Abercrombie; now a bit torn off at random across Christensen and Danielsson’s darting rhythms (they remain, for the record, one of the great rhythm sections of European music). And check out Abercrombie; now a bit

Simon Cooke

Michael Hashim

Transatlantic Airs

33 JAZZ 023

- American saxophonist Hashim is well-known on these shores and here fronts an impressive band with David Newton on piano, Dave Green on bass, and Clark Tracey on drums, with Tina May providing vocals on two Kurt Weill tracks (‘Speak Low’ written with Nash and ‘My Ship’ with Gershwin). Hashim wrote four of the tracks, and the other five come from names such as Lester Young, Mel Torme, Henry Mancini. We’re in serious mainstream territory here.

That’s not to say it’s boring; far from it! While none of the players exude that ‘lean and hungry look’ they are young and vibrant enough to really crack along when necessary, although fans will know that these players can also bring subtlety and texture to the slower pieces. I have to say, however, that I am glad Tina May only gets two tracks here. By her standards it’s something of a lacklustre performance, almost as if she was not really concentrating on her work, and it’s a pity that this otherwise excellent CD fails to do justice to her abilities, as well as her professionalism.

The recording is, technically speaking, on a par with your average - hence impressive - ‘33Records’ release. Hashim’s sax perhaps sounds a shade compressed, but the rest of the band is accurately portrayed across a clean, open sweep of space.

Like the next CD, this recording has apparently been made without editing, or dubbing. What they heard is what you get; in theory, ‘Transatlantic Airs’ lacks the articulation and clarity of ‘Spirit and the Blues’, but they’re both excellent recordings. If your preference runs more to jazz than country blues, this is a release with a cracking start, mellow middle, and a bit of a sting in the tail.

Eric Bibb and Needed Time

Spirit And The Blues

OPUS 3 CD 19401

- I write five hundred words per month here, and at that rate I could comfortably be writing about ‘Spirit’ well into the next millennium.

Nevertheless, I shall try to emulate the CD notes by keeping it sweet and simple. It’s a pleasure that the recording technicians have followed this principle too, using minimal interference with the signal - and valve equipment to give a rich, lustrous, and immediate sound. This CD, in effect, cuts the cackle and really brings you the live performance. The arrangements are breathtakingly simple as Bibb eschews Gospel-chorus ebullience and the common R&B ‘stomp’ approach for clean, lucid arrangements which enhance those tiny, atmospheric sounds of a gig; breath, echoes, comments. All are here in abundance. That’s the problem. For me, a dyed-in-the-wool soundstage freak, all of these small sounds - especially echoes - only serve to disrupt a carefully-cultured acoustic image. Still, it didn’t take me long to forget my expectations and accept that the ersatz sound of accomplished musicians enjoying a trip through the history of gospel, blues and soul is worth any amount of technical wizardry trying to keep the sound clean. Either way, it’s an excellent, mellow recording, with emotion enough to put the great names of blues to shame.

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FRÉDÉRIC CHOPIN
Piano Sonata No3 in B minor Op58
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Mephisto Waltz No1
SERGEI RACHMANINOFF
Prelude in C sharp minor Op3 No2
ROBERT SCHUMANN
Arabesque in C Major Op18
ALEXANDR SKRJABIN
Fantasie in B minor Op28

STEFAN LINDGREN
OPUS 3 CD9202 (AAD/64.08)

This is an attractive showcase for the considerable talents of the Swedish-born pianist Stefan Lindgren. Clearly drawn to the romantic repertoire, from Chopin to Rachmaninoff, the only disappointment here is that he did not show more imagination in selecting a piece to represent the latter. Pianists, I feel, should still take their cue from Rachmaninoff himself, who eventually grew so tired of playing the C sharp minor Prelude that he admitted, "Nowadays I play it without feeling, like a machine." Lindgren's performance does not want for feeling, and he is far from mechanical; it is the piece itself which has grown stale.

However, there is much else that makes this recital desirable, including a compelling and idiomatic performance of the third and finest of Chopin's piano sonatas. Lindgren illuminates the poetic heart of this work with playing of great lyricism and formidable technique. It is a technique that also serves him well in the dazzling figurations and searching harmonies of Liszt's Mephisto Waltz, a work by turns grand and grotesque and inspired by the-literally-diabolical outpourings of Nikolaus Lenau's poem, Faust.

I have to say that, while Lindgren's Liszt is a formidable pianistic tour-de-force, musically I found his Schumann more appealing. What a delightful piece the C Major Arabesque is, full of skittish good humour, and portraying the composer at his happiest. It's also technically a superb place, a self-contained rondo full of colour and contrast.

As you may recall from the review of the Brahms and Mozart Clarinet Quintets in last month's issue, these Opus 3 recordings from Sweden are modern analogue tapings, taking a minimalist approach in terms of electronics and microphones and utilising the special sound qualities of valves wherever possible. And again, you would be hard pressed to show where digits could have made a better job of capturing the fullness of tone and register, as well as the glittering upper ranges of Stefan Lindgren's Steinway.

DMITRI SHOSTAKOVICH
Cello Concerto No1 in E flat major Op107
PYOTR TCHAIKOVSKY
Variations on a Rococo Theme Op33/Pezzo Capriccioso Op67/Nocturne Op19 No4

Nathaniel Rosen, cello; Sofia Philharmonic Orchestra; conductor, Emil Tabakov

JOHN MARKS RECORDS JMR3 (DDD/62.30)

These recordings where it is impossible not to feel that the involvement of the performer(s) reaches far beyond the scrupulous interpretation of the notes; that they have detected something within the music that affects them deeply and moves them to an expressive high.
The years of Cromwell's Commonwealth had brought a complete cessation of theatrical activity in England. It was hardly surprising therefore that the Restoration of the Monarchy - and something resembling normal life - should see the demand for public entertainment outstripping what could be supplied. There were many revivals of the likes of Beaumont, Fletcher and of course Shakespeare, and new plays were hastily written. But the taste of the new monarch, Charles II - who authorised the building of two new theatres in London and his court had changed during their exile at Versailles. They had come to enjoy the more sophisticated aspects of French theatre: its use of elaborate scenery and special effects; its greater emphasis on female roles; and above all, its more ambitious and imaginative use of music and dance.

In England, these new ideas, originating from Italy as well as France, were rapidly grafted on to the pre-Civil War masque tradition to create what Henry Purcell's contemporary Roger North described as "semi-operas". As the leading composer of the day, Purcell made a predictably distinguished contribution to this new genre, beginning with Dioclesian of 1690 and continuing with The Fairy Queen, King Arthur and in 1694, The Indian Queen. The problem for Purcell was that the chaotic state of English theatre during this period gave him no solid foundation upon which to build and develop his ideas. This is reflected in the fact that his one true opera, Dido and Aeneas, was originally written for performance at Josias Priest's Girls' Boarding School in Chelsea.

HENRY PURCELL
The Indian Queen - incidental music
Tessa Bonner, Catherine Bott, Rogers Covey-Crump, Peter Harvey, soloists;
The Purcell Simphony
The Purcell Simphony Voices; director, Catherine Mackintosh
LINN RECORDS CKD035 (DDD/60.20)

- The Indian Queen began life as a tragedy by Sir Robert Howard (to whose wife, Lady Annabella, Purcell was Master of Music), with a contribution from the rather better-known poet and playwright, John Dryden. It was first produced in January 1664 with some incidental music supplied by John Banister, and was well-received. In the ensuing seasons however it was rarely staged, but in 1694 came proposals to revive the production in the fashion of a 'semi-opera' with better effects, more dances and new music. The music - an hour-or-so's worth of arias and instrumental pieces - was supplied by Henry Purcell. His widow, Frances, later described it as his "last and best performance in music". However, whatever the qualities of Purcell's score, the production itself, planned for London's Theatre Royal, seemed doomed when the leading producer of the day, Thomas Betterton, became embroiled in a dispute with the theatre's management and quit his post, taking the cream of the actors and singers with him.

A new, but inevitably inexperienced company was quickly formed and the production went ahead, but it seems probable that Purcell was forced to simplify some of the musical content to take into account the limitations of the new performers. This would explain why the music for The Indian Queen became increasingly elaborate and more overtly operatic in later productions, the accretions including an upbeat finale composed by Purcell's younger brother, Daniel, which is utterly inappropriate to the grim tragedy which has preceded it. It's rightly omitted from this recording.

The plot of The Indian Queen

That's the feeling I have from listening to the American cellist Nathaniel Rosen, in Shostakovich's First Cello Concerto, one of two he wrote for Mstislav Rostropovich. Rosen's association with Russia goes back to 1966, when he undertook his first tour. Then in 1978 he astonished many observers by winning the Gold Medal in the International Tchaikovsky Competition in Moscow; the astonishment was not that he didn't thoroughly deserve the accolade, but that in a Soviet Union ripe with antisemitism, it should be awarded to an American Jew.

Certainly, Rosen's affinity with Russian music is not in doubt, as his alluring and eloquent playing of Tchaikovsky's Rococo Variations amply proves. I cannot recall hearing this lyrical tribute to Tchaikovsky to his idol, Mozart, more persuasively played, and the same can be said of the two Tchaikovsky miniatures, the Pezzo Capriccioso and the Nocturne. However, for me, it is the Shostakovich which holds the main fascination. This an emotionally complex, multi-layered work with, at its heart, a lengthy and often painfully-expressive cadenza. I also enjoyed the spiky, razor-like pungency of his playing in the first movement, with its shrill warnings from the woodwind and the relentlessly grinding rhythms on the strings. The whole concerto is pervaded by a sense of latent menace; even the burlesque-like music of the finale wears an evil sneer, knowing that the laughter is a hollow deception.

Unlike the early symphonies, Shostakovich requires no grandiloquent titles or heroic gestures to drive home the point here; whichever way you look at it, the music says it all - there are no riddles, no enigmas as in, say, the Fifteenth Symphony. All it needs is a comprehending interpreter, and Rosen fully fulfils that role.

He receives enthusiastic backing throughout from the Sofia Philharmonic Orchestra under Emil Tabakov, though I fear the somewhat cavernous acoustic does not help their sound in the louder passages. On the plus side, however, the recording is naturally balanced with no spotlighting of the soloist, which may be why he feels able to give full rein to the vibrant sound of his 1948 Venetian Montagnana cello. It may not be the smoothest, most polished of orchestral recordings, but then Shostakovich's
concerns a series of wars supposedly to have taken place between the Aztecs and the Incas (dramatic licence places Peru alongside Mexico on the map of South America!). In truth, this merely acts as an exotic backdrop for a reworking of the age-old plot of doomed love (between the Peruvian general, Montez and, and Zempoalla, the queen of the Mexicans) and the inevitable redemption through sacrifice. Purcell's music is both beautiful and refined, and enhances the drama wonderfully well.

This new recording of The Indian Queen from Linn Records, a co-production with Westdeutscher rundfunk of Cologne, joins a notable list of Purcell recordings to have appeared in recent years. The colourful timbres of the instruments used, the lightness of the forces employed in these more enlightened times, the interest in preserving clarity and detail have all challenged engineers and producers, and the results have brought an often striking purity and transparency of sound. This recording, both produced and engineered by Philip Hobbs, is no exception. It was recorded last September in the fine acoustics of St Bartholomew's Church in the Suffolk village of Orford and uses the new Purcell Society's edition as the basis for the performance.

A glance at the list of performers involved here reveals many names long associated with the current revival of interest in Purcell's music: three of the instrumentalists, for example - violinist and director, Catherine Mackintosh, bass viol player Richard Booth by, and the harpsichordist Richard Woolley - are members of the Purcell quartet which, among other achievements, has recorded the Sonatas for Chandos. There is an equally distinguished line-up of singers, with the soprano Tessa Bonner contributing not only as a soloist, but as a member of the four voice choir.

The recording seeks to recapture the kind of private performance of the work which Purcell almost certainly gave to small audiences of friends, colleagues, pupils and patrons and so employs a one-to-a-part orchestra of strings, oboes, recorders, harpsichord, trumpet and drums. And wholly successful this approach proves, helped immeasurably by the characterful singing of both soloists and choir. The impression is that all involved are completely at ease with this music, and wholly sympathetic towards it too, and the result is utterly enticing and ultimately rewarding. Unquestionably, this is one of the most distinguished contributions to the Purcell tercentenary year.

**TOMÁS LUIS DE VICTORIA**

*Missa Trahe me, post te/Motet: Trahe me, post te/*

Four Marian antiphons: Alma redemptoris mater; Ave regina coelorum; Regina coeli; Salve regina

Choir of Westminster Cathedral; James O'Donnell, Master of Music

HYPERION CDA66738 (DDD/67.32)

That splendidly byzantine edifice, Westminster Cathedral, celebrated its centenary in June. Throughout those one hundred years, as well as being the focus for Catholic worship in Britain, the Cathedral has also maintained a notable tradition of music-making, most memorably perhaps under the pioneering George Malcolm. Yet over the decades, has the standard of choral singing ever been better than that to be enjoyed today? It was David Hill who, as Master of Music, first brought the choir its present glimmering reputation, and it has been sustained under Hill's successor, James O'Donnell; and arguably their greatest single achievement has been the series of award-winning recordings made for Hyperion of the music of the Spanish composer, Tomás Luis de Victoria.

Whenever someone suggests to me that there is little emotional contrast in Renaissance polyphony, or minimal stylistic difference between the
acknowledged masters of the period, Byrd, Palestrina, Lassus, Tallis, Victoria, et al, it is to the music of the last that I turn to demonstrate just what can be achieved within the limitations which, for historical and practical reasons, dictated these composers' musical palettes.

Victoria's setting of the Requiem Mass - the finest of the period - combines a lofty serenity with an aching poignancy that is intensely personal; hope transcending grief. Then there are the Tenebrae Responsories, the harrowing Eastertide lamentations which embrace the full range of feeling aroused by the Passion story, from horror to anger. With its dark hues, sombre sonorities and sometimes graphic word-painting, Victoria's music is a precise reflection of the text. And when compared to the drama of the Responsories for Tenebrae, the works on this newest Westminster/Hyperion recording vividly demonstrate the breadth of Victoria's expression. These are all celebratory works, rich in texture and exultant in range.

The motet "Trahe me, post he" is to a text from the first chapter of the Song of Songs and Victoria effectively illustrates the opening words with the striking use of double-canon. The second tenor imitates the first at an interval of three bars, while the first alto starts a similar canon half-a-bar after the first tenor but with a different theme, this too being answered at three bars distance by the second alto. The clarity of line and sound achieved here easily lets the listener identify this progression.

Following the tradition of the time for 'parody Masses', Victoria freely bases his Missa Trahe me of 1592 on the earlier motet, reviving the canonic procedure of the model in the six-voice Agnus Dei. The construction is complex but the flow is uninterrupted, the voices cresting shining waves of sound. The four antiphons in praise of the Virgin are gems: sample the arresting opening of Alma redemptoris mater for double choir, where the three upper voices of the first choir fan out from the same note in successive entries, or the Succurare cadenti surgere section, where Victoria deploys all his rhythmic mastery. The brilliant Ave Regina coelorum for five voices was published in Venice in 1572, as was its companion, Regina coeli, the radiant Magnificat antiphon for the Octave of Easter. The last of the four motets is Victoria's grandest and most imposing setting of the Salve regina, which was sung from first vespers on Trinity Sunday to the

Saturday before the first Sunday in Advent. With its seven sections fully exploiting the potential for contrast between the high and low voices, and the sheer splendour of its sonorities, this is unquestionably one of the great masterpieces of Renaissance polyphony.

The Westminster choir concludes this sixth of its programmes of Victoria's music with one of another, and perhaps the most widely known of the Marian texts, the Magnificat (My soul magnifies the Lord). This setting, in the first tone (prima toni) again explores the contrast between high and low voices to great effect. Antony Howell and Mark Brown's recording maintains the usual Hyperion production values, while the spacious acoustic of Westminster Cathedral is wonderfully well captured. The choir - apart from the odd 'nasally' treble - is in fine voice, and James O'Donnell directs these performances with all the commitment and insight that his predecessor David Hill brought to Victoria's music. There can be few better ways to celebrate a centenary.

THE ROYAL HARPSICHORD OF GEORGE III
Music by Thomas Arne, Johann Christian Bach, Thomas Chilcot, George Frideric Handel and Wolfgang Amadeus Mozart

Martin Souter, harpsichord
ISIS RECORDS CD010 (DD/63.48)

- Our last encounter with Martin Souter was at the keyboard of the 1696 Schnitger organ in the Lutheran austerity of the Hervormde Kerk at Noordbroek in The Netherlands. The contrast with this latest recording could hardly be more marked: recorded in the elegant surroundings of Kew Palace, Souter performs on the Tschudi harpsichord once owned and played by King George III and his wife, Queen Charlotte. A product of one of England's finest instrument makers, Burckhardt Tschudi, it was acquired by George III's father, Frederick, Prince of Wales. It is now owned by Her Majesty the Queen. Isis Records' Edward Horn came across it by chance during a visit to Kew Palace and obtained permission to have it restored by Anthony Goble and used for recording. This splendid recital is the first fruit of their efforts, after an extensive restoration.

This is a simply outstanding recording in technical terms. I cannot recall a better rendition of the sound of a harpsichord, possessing as it does all the fullness of body and richness of colour and tone that you could want, together with a vivid presence, but with a completely natural balance. Even at modest volume levels, the result is completely convincing.

The qualities of Martin Souter's playing have been praised in these pages before, and here he is at his most fluent and exuberant in a programme of music that reflects the styles popular during George III's reign. There is Handel, of course, the magnificent Suite in D minor, with its beautiful saraband, and a fine sonata by Thomas Arne whose reputation always suffered from having to work within the giant shadow of Handel. Also represented is Johann Christian Bach, the elder son of Johann Sebastian who spent most of his working life in England, and Mozart, who visited the English court during a visit in 1764 and, through his links with J.C. Bach, may well have played this very instrument. Finally, Martin Souter offers a delightful suite by the now largely forgotten Thomas Chilcot who was organist of Bath Abbey during the period in which the city was becoming the fashionable place to be. Chilcot, like his contemporary Thomas Arne, certainly knew how to write a good tune, and this charming E minor work does not disguise its French influence.

Glorious music-making throughout, and with not a trace of the fatiguing brightness which mars so many recordings of the instrument. The second recording using this 'royal harpsichord' promises an all-Handel programme including the final three suites from the 1720 collection which aid not appear on Martin Souter's earlier recording (Isis CD003). It is, needless to say, eagerly anticipated.
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Dear Mr. Soper,

Thanks for sending me the plinth for my Garrard 401. I must confess, that I was a bit sceptical about it, when I ordered one - after all, I bought it, without the possibility of listening to it first. But the results I get are really unbelievable. There is no rumbling, instead deep, deep bass and an authority. I never heard before from my records. And believe me, I tried some of the best turntables around (Linn LP 12, Robson Xenon). Now I'm waiting for the forthcoming power-supply. The day I place my order for it, I will do so without being a bit sceptical. Thanks again for a marvellous piece of art.

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Although LEAK TL12+ & STEREO 20 are quite capable amplifiers, both are capable of far greater things than the stock circuit would have you believe. The worst part of the circuit is the phase splitter. In the TL12+ an ECC81 is used, and an ECC83 in the STEREO 20, valves that have medium to high mu. Sonically, this extra gain around the phase splitter causes AC imbalance, which LEAK try to balance via different values of anode resistor, which results in DC imbalance. All of which makes the amplifier sound slow, lifeless, and lacking in both bass and treble frequencies, not to mention attack. I change these valves for an ECC82, balance the anode resistors, change the valve bias, and remove the localised feedback from around it. The first valve is also modified to improve performance, as is the output stage. The result is an amplifier transformed, fast, clean, and better balanced. The cost for a warranted total rebuild and modification is £150 for either a pair of TL12+, or a STEREO 20.

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Troughline Mk II, III & Stereo are all very capable tuners - with two problems, firstly most are mono, secondly the Stereo models have lossy output. We have an easy cure for a low output stereo model, an extra valve buffer stage connected to the decoder. This raises the output from a flea-powered 0.04 of volt, to a much more usable 1.2 volts, as well as offering better cable control, and thus improving the sound (better bass, dynamics etc.). We charge £70 for this, including a full alignment, gold sockets & service. Anyone just wishing to have their tuner aligned and serviced will be charged £40. The ultimate mod for any Troughline (or any tuner for that matter) is the Tim de Paravicini F.M. Tube Decoder. This gives the best sound you can get out of any tuner system anywhere. Total charge is £235 for alignment, modification & supply of the TdP decoder.

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"The Gamma is especially skilled at placing the listener in the position of the observer at an event" This amp has a raw vitality and realism that the others can't match. "(Hi-Fi News & RR March)"

and the coo-de-bee duo's in the background from Ray Brown gave a sense of reality which would have you believe the band was performing for just us!!"

"The technology may be rooted in the early years of this century, but than some of the best inventions take time to mature."

"If you are into music the Gammas are worthy of serious consideration. You may be more than a little surprised" (Hi-Fi Choice Oct. '94)

"The Gamma RHYTHM REF (soon) is a winner new comer to the single ended fold the design offers the sort of acoustics treasures that are usually the domain of far more expensive amplifiers. "Gamma is to be applauded for this exciting new product!" (Hi-Fi Choice Jan. '94)

Header - "Clean, neutral, articulate sound A single ended bargain."

The Gamma Gemini is IMng(!) proof that size don't matter this is one of those minimalist amp which must leave many high end solid state buffs wondering whether they really need those steroid pumped super amps.

"the Gemini is a peach. Switch it on leave it for a couple of minutes to settle down and (once run in) it will give a truly amazing sound. CD, radio broadcast tape can all sound stunning through this device the Gemini will charm the very best out of your music collection.

for £699 you'd be hard pressed to match this design for sheer sound quality and enjoyment (Hi-Fi Choice March '95)

the immediate effect of this new amp was warmth and funkiness. "Suddenly it had soul" "I had a clearer idea of what they were feeling" "the Gemini offers a small footprint with a difficult to beat price" (Hi-Fi News & RR Feb. '95)

There's a hugely endearing quality about the Gemini sound. "It has the most attractive price tag £699 is small money for a decent valve amp. and decent the Gemini is." (Hi-Fi Feb. '95) BUT DON'T TAKE THEIR WORD COME AM) BE HAPPILY SURPRISED!

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Once your stands are filled, you will immediately notice an improvement in lower frequencies in the form of a much tighter, punchier bass response—a welcome enhancement for the generally smaller cabinets and woofers of stand-mounted speakers.

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It's important to measure products to assess performance, find explanations of sound quality and warn of peculiarities or faults. Only Hi-Fi World has an advanced in-house laboratory with digital signal analysis for this purpose. In conjunction with this facility we assess sound quality in our own acoustically treated listening room. We measure most products reviewed. Here's a simple guide on our test results.

**LOUDSPEAKERS**
Smooth, flat frequency response is important to ensure a balanced sound. Look carefully at overall trends; rising treble will give a bright sound, falling treble a dull sound. A rise through the midrange normally corresponds with good projection.

High sensitivity (better than 86dB) means less power is needed for a certain volume, meaning a low power amp can be used.

The impedance curve tells us how easy loudspeakers are to drive. Low or wildly varying impedance is bad; a flat impedance around 8Ω is good.

**CD PLAYERS**
Even small trends in frequency response of CD players can affect their subjective balance. Generally, those with a gently rolled off treble and, more rarely, a rising bass will sound best. Rising treble can produce a sharp sound.

The distortion plot we show is taken at -30dB, to represent a typical music signal. High distortion at this level, combined with rising treble, can result in a harsh sound. Yet other effects have to be considered, especially low level linearity, which we also test for, including -90dB signals with dither applied.

**AMPLIFIERS**
Distortion from solid state amplifiers should be no more than around 0.2%. Even order (2nd, 4th, 6th etc) distortion is aurally innocuous, but odd order (3rd, 5th, 7th etc) distortion makes for a glassy, hard sound, or grittiness.

Frequency response can be band limited, with bass and treble rolled off just out of the ear's range, or widescreen. Each has its own characteristics. Small widescreen response variations colour tonal balance.

Power output is easy to understand: the higher the figure, the louder it will go. Just make sure there's enough power output to drive any loudspeakers you intend to use.

**TUNERS**
Frequency response, as always, says much about tonal balance and character traits, like peaky treble (due to a mis-matched MPX filter). Distortion and channel separation need to be less than 0.3% (according to harmonic structure) and better than 25dB.

Hiss level must be lower than -70dB for Radio 3 silences to be just that - silent. And full quieting, the strength of aerial signal needed for optimum results, should be around 1mV or less. Selectivity, the ability to separate stations under the most difficult conditions should be better than 60dB and sensitivity better than 30uV on stereo.

**CASSETTE DECKS**
Replay performance is measured to IEC 94 Standards using IEC test tapes. This ensures that recordings made on a machine transfer to a car player, personal stereo or another domestic recorder properly, as well as ensuring optimum results with commercially prerecorded tapes. Look for a quoted replay response of 40Hz-10kHz, no more than 1% speed error and hiss in the replay amps lower than -58dB.

Recording quality considers frequency response, bias variation, head performance and alignment. Frequency response should stretch from 40Hz-15kHz or so. Head overload (MOL315) must be above 0dB, reaching around +4dB for good results.

From the transport mechanism look for less than 0.15% wow or flutter. Overall (DIN weighted) wow and flutter should be no more than 0.1% or so.

**CASSETTE**

**ROTEL CASSETTE DECK**
The transport mechanism displayed fairly mediocre speed stability, running fast by 1.2% and varying its speed randomly (drift), which in turn produced irregular speed variations (jerking, as it were). This is a simple transport, whose antics are likely to be audible with higher the figure, the louder it will go. Just make sure there's enough power output to drive any loudspeakers you intend to use.

**RECORDING (blank tapes)**
Frequency response (IEC Primary Refs) ferric (IECl) 24Hz-17kHz chrome (IECII) 24Hz-17kHz metal (IECV) 24Hz-17kHz Separation (kHz) -42dB Distortion (315Hz) 2.3% Hiss (70uS, Dolby out) -56dB Speed variations (DIN total) 0.1% Flutter energy (9-3.13kHz) -30dB MOLSAT (IEC Refs) 315kHz IEC I (ferric) +2dB/5dB IECII (chrome) 0dB/4dB IECIV (metal) -1dB/0dB

**REPLAY (pre-recorded tapes)**
Frequency response (-2dB) 30Hz-20kHz Speed accuracy +1.2%

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<tr>
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<tr>
<td>30Hz-20kHz</td>
<td>0dB</td>
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<td>+2dB</td>
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**RECORDING (blank tapes)**
Frequency response (IEC Primary Refs) ferric (IECl) 24Hz-17kHz chrome (IECII) 24Hz-17kHz metal (IECV) 24Hz-17kHz Separation (kHz) -42dB Distortion (315Hz) 2.3% Hiss (70uS, Dolby out) -56dB Speed variations (DIN total) 0.1% Flutter energy (9-3.13kHz) -30dB MOLSAT (IEC Refs) 315kHz IEC I (ferric) +2dB/5dB IECII (chrome) 0dB/4dB IECIV (metal) -1dB/0dB

**REPLAY (pre-recorded tapes)**
Frequency response (-2dB) 30Hz-20kHz Speed accuracy +1.2%

<table>
<thead>
<tr>
<th>Frequency Response</th>
<th>Speed Stability</th>
</tr>
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<tbody>
<tr>
<td>30Hz-20kHz</td>
<td>0dB</td>
</tr>
<tr>
<td>+2dB</td>
<td>-80dB</td>
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<tr>
<td>0dB</td>
<td>2970</td>
</tr>
<tr>
<td>-2dB</td>
<td>3170</td>
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<tr>
<td>-40dB</td>
<td>Test Tone</td>
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AMPLIFIERS

HARMAN KARDON HK620

The 620 produces plenty enough power for most loudspeakers, in small to medium sized rooms, for normal volumes. We measured 66 watts into a normal load and no less than 100 watts when feeding a low 4Ω.

Harman have traditionally produced very wide bandwidth amplifiers and although current outlook would have it that restricting bandwidth is the best thing to do, Harman amplifiers suggest there's more to it. They usually offer a good, open sound, in spite of response exceeding 100kHz, as it did with the new 620. Bass extension was exceptionally low too, reaching 2Hz. With high sensitivity, low noise and distortion (mainly innocuous sounding second harmonic) the 620 measured well, as Harman amps usually do. NK

UNISON SIMPLY FOUR

The Simply Four is the bigger brother of the Simply Two reviewed in the August '95 issue of HFW. The Two used one EL34 per channel to produce 8 watts of single ended power, the Four uses a parallel-single-ended configuration with two EL34s in parallel for each channel to give just over 16 watts, making it suitable for a wider range of speakers. Distortion remained predominantly 2nd harmonic at all levels, which tends to be innocuous, or at least more pleasing than odd order components. The Unison has switchable feedback, offering two levels. The higher feedback position gives lowest distortion and output impedance, which will allow more reactive loudspeakers to be driven. But the lower feedback position normally gives better subjective results, as long as distortion isn't too high.

EXPOSURE SUPER XV

Exposure's Super XV is a powerful integrated, raising 58 watts into 8Ω and 93 watts into a 4Ω load. This is enough power to drive most loudspeakers loud with ease, and the Super XV will cope with low impedance loudspeakers, such as KEF's Reference series, well. Frequency response is band limited to 24kHz, which normally gives a smoother treble than wide band amplifiers, free from sharpness. Distortion on the Exposure was high, measuring 0.3% at 10kHz for a 1 watt output. But although the plot below shows strong harmonics, their structure is dominated by even order harmonics, 2nd and 4th being the strongest, which are normally innocuous.

Sensitivity on line level inputs was 165mV, so even low output tuners and cassette decks will have enough output to drive the Exposure to full power. Channel separation was surprisingly low though at 41dB, and noise quite high at -85dB, so some slight hiss may be audible. Also, D.C. offset on one channel was high at 20mV, which may displace 'speaker drive units, especially on more sensitive loudspeakers. The Exposure Super XV measures reasonably well, but some areas of its performance could be more refined considering its price. DB
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CD PLAYERS

MARANTZ CD-72 MKII
The CD-72 II has a very flat frequency response, with just the slightest lift in the high treble. This will give a neutral balance, but it may sound a touch 'clinical' because of the extra perceived detail associated with the treble lift.

As is common with many of the well engineered Japanese players, distortion was very low at all levels. There was strong noise and inharmonic distortion though starting within the upper reaches of the audio band. If you look at our -30dB distortion plot below, you can see this starting at the far right, and it may well colour treble quality, especially combined starting within the upper reaches of the noise and inharmonic distortion though engineari Japanese players, distortion was engineered well, but as you only need around 25dBA of separation for good stereo, and the TEAC managed 66dBA at 20kHz, this is no cause for serious concern. Output was fine at 2.2V.

TEAC CD-P3200
The TEAC CD-P3200 is probably the worst CD player I have ever measured, but then again, it is also the cheapest. Frequency response is smooth and flat up to 2kHz, but from here upwards things go a little wonky. The response becomes very uneven and the overall trend is a rising one which will lighten tone and add a brightness to the sound. This combined with the high distortion at all levels is unlikely to sound pleasant. At -30dB, a level selected to represent typical music level, distortion harmonics were high and wide ranging. This will almost definitely colour the sound, and combined with the frequency response lift in the treble could result in harshness. At -60dB distortion was high again at 2.4%, giving a low dynamic range of 95dB (EIAJ test).

Channel separation was lower than most too, but as you only need around 25dBA of separation for good stereo, and the TEAC managed 66dBA at 20kHz, this is no cause for serious concern. Output was fine at 2.2V.

NAD S10
With rising manufacturing costs in the East, the performance of budget CD players is suffering. Determined not to compromise performance on their new S10 player, NAD have provided no remote control and sparse features. The good news is that it's worked, the NAD measuring well and displaying quality engineering.

Frequency response is smooth with a slight lift in the bass and rolled off treble, normally the best combination for a good subjective balance from CD. Treble does roll off a little early though, so I'd expect a soft and warm sound, which may well be a benefit with some systems.

Distortion was low at all levels, which is something few players at this price manage nowadays. At -30dB, a level selected to represent a typical music signal, you can see just a small amount of 2nd and 3rd harmonic distortion poking out above the noise floor. I suspect it is low enough not to colour the sound.

Elsewhere there is nothing to grumble about, the S10 having wide channel separation, good dynamic range, healthy output at 2.3V and low noise. All in all, a well thought out and engineered player.

TEST RESULTS

**Frequency response 4Hz-21kHz**

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<tr>
<th>Distortion (%)</th>
<th>-6dB</th>
<th>-30dB</th>
<th>-60dB</th>
<th>-90dB</th>
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<tbody>
<tr>
<td>Noise</td>
<td>-121dB</td>
<td>-121dB</td>
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<tr>
<td>Dynamic range</td>
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<tr>
<td>Output</td>
<td>2.1V</td>
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LOUDSPEAKERS

ORTOFON CONCORDE 6
You get a lot of loudspeaker from Ortofon in the form of their Concorde 6. They are a large three way floorstander with healthy bass extension as seen in the plot below. Above this the response starts to gently fall in level which will remove a little midrange projection, but the tweeter comes in strong to give the response a plateau lift above 5kHz. I’d expect the Ortofon’s to have powerful bass, a smooth midrange and strong treble.

Impedance falls low through the bass, suggesting that the twin bass drivers have been wired in parallel, reducing impedance and increasing power draw. This said, impedance never drops below 4Ω, which keeps them a nice load for most amplifiers. Sensitivity is good too, measuring 88.5dB at 1m with a nominal watt (2.83V) pink noise signal.

WHARFEDALE VALDUS 500
The Valdus 500s have a reasonably smooth and integrated response from around 800Hz upwards. There is a slight peak at 3kHz which will push detail forwards and should give them good projection. Below this there is a deep and wide dip followed by a strong peak centred around 100Hz. This may remove some upper bass/lower midrange detail, but below this the lift should give good bass punch.

Wharfedale’s Valdus 500s are very sensitive, producing a healthy 92dB at 1m for a nominal watt (2.83V) pink noise signal. This means that they will go loud with few watts. Overall impedance is low at 6.2Ω though, and the impedance curve shows falling impedance towards the bass. This means that an amplifier capable of delivering current into low impedance loads will be necessary if you want to exploit the Valdus’ prolific bass extension to its full.

HEYBROOK HEYLO
Heybrook’s Heylos are a short floorstander with the drivers mounted below the axis where your ear would normally be. Cleverly though, Heybrook have aligned the phase of the Heylos so that the response is smoothest and integrates best with the microphone above them, so the response is lobed upwards towards the listener.

Frequency response was very smooth, with a gentle lift through the midrange which will tend to push detail forwards, and a slight lift in the treble. This, combined with a falling bass, response may give the Heylos quite a light and open quality, but they are unlikely to have very powerful bass, even with some wall reinforcement.

With a high overall impedance of 9.8Ω and a smooth impedance curve that never drops below 5Ω right across the audio band, the Heylos could be a good match for zero feedback amplifiers. However, they are only of average sensitivity, measuring 86.5dB at 1m for a nominal watt pink noise input, so I’d recommend at least 30 watts or so for best results.
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<th>OTHER ITEMS</th>
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<td>Arcam Delta 70 MK3 CO.</td>
<td>£195.00</td>
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<td>Quad 3000 EX COND</td>
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<td>Mayware Arm EX Cond</td>
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<td>SME 3000 TIME-ARM</td>
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<td>Pioneer TM-4043X Tuner</td>
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LOUDSPEAKERS

MIRAGE M-8901

The Mirage M-8901s are a bipolar design, with identical drivers firing both forwards and behind, in-phase to create a hemispherical sound pattern. As you will see from the plot below, the '8901s have a smooth response and are especially flat through the midrange. Treble lifts gently above 6kHz, which is likely to give them extra perceived detail and insight. This is balanced in the bass by a lift around 160Hz, which will add some punch.

As far as driving the '8901s goes, they aren't the easiest of loads. Low sensitivity of 84dB at 1m for a nominal watt (2.83V) pink noise signal, plus low impedance through the bass, will combine to draw current. This makes a powerful solid state amplifier the best bet. I'd recommend at least 50 watts for good levels in a typical listening room. DB

TUNER

KENWOOD KT-6050

This is an advanced tuner design, beating most. It has incredibly low hiss, at -80dB the lowest I've ever measured. As a result, it hits -70dB hiss - most tuner's lower limit - at just 0.63mV from the aerial, another record. It has just about no spurious output, and very low distortion too. With a carefully tailored frequency response that mildly de-emphasises treble to avoid glare and with bass emphasis to add weight, I'd predict an interesting sound.

Alternate channel (+/- 0.4MHz) selectivity was excellent in Wide or Narrow IF mode, but Narrow usefully improved adjacent channel selectivity by 16dB.

The signal meter usefully runs up to 0.8mV, enough to tell whether the aerial really is giving enough signal, although 3mV or more is needed to hit absolute minimum noise of -80dB.

The KT-6050 measured incredibly well. It's a class leader. NK
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HI-FI WORLD
Around The World

Last month we referred to the "Best of British" Hi-Fi and frankly we do prefer to sell British products as apart from anything else it's so much easier to sort out problems should any occur, which luckily is very seldom. So far us to get involved with a foreign product, means it has to have something special which we can't otherwise find in equivalent British products, though the usual higher price makes the equation difficult sometimes.

A) Speakers

If there is one criticism that can generally can be made against British speakers, especially in the era of CD, is a tendency towards a shrill sound and one of the main characteristics of all the foreign units we sell is of a more mellow sound. This has always been a characteristic of American speakers, but often they go too far the other way and lack real excitement and dynamics. My association with Alon results from a 15 year era when I used the now obsolete Dahlquist DQ10's, a superbly dynamic speaker with 5 drivers. The Alan's are produced by Carl Marchisotto, who worked for 15 years as Chief Engineer at Dahlquist, and has carried on the tradition, but in more user friendly vertical boxes. Previously all Alan units were open baffle, apart from the bass unit, but they have just produced two new box units, the 0.5 floorstander and the bookshelf sized Petite, for which a sub-woofer is planned. The Petite has just had a rave review in the "Absolute Sound" and we should have heard it by the time this ad appears. Ring us for details. This speaker costs £1,000 approx, but the Alan 1 at £1,600 and the II At £2,700 are full range beasts with a huge open stage and powerful bass which would appeal to rock fans and large orchestral enthusiasts.

The Triangle speakers from France are much cheaper starting at £325 for the Titus bookshelf to the first of their floorstanders at £650. These are as sweet as a nut and incredibly accurate transducers. All of these however only come as black boxes, but if you want a beautiful cabinet look no further than the Callas from Opera (Italy), with a sweet sound to boot. The Jamo speakers from Denmark have some bargains particularly the Cornet 30 at a mere £90, while Analysis from Greece produce big and small panel speakers from £2,500 to £4,500. More next time!
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- Manticore Magister with 12” Magician tonearm £3,800.00
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- Manticore Mantra turntable - classic - no arm £495.00
- Manticore MB6 off-board power supply £490.00
- Manticore MB5i off-board power supply “suits most decks” £290.00
- RIAA and preamplifier “system Integrity wiring” £690.00

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Manticores are the range of power supplies to suit all turntables fitted with the Philips Impex range of AC synchronous motors. This includes Manticore (of course!). Linn, Rega, Logic, Arisone (not all models), Systemdek and many more. Our power supplies can also be adapted to other AC synchronous motors and we have built up a lot of experience over the years in this area.

The entry level model, the MB5i, is a quartz crystal based amplifier that runs at 33 and 45 RPM. The highly sophisticated MB6 in addition, has a computer referenced phase lag and separate amplification for each set of poles of the motor.

Manticore has the policy of helping our customers to progress along the upgrade path, and we will always take an MB5, or MB5i in part exchange at full cost price against an MB6. Consequently, we often have pre-owned MB5 or MB5i in stock at very good prices.

A detailed specification sheet is available for both current models.

We believe the MB6 to be the finest turntable power supply on the market. Our customers agree, and we have many testimonials to that effect. A sample of these is contained in the product information pack.

Our products are very reliable. At the time of placing this advert, no production MB6s have ever gone wrong in the field.

All Manticore Audio visual products come with a lifetime guarantee. This is qualified in the following way - electronic components, such as transistors, are guaranteed until the end of their reasonable working lifetime. Mechanical assemblies for the most part manufactured by us are guaranteed until the reasonable end of their specified design life. The first Mantra was produced 12 years ago and is still in fine shape.

The incredible ONGAKU is bettered (but not replaced). This is an example of a product that is not justifiable, until it is heard. The once was the benchmark to which all others were to be judged. King Kegon has tremendous drive in the bass and mid frequencies. A transparency to, has said the same thing. ‘When I win the lottery Dave...’ The amplifier we have come to expect from Audio Note.

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Other Classic Albums Available...

LIGHTNIN' HOPKINS

Goin' Away

Renowned for inventive, poetic lyrics, this post war blues giant was often criticized for cranking his amp to fierce proportions, when performing for friends in Houston. Producers who recorded him for the folk-blues market usually insisted he play an acoustic guitar for more 'authentic' results. Either way, Lightnin' seldom made a bad record, and this 1963 acoustic session was among his finest. (LP only)

APA 014 HQ 180gm LP £25

MILES DAVIS

Cookin'

The famed extended sessions of the Miles Davis Quintet made for Prestige through the 50s and 60s. From the muted eloquence of "My Funny Valentine", through the finger-popin' "Blues By Five", to the urgent swing of "Airegin" and "Tune Up", Cookin' has the ability to thrill the listener no matter how many times it is played - the mark of a great performance. (Available on gold CD from DCC)

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APA 010 HQ 180gm LP £25
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THE DON EWELL QUARTETTE

Yellow Dog Blues

More of a well-kept secret than some of his peers, pianist Don Ewell's interpretation of Waller, Johnson and Morton, both in performances and recordings, are revered within New Orleans and traditional jazz circles. This true stereo recording from 1959, is a great sonic showcase of his mastery of stride. (Available on LP only)

APA 019 HQ 180gm LP £25

ART PEPPER

Art Pepper + 11

This album and his earlier 'Art Pepper Meets The Rhythm Section' are surely the two most important sessions in Pepper's entire recording career. Although Art had recorded in many big bands, this was the first time he did so as a leader, and every musician in town wanted to be involved. A great album.

APA 017 HQ 180gm LP £25
APC 017 24kt Gold CD £25

Cookin'

The famed extended sessions of the Miles Davis Quintet made for Prestige through the 50s and 60s. From the muted eloquence of "My Funny Valentine", through the finger-popin' "Blues By Five", to the urgent swing of "Airegin" and "Tune Up", Cookin' has the ability to thrill the listener no matter how many times it is played - the mark of a great performance. (Available on gold CD from DCC)

APA 021 HQ 180gm LP £25
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<td>MARY BLACK</td>
<td>The Holy Ground</td>
<td>U.S.</td>
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<td>BLONDIE</td>
<td>The Remix Project</td>
<td>U.S.</td>
<td>£15</td>
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<td>JACKSON BROWNIE</td>
<td>Im Alive</td>
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<td>THE CRANBERRIES</td>
<td>No Need To Argue</td>
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<tr>
<td>MILES DAVIS</td>
<td>Kind Of Blue</td>
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<td>£10</td>
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<td>BOB DYLAN</td>
<td>Unplugged 2LP</td>
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<td>Tomorrow The Green Grass</td>
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<td>Made In England</td>
<td></td>
<td>£9</td>
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<td>DANIEL LANOIS</td>
<td>For The Beauty Of Wynona</td>
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<td>BOB MARLEY &amp; THE WAILERS</td>
<td>Natural Mystic</td>
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<td>LIZ PHAIR</td>
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<td>PINK FLOYD</td>
<td>Pulse</td>
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<td>SADA</td>
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<td>PINK FLOYD</td>
<td>Atom Heart Mother</td>
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<td>THE MODERN JAZZ QUARTET</td>
<td>The Modern Jazz Quartet</td>
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<td>Blues At Carnegie</td>
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<td>STAN GETZ &amp; JOAO GILBERTO</td>
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<td>TRAFFIC</td>
<td>Low Spark Of High Heeled Boys</td>
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<td>JOHN HIATT</td>
<td>Bring The Family</td>
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<td>QUEEN</td>
<td>The Game</td>
<td>£25</td>
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<td>JEAN MICHELL JARRE</td>
<td>Oxygen - Classic</td>
<td>£25</td>
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<td>THE MOODY BLUES</td>
<td>On The Threshold Of A Dream</td>
<td>£25</td>
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<td>DAVE BRUBECK</td>
<td>We're All Together Again</td>
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<td>Brothers &amp; Sisters</td>
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DISCOVERY & IMPULSE PRESENT

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<td>DEXTER GORDON</td>
<td>American Classic</td>
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<td>LEE RITENOUR</td>
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<td>IMPULSE</td>
<td>JOHN COLTRANE - A Love Supreme</td>
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<td>JOHN COLTRANE</td>
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<td>JOHN COLTRANE &amp; JOHNNY HARTMAN</td>
<td>Equinox</td>
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But with a series /parallel primary section, user set for a 300B or EL34/KT88/6550 output valve to match a 8 ohm load at 2500/3000 ohm to 8 ohm. With 130 milliamps DC flowing through the primary the frequency response is level from well below 15 hz. to above 40 kHz., with or without feedback. Thus allowing the accurate reproduction of large scale orchestral works with a large dynamic range.

The “type 15” has been used successfully as a replacement upgrade for various commercial amplifiers, and is now available for home constructors wishing to build their own amplifiers.

They are handwound in matched pairs, tested and guaranteed for one year. Priced at £180.00 per pair including carriage, insurance and VAT.

Also available are 2300/8 ohm, 2500/8 ohm, 3200/8 ohm, 3500/8 ohm, and 4000/8 ohm, 6 kilo dedicated single-ended output transformers priced at £170.00 per pair.

And of course our fully welded 1.5mm. mild steel blank chassis, the most popular sizes being

400mm. x 300mm. x 65nm, @ £30.00 each.
and
400mm. x 230mm. x 50mm. @ £50.00 per pair.

For more details on these and other items please send sae to P.J. Perry

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Tel: 0181 558 4266

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Monarchy Dip Anti Jitter Device
Tube Technology Unisys/Synergy - gorgeous glowing valves!
Rel Storm - redefined our ideas about subwoofers
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Apo.gee Centaur £995
Magneplane M33.3 AS New £2250
Heybrook Integra AMP £250 (500)
Audio Research LSS Preamplifier £2995 (5290)
Chord BPM4208 Monoblock Power Amps Piano Black £3495 (Pair)
Copland CT4401 Ex Dem £995
Audio Research Litz/Cloth/Line Cables

Please ask for details or our current list

Agencies include: Aura, Accuphase, Acoustic Energy, Air Tangent, Apogee, Audio Alchemy, Audio Research, Audio Technica, B&W, Castle, Cable Talk, Classe, Copland, Denon, DPA, Dual, Gouding, Harmonia, Heybrook, Koetsu, Jadis, Kill, Lyra, Manchase, Marantz, Martin Logan, Michell, Micromega, Music Fidelity, NAD, Resonance, Oxford, Ortol, Ortofon, Pioneer, Project, PS Audio, QED, Quad, Rel, Rotel, Rogers, Roksan, Rot, Ruark, Seismic Sink, Sennheiser, Slate Audio, SME, Sony Faber, Stax, Target, TDA, Tec, Thela, Thloren, Transparent Cables, Van den Hul, Wadsworth.

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**CONTACT**
GRAHAM TRICKER
ON
TELEPHONE/FAX:- 01895 833099

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**THE SUMMER SALE**

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<th><strong>WAS</strong></th>
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<tr>
<td>ATC SCM20T (Rosewood)</td>
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<td>AVI S2000MP pre amp</td>
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<td>AUDIONOTE OTO amplifier</td>
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<td>AUDIONOTE DAC 1</td>
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<td>AURA VA100 amplifier</td>
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<td>AURA TUSO tuner</td>
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<td>EXPOSURE 18 power amp</td>
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<td>EXPOSURE 15 amplifier</td>
<td>£750</td>
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<td>KEF Reference 2 speakers</td>
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<td>ROKSAN Xerxes/Tabriz</td>
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The above is a selection of the ex-demonstration equipment offers we have in our Summer Sale a full list is available on request.

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**BARGAIN! MERIDIAN 207 PRO CD/PRE-AMP.** Meridian 209 MSR remote control. Both mint condition and boxed! £1,100 new a bargain at only £399. QUAD 606 power amp boxed only £349. Yamaha DSP E300 Pro Logic sound processor mint, boxed with remote £360 new only £299. 

**ACOUSTIC ENERGY AEGIS 1 loudspeakers.** Walnut finish, in mint condition. £325.00. State Audio stands also available at £180.00. Tel: 01525 384174.

**NAIM SBL LOUDSPEAKERS, black Ash, in original unmarked condition.** £900; Naim IBLS black Ash £330; Naim Naxo 2x4 active crossover with Avantone power supply suitable for SBL or IBL loudspeakers £275. Tel: 01524 381389.

**BOSE 901 IV vgc (new £1,600+) £495. Micro-Logics vgc £175. Croft valve pre £125.** Wanted AVI turner/CD or good DAC. Evening 01452 812618 (Gloucestershire).

**ARAGON 4004 power amp, 200 WPC, recently serviced, £750.** Matching Aragon 2AK pre-amplifier with external PSU, £350. Both boxed, approx. 3 years old, good condition. Both £1,895 new. Tel: 01483 825234.

**REL STRATA Subwoofer, active, 7 months old, excellent condition, £340 no.** NAD 304 amplifier, 1 year old, vgc £130. Tel: 0171-387 7189 (London).

**WANTED: MUSICAL FIDELITY MC4 loudspeakers (transparent cones), also Audiomaster monoblock valve amplifier (one) with Partridge transformers and cherry red base. For sale: Rotel 965SBX CD Player £150 (300).** Tel: 01566 781275.

**CAMBRIDGE CD3 (grey) MC remote £350.** Pioneer Prelude speakers (real walnut veneer) £150. Cliff Stone Foundation speaker stands £50. All boxed. Excellent condition including instructions. Tel: 01244-681805 (Cheshet).

**ARCAM ALPHA 5 Plus CD player £195.** Micromega MicroRomans £125. Theta TLC Jitter Buster £175. Audioquest Crystal speaker cable 4m single bi-wire £60. All items vgc and postage included. Tel: 01534 662236.

**AUDIO INNOVATIONS S500 int valve amp.** Woodside STA 35 Renaissance Series valve power amp, Ruark Talsman 1 speakers in Ash £775. Wanted: Best Naim equipment W.H.Y. 01626 774264 Devon.


**LINN LP12 (BLACK), Ittok, Silton AT-FS, boxed £550, Meridian 200/ 203, boxed £695, SD Acoustics SD1 flooring loudspeakers, superb, boxed £695 (£1,700 new).** Mission Cyrus 1 amplifier £125 Tel: (0449) 676335.

**NAKAMICHI 1000 2XLP with remote control just serviced by B &W, £1,800.** Pioneer M350 power amp £400. Pair Quicksilver power amps £750. Original turntable £250. Tel: 01923-862283.

**MISSION SPEAKERS 75S rosewood £530, Quad preamp 34 £250, Quad power amp 405-2 £260 — ono.** All mint boxed, must sell, upgrading. Tel: 0121 357 9561.

**NAKAMICHI LP12 £220.** Rega RP300 £65. Meridian 930 active speakers with 1015b preamp, IXOS module, £695. Wanted: Linn Extreme CS £695. Tel: 0114 255 346 (Dyfed).


**SEMTRO TECH 3 stereo (GT Audio) £275.** Troughline 3 Mono £30. Wanted: Audio Innovations £400 and S300MkII. Tel: 01834 860813 (Basingstoke).

**NAKAMICHI 1000 2XLP with remote control just serviced by B & W, £1,800.** PAIR MUSICAL FIDELITY MASO power amps £400. PAIR Quicksilver power amps £750. Original turntable £250. Tel: 01923-862283.

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**MUSICAL FIDELITY MX3.3 preamp and PSU, mint condition, boxed with manual (£2,500 new).** Bargain £750. Tel: 01263 512815. **SYSTEMDEK IX/EX/IX/Mono arm/Linn K9 (excellent, boxed) £195;** Armstrong 52 amplifier, Armstrong 324 tuner — £40 each. Tel: 01970 832694 (Dyfed) after 6pm.

**ARCAM ALPHA 5 CD player, still under guarantee, immaculate condition, upgrade forces sale. £300.** Tel: 0114 255 3464 evenings (Sheffield).

**WANTED: USED or second hand SME III arm, also Naim Fifty Two and Eighty Two — must be in good condition, used or second hand. Tel: 0161 747 5679.**

**ARCAM DELTA 170 transport £225.** Deltec PD11/ 11 £275. Yamaha OSR70 Prologic £75. Mission 733 £125. 2 x 9 Sonelink Brown £150. Tel: 01733 223234. **MISSON SPEAKERS 75S rosewood £530, Quad preamp 34 £250, Quad power amp 405-2 £260 — ono.** All mint boxed, must sell, upgrading. Tel: 0121 357 9561.

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Tel: 01843 59242 (Kent).

BRYSTON 4B NRB £1,150; Audio Research SP14 £500; Gradient sub-woofers for Quad ESL-63s £925.
Tel: 01243 767037 Chichester.

FOR SALE: SPENDOR BC1 new £850. Impulse H2 speakers as new £325.
Tel: 01422 203057 (W. Yorks).

SUMO ATHENA PRE £250 o.n.o.
Contact Tel: 0181 888 3715 No time wasters please.

NAIM AUDIO NAIT 3 including M/ M phono stage (£625) accept £375. Wanted: Shearne Phase 2.
Tel: 01462 543909.

NAP135s £925 ea.
Contact Tel: 01924 706035 evenings and weekends (Reddish area).

CROFT SERIES V (2) stereo power valve amp £275; QED MA34PG passive pre amp £25; Sennheiser HD-500 headphones £20; Deebro 'Sink' interconnects (half metre pair) £15; QED 'Difigilex' £9; Sorbothane feet (set of four) £15. All as new.
Tel: 01979 750151.

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DAC £200 o.n.o (£400), Tannoy 611 MK2 speakers fitted with Deflex panels £90 o.n.o. (£480).
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AUDIO RESEARCH SPB. All valve pre-amp £750. Wanted: Gyrodec. Tel: Alan 01661 852874.

DENON 24HX dual capstan cassette deck (light use) £125.
Audio Technica ATH700 Electret Condenser headphones £85. Mod Squad (passive pre) line drive £200. Bruce Rabe Audio Active Cable drive with 5 metres cable (adds guts to passive pre) £250. Denon 250L tuner £60.
Audioquest Sorbothane turntable mat £25. BLO1 speakers (similar to Linn Kans) £60. Robin S00T multimeter £25.
Tel: 0181-502 3017.

KOETSU ROSEWOOD cartridge, recently rebuilt by Koetsu, superb £290. Fisher 500C valve receiver (18 valves) £25 WPC with original walnut case and service manual £250. Will consider part exchange.
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Tel: 01243 567037 Chichester.

Tel: 01753 856809.

BRYSTON 4BB £1,150; Audio Research SP14 £500; Gradient sub-woofers for Quad ESL-63s with crossover £1,000; Bryston 10B professional crossover (nearly new) £1,000; all boxed and being sold by original owner.
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Tel: 01753 856809.

LINN TUKAN with Brakits. New £1,100 relic £1450. For sale: LINN LP 12 WITH Akito/K9/ Valhalla. Excellent condition, little use £2,650. All items o.n.o.
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SME 9010B professional crossover (nearly new) £1,100.
Cyrus CSA 14 £750. All boxed as new.
Tel:01252 311016.

LINN NOVA3 B statutes. £1,100. Audioquest CD-07 £450. SP200 power £400. SC200 pre/MMC £250. Orator speakers £300. Target R1 stands £200.
Sonus Fischer Electra £1,000. Canton CSA £450. All boxed.
Tel: 01252 311016.

LINN 3045 £650.
Tannoy 611 £35. Audio Technica in line transformer, boxed, mint £40 o.n.o.
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Audio Research SP14 £500; Gradient sub-woofers for Quad ESL-63s with crossover £1,000; Bryston 10B professional crossover (nearly new) £1,000; all boxed and being sold by original owner.
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MIDIAN 206 Delta/Sigma £550.
RCA Black Slink balanced line drive £125.
With DAC £1,500.
Circuit board £300. Excellent £2,500 o.n.o. + Meridian 602/606 boxed and mint. £425 o.n.o.
Contact Tel: 0181-888 3715. No time wasters please.

SME ATHENA PRE £250 o.n.o.
Sumo Andromeda I pwr £350 o.n.o. (Rare) Sumo Auroras tuner £475 o.n.o.
Contact Tel: 0181-888 3715. No time wasters please.

NAIM AUDIO NAIT 3 including M/M phono stage (£350) accept £275. Wanted: Shearne Phase 2.
Tel: 01642 543995 day, 01429 274638 evening.

MERIDIAN 206 Delta/Sigma £550.
Tel: 01926 831388.

LINN LP12 WITH Akito/K9/Valhalla. Excellent condition, little used with all original boxes. £350. Hampshire 01329 850399 evenings/weekends.

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HITACHI PCM digital audio recorder, very rare, brilliant sound quality £5000 VHS format. £2,500. Nakamichi ZX7 700 computing cassette deck, also rare with all above qualities £1,800. Tel: 01202-290091.


CABLE SALE X. L.O. Signature digital link B.N.C. to phono half metre £150, balanced half metre £175. Meridian 231, 291 interconnects half metre balanced £275. All one month old. Ren van Hui The First 150 watts bridged mono. £175. Tel: 0121 2864143.


KEF CODA 7 AS NEW £95. Revolver Purdey mint condition £250 £1 £149. Royd Sintra 11 bi-wired approx. 2 years old. Excellent condition £375 sell £175. Boxed, demo, no offers. Tel: 01865 59737 Steve.

REL ACTIVE SUB-WOOFER £285 (re-advertised). Aura Evolution 100 753 speakers, black, 150 WPC preamp immaculate, £220. Naim CD5 speakers £60.


PIONEER A400 integrated amp "Best Buy" product, little use, excellent condition, £160, also Sharp cassette deck £25. Tel: 01861 660 9852.

NAIM NAP 250 power amp, old style £550. NAC 72 with Snaps power supply modified by Audio Physics £350. Tel: 01326 260 259.

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SHOULDER ADVERTISING INNOCATIONS Audio Innovations 500 £500, SD OBS speakers £400, Pioneer PD802 CD £200, Nakamichi S17 tuner £250, System TD20 £3100, System TD20 £100 mm. Tel: (Eire) 00353 52 24608 before 010995 (UK) 01352 735736 after 010995.

LOVELY NAIM SBLs, floorstanders, black with passive crossovers, Naim cable, excellent condition. Too big for present room. £600. Tel: 0121 2864143.

PINK TRIANGLE 1307 module £140. Fits Da Capo or Ordinal. Tel: Doug 0111 775 6435 (Day) 01923 585748 (Evenings). St Albans.

KILSPARCH loudspeakers, mint, black, boxed, £250. Kilspach Chorus II loudspeakers, mint, Oak, boxed £1000, plus other items. Tel: 01953 463424 (evenings).

AUDIOLAB 8000T Tuner, 2 years old, in excellent condition, £550 o.n.o. Tel: Alan 01277 219289 (Essex) (Evenings).

AUDIO RESEARCH Classic 30 triode valve stereo power amplifier, recent GT Audio service, £1300. Quad 303 £100, Hi-Fi News Headcase class "A" headphone amplifier £25. All items excellent.

Tel: 0171 727 3690.

SUPERB AUDIO INNOVATIONS Second Audio Triodes and 200 MHz pre-amp bargain £1250 (£3450). Gamma Acoustics ERA (military) £975 (£3000), AMC CD6 £225. WANTED High end CD and silver cable. Can demol/deliver. Tel: 01268 788502 (day) 0836 268050 (evenings).

SPENDOR SP2/3, 8 months old £600, Kinson Perception phono centre with factory fitted volume control £250. WANTED, Conrad Johnson PV5. Tel: John 0113 2564020 (after 6pm).

ENTHUSIASTS CLEAR OUT. Aura CD50 CD player £200 o.n.o., Tannoy 609fls £150 o.n.o., Celestion DL31s £75 o.n.o., JPW Sonakas £50 o.n.o. Tel: 01202 475781.

NAIM NAC72 pre-amp, S, K, and straight through boards £400, NAP 140 £400, Hi-Cap £350, all new style, boxed and excellent condition. Linn Karik £1000. Tel: 01635 869107.

LEAK TROUGHLINE 3 mono £60, Lux 507X amp £60, Kef C90 speakers £300, Walker CJ58 turntable £100. Tel: 01274 572924 (Bradford).

ION OBELISK 1, excellent amp for inputs, tape monitor, 6 metres of Qed flat strand 79 with plugs, £100 o.n.o., Qed tape switching box £20, both excellent. Tel: 0151 548 9079.

ROKSAN OJAN 3 speakers, immaculate, boxed, less than 15 hours use. Move to small twee cottage forces sale. Cost £895, Sell £650. Tel: 0973 203213 or 01625 572519.
### Hi Best prices for new, xdem & s/h equipment

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**MAIL ORDER ONLY**

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Audio Innovations LP I pre-amp £100, ARCAM ALPHA 3 amp £200.

ARCAM ALPHA 3 amp £100, Audio Innovations LP1 pre-amp £200, Rogers Cadet 3 integrated valve amp £80, AR 18 BX loudspeakers (modified) £60, ARC 05 TLL2 transmission line speakers £130, 2 pairs foundation speaker stands £16, 20", £40 each.

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TRILOGY 598 MONOBLOCK amplifiers, 100 watts per channel. Tel: 01935 814493

VAUX SABRE II loudspeakers, walnut, and Linn Ku-Sone stands with top plate £320. Linn Valhalla power board, little use £30. Tel 0181 777 8015

MUSICAL FIDELITY 3B pre-amp £170 o.n.o.

TANNYO CHEVIOT loudspeakers, walnut cabinets. Sano grilles, 12" dual concentric, untouched original pair, mint condition £395. Tel: 01780 955523

FOR SALE Audiolab 8000A (DIN but can supply full set of leads) £150, Technics tuner ST-255L £50, both in good condition. Tel: Andy 01959 524525 (Eves & Wends)

MICROMEGA STAGE 1 CD player, two months old with two year warranty to run. Present of Naim CDI forces sale! £375 o.n.o. can demonstrate. Tel: Stuart 01322 559346 (Darford)

SONY TAN 901 150x150 Esprit power amp, mint £600, Meridian MCAI (MCP) pre-power mint £650, Sony DTC 1000ES DAT £550 (includes 10 blank tapes still sealed worth £100), Castle Pembroke IIIs mint (boxed) £250, Meridian 203 DAC £200. Sensible offers considered. Tel: Marc 01865 514622 (Evenings)

DELTEC (PDA) PDP1 Series 2 DAC £195, Philips CD473 CD player, co-ax out, remote, FTS £45. Tel: 0727 827630 (after 6.30pm)

SE OUTPUT TRANSFORMERS, outstanding design principle, super sound in every respect, deep drawn steel pot. £14 each. Tel: Germany +49 211137

DYRO S860 BX power amp, boxed £100. Tel: 01824 780 689 (North Wales)

EPOX S814P superb sound, 3 months old. Arrival of Conrad Johnson forces sale £300. Radford SC2 valve pre-amp, good condition £50. Selection of valves; Mullard EL34s, Golden Lion KT 77s. Ring for details.

BILL BEARD'S BB100 Mk II intergrated tube amplifier 50 w/channel. Tel: 01252 311266 (Farnham/ Surrey)

ROTEL RB960 BX power amp, boxed £100. Tel: 01824 780 689 (North Wales)

Dynavector 10X Gold, mint, £300 o.n.o., Sony EL710 cassette recorder, large cassettes, battleship construction, the finest recordings 3 3/4 speed, mint, lot of tapes, boxed £200 o.n.o.

LINN MONARCH D.I.P., sell both together £500. Tel: 01604 766124

MERCIDIAN M30 Active black loudspeakers stands £345, 201 pre-amp £245, 204 tuner £245, boxed, Linn LK1 pre-amp £150, Tannoy DC2000 floor standing black loudspeakers two 8" drivers, one dual £195.

PINK TRIANGLE DA CAPO and DC battery supply. Fitted with Philips 1307 filter and battery cells recently renewed. Mint condition and boxed. Cost new £315, will accept £220 o.v.n.o.

REPRODUCTION HI-FI CABINET beautiful shape. £850.

APPLIED ELECTRONICS, 420738.

MONARCHY D.I.P., sell both together £500. Tel: 01604 766124

TRILOGY 958 MONOBLOCK amplifiers, 100 watts per channel. Tel: 01935 814493

BILL BEARD'S BB100 Mk II intergrated tube amplifier 50 w/channel. Tel: 01252 311266 (Farnham/Surrey)

ION XEXUS SP! pre-amp/DX Pak 2 power supply, SAM power amp £350, Sudgen A21A integrated amp £350, Sennheiser HD 250 Mk II headphones £60. Tel: 01952 406759

STATEMENT EN, Formula 4, Dynavector 10X Gold, mint, £300 o.n.o., Sony EL710 cassette recorder, large cassettes, battleship construction, the finest recordings 3 3/4 speed, mint, lot of tapes, boxed £200 o.n.o.

BILL BEARD'S BB100 Mk II intergrated tube amplifier 50 w/channel. Tel: 01232 727199 (Eastbourne)

MUSICAL FIDELITY CDT valve CD £355, Gryedec perspex power supply £85, AT-OC5 VGC £55, Philips CD101 £60, Goodmans SC100 cassette deck (Nakamichi) £35, Sony FH-205W mini CD Hi Fi £180

MONARCHY 22A DAC + Monarchy D.I.P., sell both together £500. Tel: 01604 766124

ORACLE DELPHI II SIME IV £875, Fidelity Research FR645 £285, VPI Junior, never been used £400. Tel: 0117 9730819

LINN KIILHOF SPEAKERS with ceramic plinths. 2 x 3m of LK 400 speaker cable, as new, with receipts, instructions, boxes, £500 o.n.o.

LINN LINGO complete £350, Meridian 200 transport with Mission DC-7 £650, Technics SL-P1120 CD, rare opportunity £650. Linn Kain pre-amp, immaculate £750, KEF 103/4 Reference, rosewood, unmarked £750. Tel: 01952 502099 (Telford)

For Sale: Audiophiles, Horn and Tape recorder, large cassettes, battleship construction, the finest recordings 3 3/4 speed, mint, lot of tapes, boxed £200 o.n.o.

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MUSICAL FIDELITY CDT valve CD £355, Gryedec perspex power supply £85, AT-OC5 VGC £55, Philips CD101 £60, Goodmans SC100 cassette deck (Nakamichi) £35, Sony FH-205W mini CD Hi Fi £180

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Definitive Audio provides frank and impartial advice on how to achieve significant improvements in your listening experience. Drawing on products that are radical as well as mainstream, our system-based approach has established world recognised sound quality benchmarks. As a first time buyer or a seasoned audiophile, we will strive to be both refreshing and stimulating. As a customer you will find our service and support second to none.

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WILSON BENESH - Carbon fibre tonearms. SME - Magnesium tonearms.

IMPULSE - DALI - VOYD - SYSTEMDEK and other selected agencies


New and Used Sale Items - # indicates full warranty

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<th>Import/Export</th>
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ARCAM ALPHA 5 CD, plus modified, £350, Arcam Delta 290 £300, Royd Minstrel speakers £180, Aiwa AD-S905 tape deck 3 months old £180, all with guarantees. Chord Flatline Gold 2 x 5m, WBT plugs £110, Chord blue heaven interconnect 0.5m £20, cables 2 months old. All boxed with instructions. Tel: 01734 662620

WANTED: 2 No. PX5 output valves for Decca Decola radiogram new or s/h. Tel: Tony Statham 01727 840567 (cay) 01707 326127 (evenings)

WANTED: QUAD LEAK valve pair. Quad 133D. late model original electrostatic speakers. Leak Troublemaker II or III tuner. Tim de Paravicini decoder. For genuine reason for sale, bargain £200. All very light use. Offers accepted. Tel: 01903 814846 (home) - W. Sussex.

LOGIC DM 101 £190, Fluiterbuster £50, Kyzma Stogi arm £150, OCC (new) £140, Exposure X (MC) £175, Chris Rogers transmission line speakers £250 o.n.o., MartinLogan 4/12 valve monoblocks £120, Naim 32 + 30 + New Sparks £325, LAV arm £20, Ferrograph 20/20 amp £30. WANTED; Goodman's Axion 301s. Tel: 0114 273 8135

QUAD 34 PRE-AMP with MM and MC boards £175, Linn Trampolin base £45, Audio Technica ATOC5 MC cartridge boxed as new £50, WANTED; "The Head" transformer. Tel: evenings before 10pm 01603 714528

MISSION 75s 10 months old. Rosewood, mint, boxed, still 14 months guarantee left. Upgrading Costs £700, will sell for £350 o.n.o. Tel: After 5pm 0115 9294060

RELIANT SALE OF KL35s, 6 weeks old, all components supplied by Hi-Fi World. Walnut cabinets, genuine reason for sale, bargain £850 or very nearest offer. Tel: Enquiries after 5.30pm 0115 9294060

ROTEL RA935 Mk1 £120, Valecraft single column spoked sand filled stands £20, Memorex sub woofer and 2 Sat speakers £50 o.n.o. WANTED; In-Car DCC machine and blank tapes. Tel: 01638 661671

ROCK REFERENCE, Kuzya tonearm, Koetsu black needs record clamp, average use, excellent condition, will not spit £2000. No offers. Kinshaw perception phone stage, mint £220. No offer. Two Target tables, two tier £70 the pair. Buyer collects all. Tel: Reading 01734 666001

LINN KELIDHO-speakers excellent condition with ceramic stands £425. Tel: 02129 888832 (Dorset)

NAPLAT 2 little used £275. Pair Rega E.L.A. little used £275 excellent condition. Tel: 01969 671276 evenings (E. Yorkshire)

LINN LP2 a Lingo, Tramolin, Circus, Ekos, Klyde, £100, Linn Kann £90, Naim CDI £1000, 2 x £1000 with active Keilidh modules £300, Keilidh speakers £300. Tel: 01646 762193

NAKAMICHI 700 ZXL cassette deck, a truly heavyweight deck, sonically and physically. Features auto calibration, index marking, variable pitch, mic inputs (LR + blend) remote capability (IR) Dolby B processor unit etc. Mint condition £800, bargain! Also Kenwood DP-X9010 CD transport with acclaimed Trichords "Clock 2" mod, mint £350 o.n.o. P.S. By "What HiFi! Audiodrome". Tel: Leonel 01483 327291 (work) or 0956 519192 (one zone)

CONCORDANT EXCELSIOR valve pre-amp, wood surround, PSU £625, Concordant Exulant valve monoblocks £350, Lowly Acupita PHP horns £225. Exquisite sound. Space forces regretful sale. Tel: 0121 459 2347 (eves)

AUDIOLAB 8000M (2 of) and 8000DAC - 6 months old, mint £1400 (£2300 new). Chord Flatline, Cablecast, Pro 2 and AudioQuest Quartz at about 3/4 RRP. Tel: 01472 523475 pre-4:20pm

MISSION 753 LOUDSPEAKERS; Rosewood £475, Audio Solutions 700 iterated amplifier - new Golden Dragon valves fitted £175. All very good condition. Tel: 01293 247197 (evenings) Watford

MICHIEL ISO and HERA £325, N.V.A. P50 £150, Albarry S508 £275, NAD 462 £125, Delter Little Bit £215, Yamaha KX-380 £100. All very light use. Offers accepted Tel: 0151 339 0268 after 7pm

PROAC RESPONSE 3 speakers, Mahogany cabinets fitted with Signature crossovers and Rhodium terminals, fixing bolts and spikes as new bargain at £1850. Tel: Kevin 01703 601222 (Southampton)

REGA XELS £700 (HiFi Choice Best Buy) Cost £1050. Nam NAC 92 £280, Naim CD3 £700 all 12 months old. Tel: 01952 770406 (evenings)

TANNYO CHEVET 12" dual concentric loudspeakers, Walnut cabinets, mint condition original condition, sound superb, £375 ono. Tel: 01378 955523 mobile.

SPENDOR SP1/2, 6 months old + stands, £900, or exchange for any good panel speakers, electrostatic etc. Leak Stereo 20, £180. Art Audio Quin-tet Mk11 new. £800, Sony CD5103 CD player, £100. Tel: 0181 531 5979

B&W 802 floor standing monitor speakers with acoustical hoods (in good condition) £300 ono. Tel: Rod 0121 705 1142 between 5pm & 7pm weekdays. Also wanted 'Stax Lambda Signature' headphone extension cable.

MERIDIAN 203 DAC £150 ono. Mission DADS CD player £125 ono, A&R (Arcam) A60 amplifier £75 ono. Delivery possible. Tel: 01293 815383 (work) or 01903 815486 (home) - W. Sussex.
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