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SUNEW DPA DIGITAL RENAISSANCE AMPLIFIER

REW PRO-JECT 6.1S -BEST TURNTABLE UNDER £10003

DIY SUPPLEMENT No. 12 banded to this issue

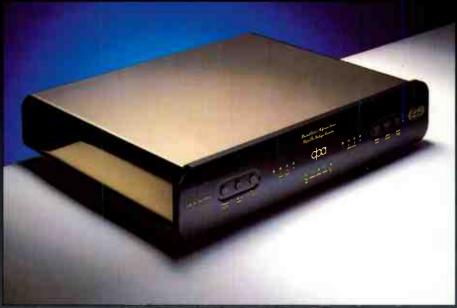
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Cardiff, Wales CF3 0EF

Tel: (0222) 795621 Fax: (0222) 794267







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ABC

THIS MONTH'S REVIEWS

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AMPLIFIERS

DPA DIGITAL RENAISSANCE

Yet another entry into the mid-price integrated amplifier market. DPA have included a phonostage, tone controls and headphone socket to their surface mount electronics to produce an attractive package.



LINN KAIRN & KLOUT

You may remember these from October's group test. We thought they deserved a more in-depth review.

ROGERS CADET III

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21

An introduction to this classic affordable valve amplifier, by Haden Boardman.

COMPACT DISC

AUDIOPHILE CD PLAYERS

We test a group of £300-400 CD players in a search for the best midpriced sound around. Included in this test is the cheapest British built CD player available, the new Arcam Alpha One.



ARCAM ALPHA ONE **ROTEL RCD-965BX DISCRETE** YAMAHA CDX-880 KENWOOD DP-7060 ONKYO DX-750

LOUDSPEAKERS

MISSION 731

Mission's latest mass market mini-monitor, the 731, is part of an all-new range of loudspeakers. Dominic Todd takes a listen.

MUSICAL TECHNOLOGY KESTREL 30

An affordable metal cone floor-stander from newly formed Musical Technology catches Dominic Baker's attention.

TANNOY 632

41

Tannoy have a whole new range of loudspeakers. The 632 replaces the popular 605s. Dominic Todd and Eric Braithwaite air their views

SD ACOUSTICS SD3-R

A high-tech, mineral-loaded polymer cabinet, custom bass unit and ribbon tweeter come together in SD Acoustics' £399 SD-3R loudspeaker package. Auditioned by Dominic Baker and Peter Downs.

TURNTABLES

PRO-JECT 6.1S

57

This amazing package of Pro-ject 6.1 tumtable, Sumiko tonearm and Ortofon MC30 Supreme moving coil cartridge costs just below £1000. Eric Braithwaite frantically works through his vinyl.

CASSETTE

KENWOOD KX-7060S

Kenwood have just introduced Dolby S to some of their cassette decks. We take the KX-7060S for a spin.

TUNERS

NAKAMICHI ST3s

36

Part of a new range of products from Nakamichi is the ST3s tuner. We scan the air waves to test its abilities.



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DCC IMPROVED TO 18-BIT STANDARD 11

Decca are now recording DCC tapes at 18-bit resolution and true 18-bit machines will be available from Philips soon. We report on the advances made.

LIVE '94 12

The UK's biggest consumer electronics show held at Earls Court. We report on the show and all of the new products that were launched.

DIY SUPPLEMENT

In this month's FREE DIY hi-fi supplement, you'll find extensive application notes on two new High Definition Aerogel drive units from Audax, a super quality kit CD convertor from Audio Technology, a restoration article on the Rogers Cadet III valve amplifier plus book reviews, news, letters and more.

Our guide to some of the best new releases. ROCK RECORD OF THE MONTH: R.E.M.: Monster

CLASSICAL RECORD OF THE MONTH:

The Tallis Scholars: Live In Rome

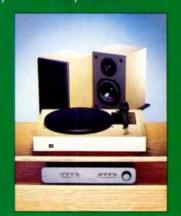
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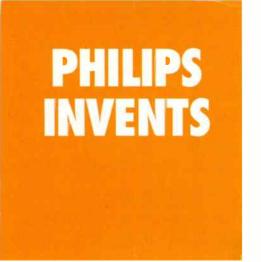
COMPETITION

A chance to win a top-flight vinyl playing system worth over £1300. The system comprises: Systemdek IIX900 turntable complete with Rega RB250 tonearm and Goldring 1022GX cartridge, DPA Digital Renaissance integrated amplifier and Systemdek Systym 931 loudspeakers.





World Radio History



The Digital Compact Cassette When it comes to

sound quality, for Sting "good" just isn't good enough. He demands that his music is reproduced perfectly. That's why he is so impressed with Philips latest invention. DCC.



A digital cassette with the pure sound quality of a compact disc and the convenience of a compact cassette. There's a complete range of equipment, so

you can play your DCC anywhere, in the home, in the car or on the street. And don't worry

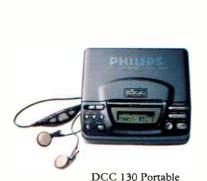
about your collection of ordinary compact cassettes, the beauty of the DCC system is that it will play them too. DCC is already a big hit with the major record companies with hundreds of titles already available. So don't make a mistake, choose DCC. For details of stockists and further information telephone 081-665 6350.



DCC 600 Player/Recorder



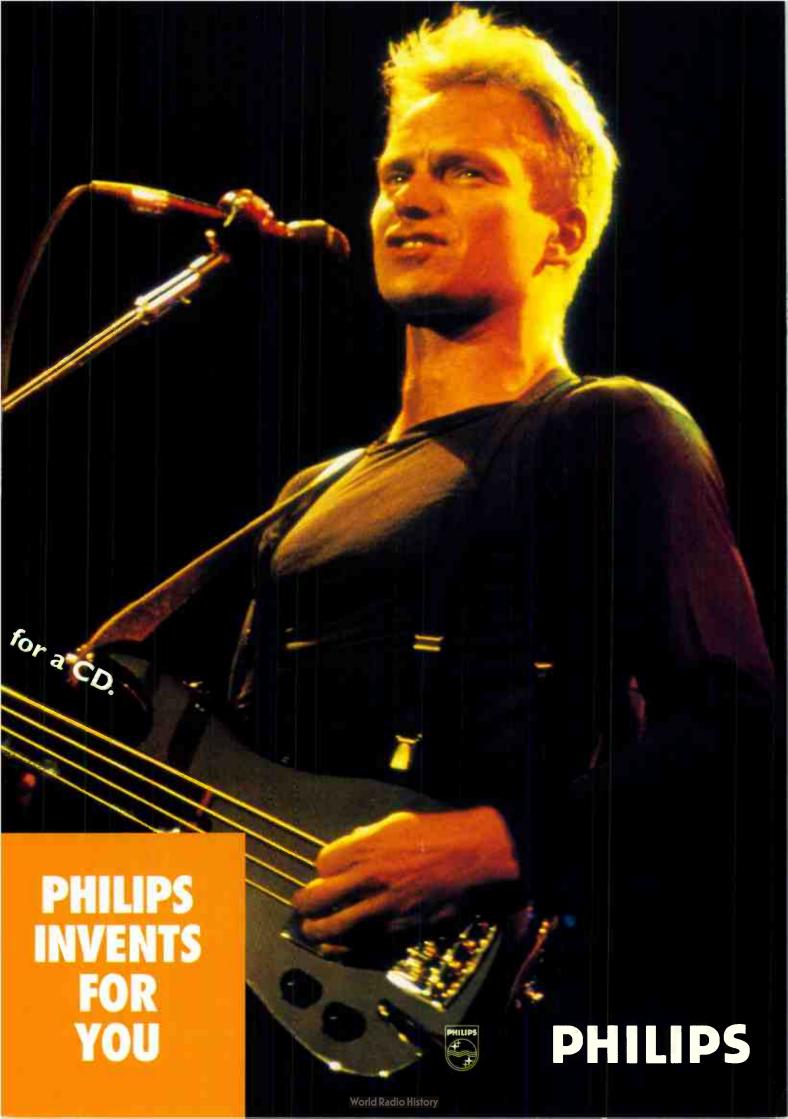
FW 91 DCC System





DCC 811 In-car





news dec. '94

rade winds

QUAD LAUNCH INTEGRATED AMP

Quad will shortly launch the Quad 77, an integrated amp it hopes will become the essential core for hi-fi systems of the future. It is the first in a planned series of products which link up through a data bus which carries analogue, digital and control signals, Quad said, removing debates about interconnects.

Two systems are linked to the Quad 77: Quadlink and Quadremote. Quadlink is the system bus, enabling the amp to grow in any direction, carrying analogue, digital, system protocol, system commands and HT for lower powered units. Quadremote is a two-way, infra-red remote control system. The amp will retail at around £595 and the remote panel at £250.

The handset has just ten buttons, a rotary knob and a display for system information, defining the function of the six 'soft' buttons. The remote also receives information from any future equipment linked to the Quad 77.

Quad Electroacoustics St Peters Road, Huntingdon, Cambs. PE18 7DB. Tel: 0480 52561

NEW NFM2 FROM TDL

Two new TDL 'speakers are now available. Complementing their established TDL Near Field Monitor (NFM) is a new NFM2 which uses two bass units in a taller cabinet to improve power handling. A soft dome tweeter is positioned between the bass/mid. 'speakers, to resemble a point source.

A pair of NFM2s in Rosewood or a Black finish retail at £179.95.

Another newcomer is the TDL RTL4 which is an up-rated version of the TDL RTL3. It uses larger bass units and a 25mm soft dome tweeter for higher power handling and greater sound pressure levels, making it ideal for larger rooms. It offers all the detail and extended bass of the RTL3, even at low volumes, TDL claim.

At £649.95 retail, TDL RTL4s have a Black or Rosewood finish.

TDL Electronics
PO Box 98, High Wycombe
Bucks HP12 3AD Tel: 0494 441191

PHILIPS 18-BIT DCC RECORDER

Due for release early next Spring - probably February Philips told us - is Philips' new DCC-730 18-bit DCC recorder. Capable of playing normal 16bit tapes, but also tapes recorded with higher resolution and, therefore, better sound quality, this new domestic recorder could well look interesting for audiophiles. The only caveat at present is lack of availability of 18-bit pre-recorded tapes. Curiously, by default, Philips have managed to upgrade DCC's resolution to exceed that of CD, whilst tape prices remain the same (we hope) - now pegged at CD prices. At present, only Decca Records, who have collaborated in the development of DCC, have the necessary duplicating equipment to achieve the 18bit standard on commercial cassettes, but if wise minds prevail at Philips, they'll push this development through as quickly as possible to give DCC the advantage it so desperately needs.





dec. '94 trade winds

FAST RESPONSE FROM PROAC



A new loudspeaker has been launched by ProAc to complement its Response range. The new Response Three Point Five is a replacement for the Three, ProAc said. Designed by Stewart Tyler, the Response 3.5 uses a new polypropylene bass driver possessing a lighter, thinner and stiffer cone, whilst retaining good damping qualities. The aim was to get faster, more powerful bass, whilst maintaining clarity and detail in the mid-range area. Like the Response Four, the new speaker's tweeter has a superlight diaphragm, exclusive to ProAc, with a nand applied coating. Driver arrangement into mirror image pairs gives the Three Point Fives a "wonderfully large sound stage, but with pin point imagery", ProAc said.

Prices start at £4250, moving up to £4975 for Signature finishes.

ProAc 130-132 Thirsk Road, Borehamwood, Herts. WD6 5BA Tel: 081 207 1150

CZECH PRO-JECT 7

Czech tumtable manufacturer Pro-Ject has just announced a new integrated amplifier. Named the Pro-ject 7, it will retail in the UK for around £259. Designed by Prague university professor, Dr Sykora, the amp has line and phono stages and is dual-mono in design, with the exception of the mains transformer. The phono stage can be adjusted to match the cartridge. It also has inputs for two tape decks, tuner, aux and CD. All sockets are gold-plated and all components used are hand built in a Czech plant familiar with the production of military specification electronics.

Pro-Ject is also launching a high end version of the award winning Pro-Ject 6 turntable, which now features a tonearm produced by Sumiko. This Pro-Ject 6.1S will retail at £699. Current Pro-Ject 6 owners can fit the arm, which involves buying a plinth too. These are expected to cost around £425. See review in this issue.

Ortofon UK Chiltern Hill, Chalfont St Peter, Bucks. SL9 9UG Tel: 0753 889949

UNO & DIVA DUO

Encouraged by the success of its Callas model, UKD has introduced a further two models to the Opera range of solid-wood loudspeakers.

New are the Opera Uno and the Diva. At £450 the Opera Uno is made of solid walnut and described by UKD as "an

affordable luxury miniature 'speaker''. Sharing many of the characteristics of the existing Callas model, the Diva has twice the internal volume and offers "outstanding depth and weight to musical presentation" UKD said. The price of this 17kg solid walnut heavyweight is \pounds 1,300.

Two other members of the Opera range have been updated.

Both the SuperPavarotti and the Caruso have new drive units and crossovers to give deeper and tighter bass.

U.K Distribution
23 Richings Way, Iver,
Bucks. SLO 9DA Tel: 0753 652669

NEW-LOOK CHESTERS

Castle Acoustics have made several modifications to their popular Chester loudspeaker, adding new finishes, repositioning the drivers and adding a new curved grill.

Matching wood plinths, once an extra, are now included on the Chester, and the drivers have been repositioned on the front baffle to form mirror image pairs for improved stereo.

The revised Chester is available now and a choice of nine real wood veneers are on offer. Prices start from £699.





Replacing Denon's well-received DRM-710 cassette deck is the DRM-740, which with a retail price of £259.99 offers a three-head, three-motor, dual-capstan arrangement, plus contemporary styling.

Both record and playback heads contain Super Permalloy cores for wide frequency response and the head coils are wound from high purity, oxygen-free copper wire.

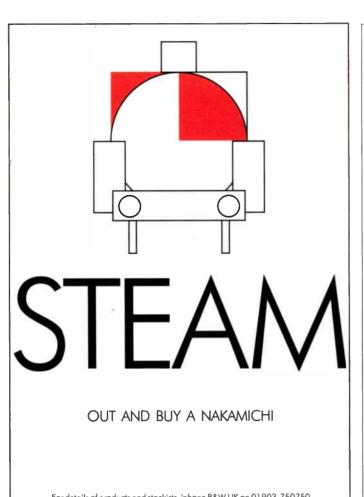
Denon also have a new remote control RDS receiver, the DRA-365 RD, costing £249.99. With a 13 segment display, giving the station name or frequency, up to 40 stations can be manually or automatically stored in the memory. Functions on the '365 include: full remote control, traffic information service, an accurate clock and programme type for selecting news, rock or classical.

Aimed at the budget CD market is the new DCD-615 (£179.99). Denon say the 615 is a replacement for the DCD 595 to the keep company competitive in a "fast changing market". The new machine employs 18-bit Burr-Brown DACs and Denon's own 20-bit/8x oversampling Lambda digital filters, plus a host of other features.

Denon has also launched a refinement of its PMA-450 amplifier, the PMA-450SE priced at £269.99. It boasts a number of improvements, including revised track layout on its output board and a gas-filled output relay with silver contacts for the 'speaker switching circuit. Denon said this model, giving 60w per channel, had proved in listening tests to "deliver tremendous levels of dynamic punch, detail and transparency along with improved sound staging."

Denon
Hayden Laboratories
Chiltern Hill, Chalfont St Peter
Gerrards Cross. SI9 9UG Tel: 0753 888447







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SPK 200	Triple-care grey cable far bi-wiring with twin-care treble (260 strands) and 3-care bass (390 strands).
SPK 300	7-care blue cable having 13 strands per care (each strand laminated). Requires saldering.

You'd better hound us for the name of your nearest stockist.

Ortofon (UK) Limited, Chiltern Hill, Chalfont St Peter, Bucks SL9 9UG. Tel: 0753 889949.



dec. '94 trade winds

KENWOOD DEPTH CHARGE

Tackling criticism that CD reproduction lacks depth, Kenwood has launched two new CD players. Both models feature 'DRIVE' (Dynamic Resolution Intensive Vector Enhancement), a new development from the company that, they claim, improves sound quality by ensuring that players hold on to the lower level information from a disc. DRIVE works by ensuring a correlation between input and output signals is maintained, which helps resolve fine detail.

With a retail price of £249.95, the new DP-5060 CD player also carries a fourth order, zero-shifted noise shaping I bit digital-to-analogue converter for greater harmonic detail. It also has a high precision master clock system to prevent CD jitter and Optimum Linear Cascode Drive to ensure a pure signal, Kenwood tell us.

At the top of Kenwood's range is the DP-7060 (£399.95) carrying even higher sound quality specifications. It has a switched capacitor one-bit convertor, based on Philips' DAC-7 chip. See review in this issue.

Trio-Kenwood Kenwood House, Dwight Road, Watford WDI 8EB Tel: 0923 816444

KINSHAW GO FOR POWER

Kinshaw recently unveiled a new Perception range of three power amplifiers. The line-up comprises a 150w RMS (8 Ω) stereo power amplifier priced at £975, monoblock power amplifiers priced at £1435 (pair) and bridged monoblocks that give 500w RMS (8 Ω) at £2,499 (pair).

Anthracite finish Nextel cases as well as gold-plated inputs and outputs are used throughout, along with true balanced line XLR inputs allowing the use of balanced cables.

Kinshaw Electronics 84 Pendarves Street, Tuckingmill, Camborne, Cornwall. TR14 8RE Tel: 0209 715878

NAKAMICHI'S 'S' GENERATION

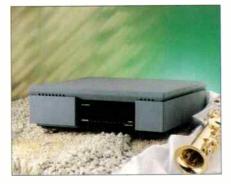
Nakamichi has launched four 'S' models - an amplifier, a tuner and two CD players.

In the face of what the company described as "tough competition in the UK amplifier market", a new IA-4s integrated amplifier has been launched. Priced at £199.95 the amp. has an output of 30w.

At £349.95, the new ST-3s VHF-FM tuner features multiregulated power supplies along with a special circuit that disables the tuner data circuitry to improve performance. See review in this issue.

The new CD players incorporate the upgraded generation of Music Bank 7-CD changer mechanisms, first featured in the MB-4. With a 18 bit D/A convertors, the new MB-3 has a price of £499.95. At £699.95, the new MB-2 has individually matched D/A converters, a digital output socket and full remote control.

B&W Nakamichi Marlborough Road, Churchill Industrial Estate, Lancing, West Sussex. BNI5 8TR Tel: 0903 750750



PHILIPS TO PUSH DCC

In a press conference held at Decca Records' famous Kilburn Studios, Philips told journalists that they'll be righting wrongs in the marketing of DCC, in order to give the medium a new push into the marketplace. Potential buyers might be interested to know that a reduction in tape prices is on the agenda in this new campaign.

Pre-recorded tapes will be priced identically to CDs in future and many more new releases will be put onto DCC, giving this medium parity with the silver disc. A Philips representative said this should bring DCC pre-recorded tapes from £14.99 down to £10.99 or so.

Blank tape prices are unlikely to change much though, even though a DCC tape is basically cheap to manufacture. Keeping the price of blanks high might be a gesture of goodwill to the music business though, who are convinced recorders exist only to deprive them of income through loss of sales of pre-recorded material due to copying.

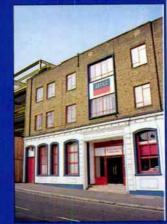
The number of retailers stocking DCC recorders will be reduced from 1000 to around 300, in order to provide better understanding and advice at the point of sale.

Philips and Marantz are actively and effectively bringing recorder costs down and widening their scope. The new range is to possess car players, inexpensive portables, high quality 18-bit domestic machines and hybrid recorders that can record to DCC or normal analogue cassettes for car or portable use. The new line up includes the DCC730 domestic 18-bit recorder priced at £249, a DCC mini-system with analogue and digital recording for £499, the DCC740 twin deck with analogue and digital recorders priced at £300, the DCC134 personal stereo (playback only) for £149.99, the

DCC170 personal with recording as well for £249.99 and the

DCC821 car player for £399. Another interesting advance is the move to 18-bit digital-to-analogue conversion in domestic recorders. Decca claim to be able to supply 18bit pre-recorded tapes now and others may shortly follow. Were this to become widespread, then DCC could well offer an improvement in quality over CD for no extra cost. This would usefully buffup its somewhat lack-lustre current image. With the promise of shorter access times due to Turbo Drive, which gives higher tape reeling speeds, Philips may well be able to give DCC the appeal it

currently appears to lack.



Decca Studios - Kilburn

With Sony targeting MD at young buyers only and refusing to engage in any form of quality contest, it looks as if DCC has occupied the high ground unchallenged. Whether Philips have either the will or the ability to make the most of this, only time will tell.

Philips City House, 420-430 London Road, Croydon, Surrey. CR9 3QR



LIV

Noel Keywood imbibes the colour, commotion and plentitude of this year's successful

Live '94 show at Earls Court.

ove it or hate it - and some did - Live '94 at the Earls Court I exhibition centre was a great extravaganza of an exhibition this year. It attracted a massive and impressive showing from the world's major manufacturers and although officially a 'consumer electronics' show, it was strongly attended by Britain's specialist hi-fi manufacturers

For some, the noise and commotion was too much, but it simply reflected the level of activity in the vast display hall, with live shows, demonstrations, Karaoke, competitions and such like, not to mention the 30,000 people or so who attended daily, totaling 186,484 over six days. Serving their needs were a variety of restaurants and bars around the perimeter of the hall. We contributed to the din by irreverently running our KLS3 carbon fibre cone kit 'speakers from a World Audio Design 300B valve amplifier, assailing passers by with a variety of music from Snoop Doggy Dog to Carlos Santana. Meridian and B&W Loudspeakers - our high technology neighbours - occasionally looked bemused,

either at our music/girls/valves.

Someone was handing out free lollipops - Richer Sounds we suspect - and there seemed to be a great affinity between them and our carbon fibre cones. Teenage reprobates who wanted to know what the "jamjars" were for on our valve amps were invited to try touching them, but sadly they knew more than they were letting on; none did! A large number of dedicated World readers turned up to chat about their



Richer Sounds were handing out follipops, many of which ended up stuck to other exhibitors' products.



Our stand at one of those brief moments when things were quiet.

more than its fair share of camcorders. home theatres, computers and musical instruments, it also had plenty of real hi-fi and plenty of real hi-fi enthusiasts: thanks for attending.

Quad's Ross Walker, son of founder Peter Walker, looked permanently happy to be back in the middle of a big show -Quad have always been great exhibitors -



Quad's Ross Walker - enjoying the razzmatazz of a big show.

and they had their new Quad 77 integrated amplifier on display. Also, there was a cut-away ESL63 electrostatic and an attractively lit Quad 22/II valve amplifier, amongst other things.



KEF's new Coda 7s claim 90dB sensitivity for a modest £129.

KEF had a big stand with a variety of new models on display. Especially interesting were the new baby Coda 7s which, they claim, has 90dB sensitivity (6Ω) and costs £129. A new Coda series above this is expected. There's a new Reference range and we heard a demo of the revised Reference Model 2 with its improved Uni-Q drive unit. It sounded very smooth and revealing, projecting fine stereo images.



Linn's log cabin housed a solid sound, supplied by Activ powered Keltik loudspeakers.

Linn built a bigger log cabin this year which, no matter how much Amanda Sweeney (she's our advertising girl) huffed and puffed, she couldn't blow down - see picture. Mind you, Linnies inside looked pretty scared. But perhaps that was because they were playing Keltiks, on the end of an Activ system comprising Karik transport, Numerik convertor, Kaim pre-amp with new switched mode power supply and Klout power amplifiers - price £23,000 in all!



Naim's Paul Stephenson and our Ad sales girl Amanda.

Amanda had more luck with Paul Stephenson of Naim; her Black Belt in Judo made the right impression. So did their Flat Cap power supply, which she thought went on the head. In fact, Naim told Amanda, you connect this new £299 power supply to your 92/90 pre/power amplifier combination to upgrade it. Also there was their awesome DBL loudspeaker costing £6900 and the new Slimline Series CD3 CD player at £898.



NAD's new super simple, super budget 310 amplifier watch out a review soon.

NAD were showing a number of new models, the budget NAD3 IO amplifier taking pride of place. It offers 30watts per channel, but will deliver no less than 80watts into 2Ω loads.



Marantz are due to launch this high end CD23 CD player in 1995.

Marantz had a squat, purposeful looking dedicated CD player in the new CD23. It uses a full floating CDM-9 Pro transport and Philips' DAC-7 convertor configured in differential mode for minimum distortion, due out in 1995, price £3990. There was a new CD15 Reference CD player with CDM-4 diecast transport and copperplated chassis at £3499 and a new CD63SE CD player with CDM-12 transport and copper-screened HDAM output stage, plus chassis bracing. This is a budget audiophile special, a player Marantz have traditionally done well with.

Retailers Richer Sounds and Musical Images were in friendly rivalry, both trying to outstage each other in razzmatazz. Whilst Richer had a mock shop stocked to the ceiling, plus plenty of Richer girls outside to make sure everyone got a brochure of models and prices, plus a damn lolly, Musical Images made sure they kept a continuous disco/dance/singing show going; my camera went off accidentally as two sturdy looking



Musical Images dancing girls attracted a good audience.

'Images' girls were dancing - must teach it some manners.

Heybrook were showing a new loudspeaker, the Heystak, which despite its name is an attractively proportioned floorstander. Priced at £499 they use twin bass/midrange units and a passive bass radiator for real punch and impact. Other new loudspeakers on the scene came from



Heybrook's Heystaks use a passive bass radiator for real punch and impact.

Mission, with their new 73' series. The range starts with the 73 Is, reviewed in this issue, and goes right up through the 733 two-way floorstander at £299 up to the massive 735s using four drive units in a tall tower enclosure. All of the 73' series use a clever modular construction approach which allows Mission to offer them at very competitive prices.



Mission's new 735s look impressive for £599

13

The organisers told us it went "wonderfully well" and people are signing up already for next year, Grundig and Hitachi being new recruits. Live '95 will be bigger again, spilling over into Earls Court 2 hall from Earls Court 1. We hope to see you there

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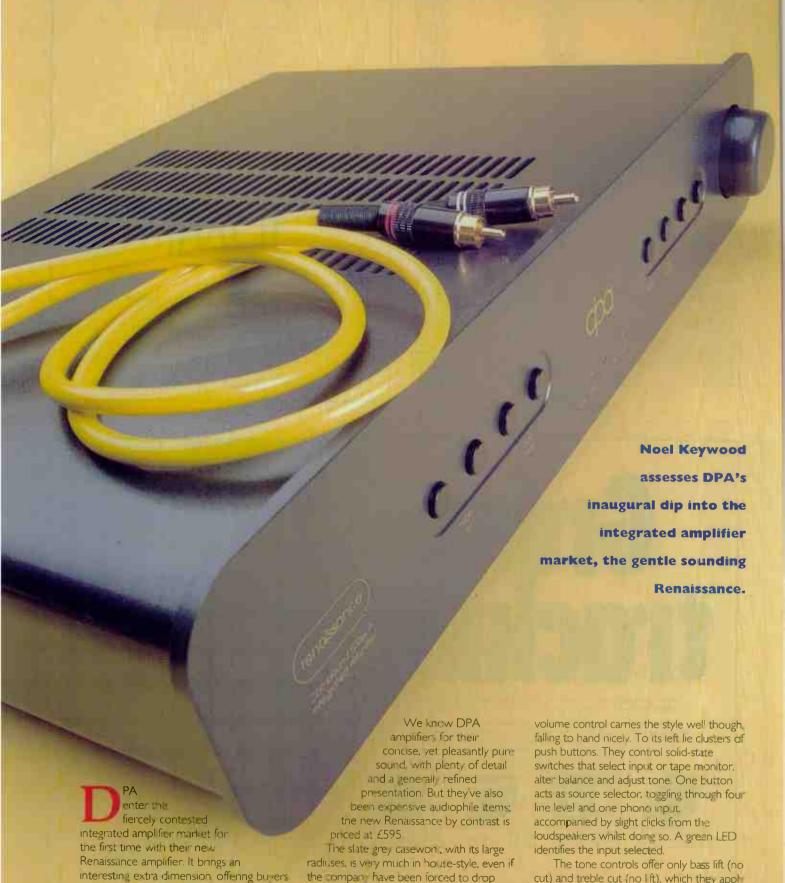


Ortofon (UK) Limited, Chiltern Hill, Chalfont St Peter, Bucks SL9 9UG. Tel: 0753 889949.





GENTLE RENAISSANCE



the special surface-mount components and

unusual circuitry normally found in the

some differences.

company's top end designs - albeit with

panels in favour of more controllable

unhappy conscripts to the idiom. The

their deeply curved and distinctive cast front

machined panels that look a little slab like

cut) and treble cut (no l ft), which they apply

Adjustment is carned out by 'up' and 'down

knowing how much boost or cut is available

buttons. Unfortunately, there's no way of

in sparing but useful amounts, I found

or has been applied, except by counting, which is a little disconcerting. I found there were seven boost/cut steps.

For better or for worse, all adjustments default to zero at switch on, so flat response and normal balance can be set by switching the Renaissance off then back on. And, of course, whenever the amp is switched on any preferred settings will have to be re-programmed in. It's not a convenient system, nor one that is transparent to understand.

The rear panel carries a set of goldplated 4mm screw/plug 'speaker terminals, a line of phono socket inputs and a switched mains IEC power input socket. To switch on, you have to reach over to the back of the amplifier to flick this hidden switch - fine in some situations, but not so easy in a rack.

SOUND QUALITY

The rich tones of Eddie Reader's voice and the gentle tinkle of percussion on Patience of Angels showed clearly enough that the Renaissance reflects DPA's abilities in amplifier design well. Clearly outlined between the 'speakers, full bodied and timbrelly rich, her voice came over as engagingly clear and natural. The sweet nature and gentle ring of the percussion was testament to the amplifier's handling of high

frequencies, imposing little if anything in the way of hardness or coarseness. In fact, the Renaissance has to be one of the sweetest sounding amplifiers around, matched or exceeded only by esoterica like Audionote's single-ended valve OTO.

Steve Earle's resonant guitar strings on Guitar Town sang crisply too, evoking no hint of nastiness or incision. His gutteral voice perhaps lacked a little push, some bite, a little viscerality and, perhaps, the Renaissance could be accused of seeming a little too euphonic and cutely manicured for hard rockers. It's probably one of the smoothest and most refined sounding amplifiers I've come across, dynamically fast and lively, and of just-so imaging, but it doesn't seek to offend - ever. Having recently had my throat gripped by an awesome twin-211 triode single-ended power amplifier, and my ear's cuffed at the same time by this thermionic hooligan, the Renaissance struck me as a Beau Brummel by contrast.

Refinement and delightfully concise imaging are properties strong on this amplifier's agenda. It possesses good bass drive too, if not bass power of the earth shaking variety. The gentle yet tactile bass performance was entirely in keeping with and helped form - the overall character of the Renaissance. It plays for you, honestly,

openly and with great poise, yet it just could not offend.

Even with its unusual bass lift, the disc stage sounded light in bass drive, but it was exceptionally clear across the midband and treble, giving superb sense of insight, again aided by precise imaging. A cartridge with plenty of bass drive - a good Goldring is my recommendation - is needed, plus speakers with some bass too.

If this amp is lacking, it is only in ultimates: ultimate detail and retrieval, ultimate power. As a solid-state amplifier to sit in front of and enjoy most types of music, especially with violin and strings, the new Renaissance is difficult to beat in its composure, clarity and openness. It has a gentleness born of refinement, with superb stereo staging and imaging. I'd rate it very, very highly for serious listeners, since as with all DPA amplifiers, what they do well they do so very well few can come close. Listeners seeking richness of timbre, purity of sound, sweet treble and impressively concise imaging need look no further

€595 Renaissance Integrated DPA Digital Ltd., Unit 7, Willowbrook Technical Units, Crickhowell Road, St. Mellons, Cardiff. CF3 0EI Tel: 0222 795621

MEASURED PERFORMANCE

The Renaissance was unusual in its performance. It delivers a modest 32watts, limited by asymmetric clipping, not a good sign, but DPA told me that the asymmetry was a function of the circuit topology and couldn't simply be balanced out by adjustment. The problem became worse into 40hms, limiting power to just 36watts. The Renaissance should ideally be paired with sensitive speakers of 88dB SPL/watt or more.

In contrast to this, DPA power amplifiers have traditionally clipped cleanly and have doubled power when load is halved, as a good amp. can, so the Renaissance doesn't match up in this respect.

Bandwidth via CD/tuner/aux measured a satisfactory 17Hz-30kHz, being curtailed at both spectrum extremes, an approach that helps to give a clean sound. Sensitivity was low at 450mV, a more common figure these days being 220mV or so. Some older cassette recorders and tuners that developed 300mV will not drive the amplifier to full output even at maximum volume.

The bass boost control gives a maximum of +5dB boost below 500Hz, a useful amount, and the treble control -5dB cut above IkHz. Both offer a useful 'fine trim' facility.

The distortion characteristic was very unusual - in fact it was one of the most unusual I have ever measured, possessing

more fifth harmonic than anything else, as our analysis shows. Usually, second or third dominate. High order components, characteristic of hard switching (crossover) distortion, were present, but happily in small quantities. The highest figure was 0.07%, produced at IW/I0kHz. Otherwise, levels hovered around 0.02%, a satisfactorily low figure.

The Renaissance comes in line level only form or with an MM disc stage; ours had the latter. It has an unusual equalisation characteristic, displaying slight (+0.4dB) bass lift and slow treble fall (-0.5dB at 20kHz), contrary to that of most amplifiers. As a result, the DPA will have better apparent bass drive and less brightness.

Disc noise was very low and sensitivity low too at 3.8mV. Input overload was unusually low at 23mV; a common minimum is around 30-40mV. My measurements show that to get 25mV from a cartridge on occasional musical peaks is rare, so although the Renaissance does not measure well in this respect, in practice it will pass muster. It is best used with low output MMs all the same.

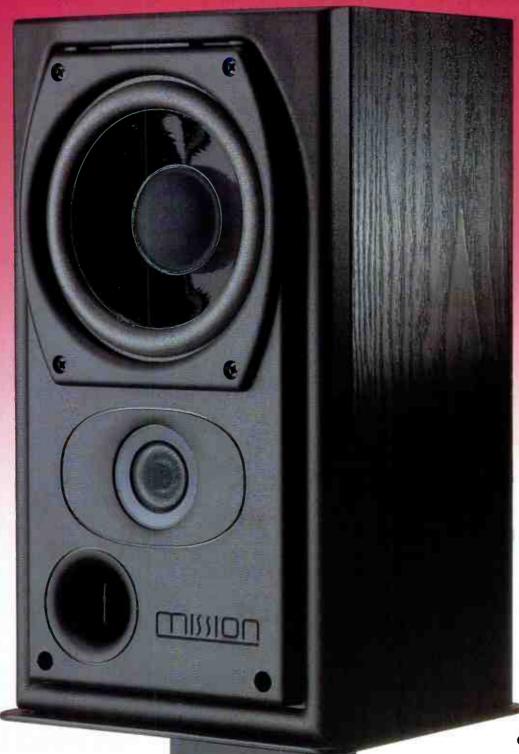
The Renaissance has a peculiar measured performance. Were it to be from a new company with no track record I'd probably be a bit scathing, but DPA are more knowledgeable and innovative than most, making judgement best left to listening tests. NK

TEST RESULTS

Power	32watts
CD/tuner/aux.	
Frequency response	17Hz-30kHz
Separation	47dB
Noise	-96dB
Distortion	0.006%
Sensitivity	450mV
dc offset	0/2mV
Disc	
Frequency response	30Hz-71kHz
Separation	41dB
Noise	-80dB
Distortion	0.004%
Sensitivity	3.8mV
Overload	23mV



CANDID SUCCESSOR



World Radio History

Can Mission's new compact 73 I loudspeakers match the success of their top selling 760s? Dominic Todd listens carefully.

The trouble with products that turn out to be run away successes, is what to do when it comes to replacement time. Pioneer faced such a dilemma when it came to replacing the A-400, which it didn't overcome entirely successfully with the A-400X. Mission now face a similar dilemma in replacing the high selling, highly praised 760. As Pioneer did with the A-400, Mission are wisely keeping certain 760 models (and spin off varieties) going in case the new model isn't so well received. Mission have also had the good sense to completely rename the new model, establishing it as an entirely different speaker.

Different the 731 most certainly is, at least in terms of construction. The new model makes extensive

use of injection mouldings, which are used for both front and rear baffles, pushing together to sandwich the thin MDF cabinet wall carcase. Even more unusual is the way the entire front baffle lifts out exposing the bass unit,

which is actually connected to the rear baffle by integral plastic stalks. The plastic dome tweeter is bayonet mounted to the front baffle, next to the port. The bass unit is similar to the 760s, but feels lighter and more responsive. Although it does smack of cost-cutting somewhat, it's thoroughly serviceable and the bass unit is rigidly mounted. The wiring and crossover components are nothing special and there's only a single tiny piece of wadding. This, however, is no doubt something to do with the way Mission wanted the 73 Is to sound. A deliberate fast and clean balance has been sought which, bearing in mind likely partnering equipment, is probably no bad thing.

The styling is a matter of taste. They certainly look more hi-tech than the 760s, but are rather too similar to the "organic" look favoured by the Japanese, for my liking.

A sensitivity of 88dB means the Missions shouldn't prove difficult for most amplifiers, with a budget Rotel system, and my own A-400, having little trouble driving the 731s. You could even consider a low-cost valve amp.

The little Missions were initially very impressive. But as is often the case with first impressions, the they weren't faultless, yet neither were they without ability. Elvis Costello's 'Mighty like a Rose' album showed up a slightly exaggerated edge to vocals, although imaging always remained precise and consistent. Mission have certainly succeeded in producing a fast and clean sounding 'speaker. Bass quality, in particular, was superbly judged with none of the artificial boominess of other rivals (present to a degree with the TDL NFMs).

It wasn't really surprising to find the 'speakers worked better with simpler music, and could become confused with

more complex pieces. No 'speaker at this price possesses an iron grip on the music. However, it would be wrong to call the 73 Is muddled, quite the opposite in fact. Transients were handled very cleanly, and the baby Missions were quite capable of high levels without showing signs of stress. Because of their well tuned bass quality they never sounded tinny, managing an overall balance akin to a 'speaker a size or two larger. Certain drum beats could occasionally sound boxy, but in general the 73 Is sounded impressively articulate. Cymbals infrequently caused a degree of splashiness in the treble, and its bright, clean nature could make the treble units sound slightly detached from the mid-range.

• Imaging always remained precise and consistent. Mission have certainly succeeded in producing a fast and clean sounding 'speaker.

With Prefab Sprout the crisp treble was in evidence once again. Although there was no unwanted sibilance, I did detect an unnatural sheen to the sound which spoiled an otherwise impressive performance. Despite the occasional boxiness I'd noticed on drums before, with a good quality, sparse, pop recording the Missions sounded pleasantly open and clear as you'd expect (but don't always find) from compact, narrow 'speakers.

Fine so far, but the flip side of the

731s' jollity was a forwardness that could becoming tiring, especially with unsympathetic equipment. Listening further revealed that although the bass was fast and articulate, it did lack extension compared to rivals.

If this review seems a little critical it's only because the 73 Is' forebears and (many) rivals have led us to expect high standards from small 'speakers these days. Although I felt the 760s were often over rated, there's no doubting their widespread appeal from midi-system upgrade to audiophile on a tight budget. They managed to pull it off too, sounding just as impressive on the end of a midi-system as they did on a top valve amp.

In summary though, although they are

an impressive small 'speaker, they lack the refinement of the 760s, or better still the Celestion 3s, meaning they don't quite sound at home on a high quality system. Having said that, used in context with similarly priced' equipment, or on the end

of a dull sounding hi-fi (perhaps even a vintage valve unit), they deserve recommendation, and should be auditioned alongside competitors from Celestion and Goodmans

Mission 731
Mission Electronics,
Stonehill, Huntingdon,
Cambs. PE18 6ED
Tel: 0480 451777

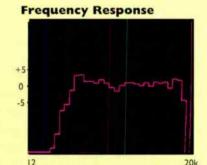
£129.90

MEASURED PERFORMANCE

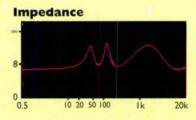
Whilst the 760s are an affordable audiophile loudspeaker aimed at the UK, the new 731s look to be a Euro-speaker preened for success overseas. They have treble lift and a bass peak, to give a more exciting balance, with sparkling treble and punchy bass. These speakers won't necessarily be the last word in refinement or neutrality, but they could certainly add some useful speed and excitement to budget hi-fi systems possessing limited dynamic ability.

Mission's 731s are easy to drive. They have a high overall impedance and just above average sensitivity, exactly the kind of easy load that is needed for budget amplifiers. The impedance curve holds no nasty surprises either, staying high over the audio band and never dipping below 6Ω at any point.

The 731s are an interesting loudspeaker. They have been boosted up at frequency extremes for a lively and exciting balance and are an easy load for low-power amplifiers. They could well bring a pleasant injection of energy to budget systems. **DB**



Smooth response, but treble rise and bass peak will give an exciting sound



The high overall impedance makes the 731s an easy load



And so it was written that the advanced "silent" cabinet design of Tannoy Profile speakers should offer a purity of sound and absence of distortion that other manufacturers could only

dream of. Allowing the powerful drive units to produce a volume of music sufficient to bring down the walls of Jericho. And the people heard this, and there was great rejoicing.

TAMOY PROFILE

AUDIOPHILE ASPIRATIONS

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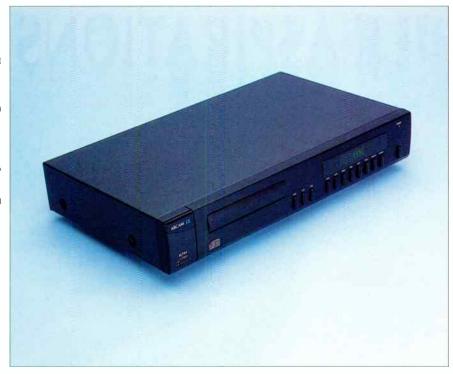
Tho care the rules for desimine CD players at around 2300 Below that price, but ers are a sun ed to and large to

HI-FI WORLD DECEMBER 1994

be going for widgets. Above, it is son c performance – or more widgets. Only o and Yamaha have gone for a sassy approach, b itton-happy. Arcam opt for a stripped down, performance-based design with a Delta-Sigma converter and slim-line looks; Rotel, as always, keep their eyes firmly fixed on the audiophile with a stripped down purse. Kenwood have adopted a haif-way house approach, with a medium range of facilities but a sleek curvature to the drawer, fascia and controls.

It should be no surprise then though it was to one of my tame listening pand





ARCAM ALPHA ONE £299.90

The Alpha One is reatly styled, having smooth lines and gentle curves to break the harsh appearance of a rectangular box. Built like its competitors, the Alpha One nevertheless feels sturdier if, unfortunately, it clanks more resonantly than them. Arcam have yet to stick bituminous pads to the casework to prevent this and convey a better impression, as the Japanese commonly do.

Never mind, the Alpha One works plenty well enough in practical terms. It moves quickly and quietly, giving any user a good impression in this respect. The display offers track number and time in soft green numerals, a Remain button switching the display to show track time remaining (rather than elapsed) and dsc time remaining - useful for tapers.

There's no keypad on the machine itself, but the remote control has one. It also has a volume control function but, teasingly, this is not available on the Alpha One. There's one set of analogue outputs (fixed level) and one electrical digital output. Up to 21 tracks can be programmed in, with Shuffle play an option for those who like surprises.

Sound Quality

At first hearing, this was a very bright, crisp breezy player with a very full bass. On the plus side it was very exciting to listen to, but doubts, alas, crept in quickly. While on blues or simple rock tracks the bass line thundered along and vocals and

rhythm guitars projected sharply, the performers were uniformly placed in a triangle with its base well inside the centre point of each 'speaker.

Tonally, there was a question mark on classical music. Authentic strings, for example, were barely recognisable as such, all with a warmer Romantic tinge. Orchestral dynamics too, were less good than expected, there being something of a curtailment evident when things became busy. The Alpha One had a knack of rhythmically being in the right place at the right time, but not entirely respecting nuances in a score. It was noticeable how, when a panel of friends heard other players in this group, they observed how the musical subtleties some displayed just weren't in balance on the Arcam: some practically squeezed out or subdued in favour of the general picture.

Conclusion

This is certainly an exciting player, but it has its own view of how music should be performed, and that is not necessarily what the producer intended. It was very reminiscent of a certain type of turntable: you'll either love it or hate it.

A&R Cambridge Ltd., Pembroke Avenue, Denny Ind. Centre, Waterbeach, Cambridge CB5 9PB Tel: 0223 440964

MEASURED PERFORMANCE

In similar style to the older Alpha + CD player, the new Alpha One has a rolled-off high frequency response. This gave the old Alpha + smooth, 'warm' treble, which went down well with many audiophiles. Our frequency response analysis also shows that the Alpha One has falling bass, which may give it a slightly lightweight bottom-end.

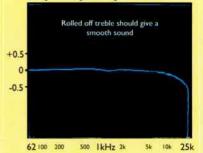
The new Alpha One has much lower distortion than the Alpha +. The plot below, taken at -30dB to represent typical music level, shows that third harmonic distortion predominates. Even at a low level such as this, I would expect this to add a little sharpness to the sound, but this may trade nicely against the rolled off treble.

Distortion is a little higher than average at -60dB, with a corresponding lower than average 102dB measured dynamic range (EIAJ). Output is high too; at 2.44V, making the Alpha One sound louder than its competitors in a demonstration. **DB**

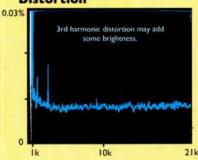
TEST RESULTS

Frequency response	4Hz-20	.75kHz
Distortion %		
-6dB	0.004	0.004
-30dB	0.032	0.026
-60dB	0.93	0.89
-90dB	32.1	31.6
-90dB dithered	12	16
Separation dB	left	right
IkHz	106	105
20kHz	85	84
Noise		-95dB
with emphasis		-95dB
Dynamic range		102dB
Output		2.45V

Frequency Response



Distortion



MEASURED PERFORMANCE

The frequency response of the Rotel RCD 965BX Discrete shows the characteristic ripple of Philips' SAA 7323 bitstream convertor in its high frequency performance. However this ripple isn't normally audible, and good 7323 based players can sound extremely clean and powerful in their presentation. The bass has a slight lift towards lower frequencies, which should give the '965 a solid bottom end.

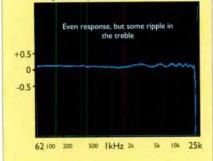
Distortion was low on both channels in this sample, an earlier machine having fared more badly. Our distortion analysis at -30dB signal level from disc shows little in the way of harmonics, a performance repeated on both channels. At low levels though, performance deteriorated in this respect, distortion rising past that of competitors like the Kenwood, the -60dB figure giving a poor dynamic range figure.

Channel separation was satisfactory and output normal at 2.2V. There was a little more noise than usual these days, but it was so low in any case as to be inaudible. Generally, the '965BX measured well. **NK**

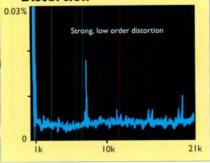
TEST RESULTS

Frequency response	4Hz-2	0.8kHz
Distortion %		
-6dB	0.004	0.003
-30dB	0.009	0.009
-60dB	0.7	0.7
-90dB	51	50
-90dB dithered	37	38
Separation	left	right
IkHz	98	97
20kHz	98	98
Noise		-97dB
with emphasis	- 4	98.5dB
Dynamic range	-	102.5dB
Output		2.2V

Frequency Response



Distortion





ROTEL RCD-965BX DISCRETE £374.95

he Rotel has a fuss free front panel and remote control; both are clearly marked and easy to use. This isn't solely due to lack of facilities - necessary or unnecessary - since a good number are provided. The player can be programmed with up to 20 tracks, a high enough number for most people, and there is an allied repeat function. The remote has a 0-9 keypad, a very useful facility, but the player itself does not. Rotel do, however, provide comprehensive Index search facilities, which classical music enthusiasts may appreciate, although this function isn't much in use these days.

The display panel lights a peculiar blue/green, giving track number and elapsed time simultaneously, as well as disc size, in large, pin-sharp numerals. This player is built well, the large Discrete logo referring to the audio output stage, which uses discrete transistors rather than silicon chips. Whether this is consequential depends solely upon the effectiveness of its design.

The rear panel carries an electrical digital output as well as normal analogue outputs. Remote control of volume is not provided.

Sound Quality

Here is a player that deserves its 'audiophile' tag. A little laid back in presentation compared with the others, it makes use of precise internal sound stage focusing that lays recording techniques unusually bare. The RCD-965 was the only

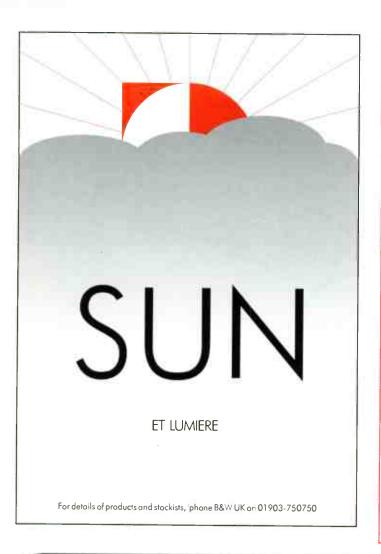
player in this group to entirely separate single instruments or orchestral sections with fly-on-the-wall clarity. A crisp delivery, on-the-ball timing and bass that was only around when it had to be, produced a very lively performance. Unusually for this group, the Rotel also managed the 'infill' in the sound stage, with a clear perspective all the way from left through centre to right. Tonal variety of colour was exemplary at this price. Its only drawbacks were a touch of hardness to strings, with a degree of hollowness in the mid-range that tended to give an impression of depth while also adding a touch more reverberation than was entirely truthful and tending to give a mild degree of lightness to male vocals. All the same, when a sax let rip it sounded nearly as big as a real sax would.

Conclusion

Apart from a desire to be a little overatmospheric on orchestral recordings, the Rotel was placed next to the reference for overall accuracy and clarity. Its sound had a clinical aspect which would prove disconcerting to some, but it responded to changes in musical dynamics very fast and kept tempo perfectly in time.

23

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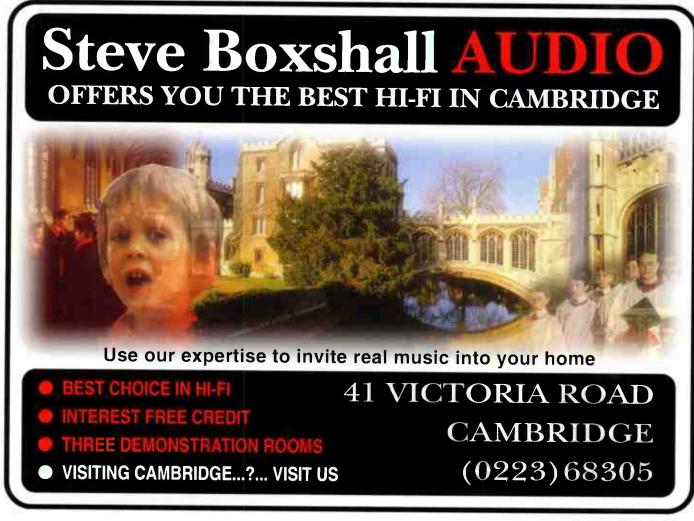
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MEASURED PERFORMANCE

The new Yamaha CDX-880 has an interesting frequency response. Rather than the usual ruler-flat line, Yamaha have chosen to engineer the response to give a slight lift in both bass and treble. This, although appearing to be only minor from the plot, should give the CDX-880 good bass weight and bright, clear treble in subjective tests.

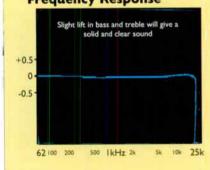
This treble lift can turn to harshness if combined with high distortion, but the CDX-880 behaves well in this area. Although wide-spread across the band, all of the distortion harmonics are low, so the Yamaha should remain reasonably sweet in the treble.

Elsewhere, as is commonly the case with mid-priced players these days, the CDX-880 performs well. Separation is wide, noise low enough to be inaudible, dynamic range good thanks to low distortion, and output dead on the Philips standard at 2V. **DB**

TEST RESULTS

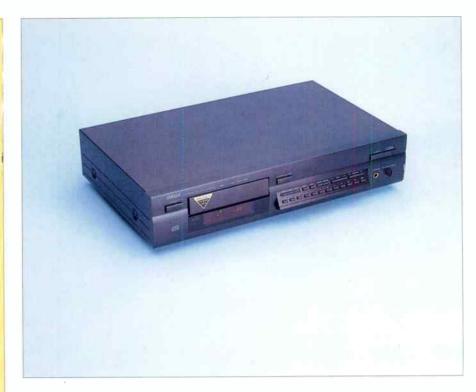
Frequency response 4Hz		1.4kHz
Distortion %		
-6dB	0.004	0.002
-30dB	0.025	0.022
-60dB	0.67	0.54
-90dB	24	17
-90dB dithered	1.1	10
Separation dB	left	right
lkHz	99	96
20kHz	74	75
Noise		-103dB
with emphasis		-103dB
Dynamic range	1	05.5dB
Output 2		2.0V

Frequency Response



Distortion is wide ranging, but low in level

Distortion



YAMAHA CDX-880 £339.95

nother player with an urge to fit in facilities, but this time locating the secondary controls on a flip-down panel. When this is closed, the CDX-880 could be mistaken for a minimalist audiophile machine, should anyone feel shy of admitting a need for taping facilities like the Onkyo, Repeat, Random play and all the other CD replay options reviewers often despise, but come in handy. The player itself has a 0-9 keypad and this is repeated on the remote control. Exclusive to the remote is control of volume, variable output being available from a set of sockets on the rear panel. There's a fixed output avoiding the internal volume control chip for those who want the highest quality. Yamaha also fit electrical and optical outputs for those who might want to use an outboard convertor at a later date. The remote control sender has been fitted with every facility possible it appears, including all the taping functions, display dimmer and open/close.

The Yamaha has a clean profile and a clear orange display showing track number and elapsed playing time; it was easy enough to use.

Sound Quality

Thanks to its 'Pro-Bit' DAC, the Yamaha was the most 'analogue-sounding' of all this group. Nothing in this world being entirely equal, this had unexpected results, its ranking changing depending on the music played. While a Purcell overture failed, since the normally dry strings

sounded distinctly nineteenth century. other orchestral material blossomed into a warm, rich and undeniably enjoyable experience. While full-scale orchestral dynamics were a little restrained, at least the effect was even throughout, no melody or rhythm gaining undue prominence. Rock music too was lively, detailed and very believable, if somewhat studio-bound, never quite powering out into a tough performance. Tonal colour tended to be gently sketched in rather than reproducing the whole spectrum, while the sound stage was a spot lacking in focus in the centre. One curiosity was that it was difficult to follow a beat: I noticed one listener, heavily involved in the music, nonetheless tapping her foot in the wrong time-signature.

Conclusion

Without being condemnatory, Yamaha has produced an easy-listening player in the best sense. This is a player with just enough analogue warmth to take the sting out of the nastier digital recordings, only a little too easy-going to produce that essential shock factor when music is intended to startle.

25

Yamaha Electronics UK Ltd., Yamaha House, 200 Rickmansworth Road, Watford, Herts. WDI 7JS Tel: 0923 233166



KENWOOD DP-7060 £379.95

The Kenwood possesses a wide range of facilities, including peak search for aiding home-taping, but less the Onkyo's FTS-equivalent or the Yamaha's array. The display can be switched off, a nice touch, even though it is among the cleanest and most legible of this group, possessing large blue numerals. They show track, time, emphasis if on, and even output level in dB, which all looks pretty impressive. The styling is as curvaceous as any Page 3 model too, and the cabinet equally well built.

This player has a 0-10 keypad on its front panel as well as on the remote control and it also has remote control of volume, with 'fixed' output in addition to variable for those who want optimum sound quality. There's just one digital output though, which uses an optical transmitter.

Lack of time and a manual prevented me from discovering precisely what the legend "Dynamic Resolution Intensive Vector Enhancement" meant, but it sounds like something the USS Enterprise would use for chasing Klingons.

Sound Quality

By and large, a refined and listenable player, safely playing at Warp Factor Three. Kenwood's DP-7060 has one of the most lucid mid-ranges of any of these players and catches fine detail like the slightest breath of players or the clunk of music stands.

However, frequency extremes are a little restricted. Bass trombones and flutes were lacking some body to them, with homs tending to be very hom-like but without that control over dynamics that allowed muted instruments to diminish their volume naturally. Although adept at reproducing a melody, the '7060 did sound a little slow by comparison with the other players, which made it less surefooted by catching a beat or sudden timesignature changes. Although tonally on the thin side, the DP-7060 made up for the lack of thick-blood in the musical stream with a compensating aura of clarity which spread instruments across a fairly wide stage without them being clotted together, producing a very good impression of individual sections, vocalists or players with the proper amount of space between them.

Conclusion

Not the niftiest of this group in timing, but a very lucid and clean-sounding player. Had there been a little more 'body' and roundness to strings and vocals to add to a splendid definition of detail, this would have been a winner.

Trio Kenwood, Kenwood House, Dwight Road, Watford, Herts, WD1 8EB Tel: 0923 816444

MEASURED PERFORMANCE

Contrary to U.K. tastes, Kenwood continue to give their CD players a treble peak, including this one. This characteristic invariably produces a bright, sometimes sharp sound that on some systems may be unacceptable. On others, it could well provide a welcome tonic, but experience shows that, generally, players with mildly falling treble (e.g. Arcam, Pioneer) find favour with audiophiles, not vice versa.

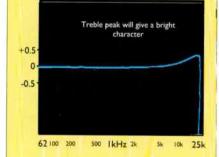
That was the (qualified) bad news. The good news with this player is a remarkable absence of distortion, quantisation noise, and spurious outputs, both in-band and above 21kHz. The distortion analysis shows this quite clearly as a lack of spikes across the noise floor. No matter what test I applied, the Kenwood produced nothing nasty or unwanted; it is an unusually 'clean' player - always a good sign with CD.

Output measured a normal 2.12V and channel separation was high. Dynamic range, at 112dB, was higher than that of most players, due mainly to low distortion. **NK**

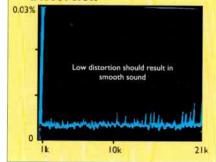
TEST RESULTS

Frequency response	3Hz-2	1.4kHz
Distortion %		
-6dB	0.005	0.005
-30dB	0.006	0.006
-60dB	0.2	0.2
-90dB	4	4
-90dB dithered	- 11	1.1
Separation dB	left	right
IkHz	110	110
20kHz	83	88
Noise		106dB
with emphasis		-106dB
Dynamic range	THE	-112dB
Output		2.13V

Frequency Response



Distortion



MEASURED PERFORMANCE

The frequency response of the Onkyo DX-750 is an interesting one. The whole response has a tilt to it, favouring bass, which I would expect to result in subjectively solid and weighty bass. There's a peak in the treble too, which may add some brightness, but the peak is sharp and above 10kHz where its effect will be less audible than a slow rise starting from lower down.

Distortion is reasonably low, as can be seen from the plot below, taken at -30dB to represent a typical music level. Second harmonic predominates, which is a good sign as this form of distortion is mainly innocuous and there is only a very small amount of 3rd or higher order distortion. However, at -60dB the DX-750 has higher than average distortion which limits dynamic range to a mediocre 100dB.

Elsewhere, the DX-750 measures well, with output just a touch higher than normal at 2.15V. **DB**

TEST RESULTS

Frequency response	4Hz	-20kHz
Distortion %		
-6dB	0.003	0.003
-30dB	0.035	0.036
-60dB	0.94	1.03
-90dB	43	37.6
-90dB dithered	14.3	13.9
Separation dB	left	right
IkHz	101	98
20kHz	76	77
Noise		-109dB
with emphasis		-109dB
Dynamic range		100dB
Output		2.15V

Frequency Response



Distortion 0.03% Distortion is predominantly innocuous 2nd harmonic



ONKYO DX 750 £349.95

fter some years' absence, Onkyo, once a mainstream brand here, is back. The DX-750 is by far the bulkiest, with an intimidating array of buttons left and right of the central tray. These control all the usual functions, but also include 'Peak Search' and 'Time Edit' for (still illegal) home taping and 'Music File' which allows selected tracks from up to 204 discs to be memorised. The complex display has a track calendar, in addition to track number and, in smaller numerals, track elapsed playing time. A 0-10 keypad for quick track selection has been provided on both player and remote control and remote control of volume has been included too. As usual with this facility, those who want top quality can use a pair of 'fixed' output sockets on the rear panel. There's a digital output too, but optical only - an unusual choice. These days, electrical digital outputs are more common, optical coming under suspicion for the dubious quality of the transmitter system commonly used. Yet it does invariably offer an amenable sound.

The Onkyo was reasonably well built and finished. Inevitably, a box of this size has large surfaces and rings more than smaller, sturdier constructions, making it seem less substantial than competitors. This is a problem Aiwa face too, with their penchant for large, unfillable boxes.

Sound Quality

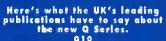
A very harmonious player, this one,

smooth and extremely enjoyable. With rock music, rhythm and bass guitars came forth and multiplied, while orchestral music nad strong dynamics. If there was anything missing, it was only the perception of depth, the Onkyo having a perspective that was forward of the plane of the speakers plus a layer just behind. Consistently, however, the DX-750 reproduced instrumental and vocal colour with a kind of gleefulness that ensured listeners could always be certain that a band was playing authentic instruments or romantic ones. Its sense of timing was totally consistent, too; listeners never failed to match a beat or keep to a rhythm. A small degree of coarseness in the upper mid-range would have said 'multi-bit' a few years ago, but this is a bitstream player.

Conclusion

Consistent in playing music, the Onkyo constantly came out top of the bunch, not for accuracy, but for a strong balance of virtues. My panel of friends tended to mutter more about the quality of performance than recording quality, always a good sign at this price level, though noting a slightly dry, lean tonal quality in the mid-range.

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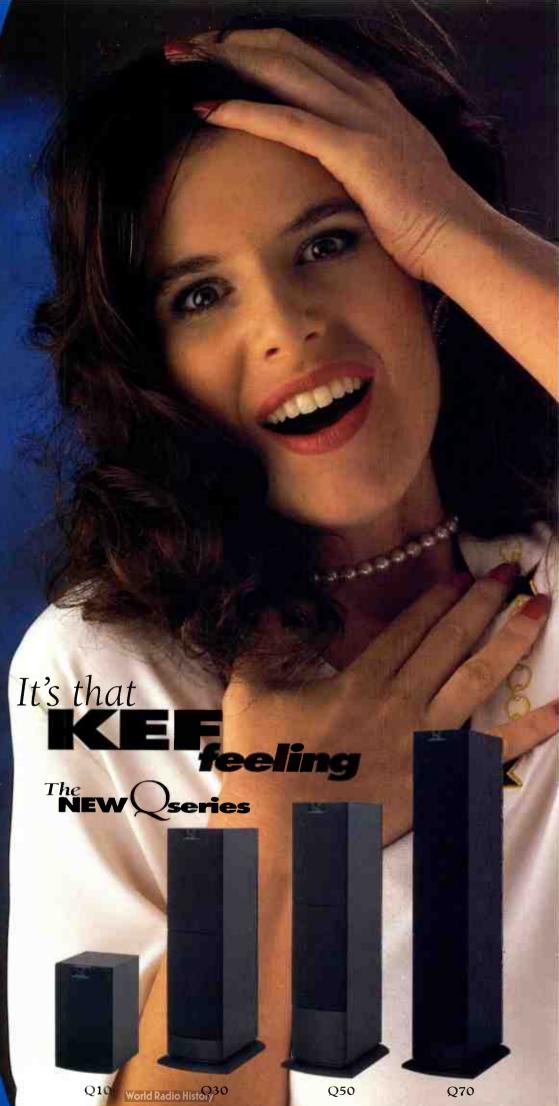
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soundstage. A slight constriction of tonal

smoothness added to its long-term overall listenability, while making it perhaps rather too bland for up-beat rock listeners. The Yamaha unexpectedly caused a guinea-pigs' revolt, having been praised for the nearest-to-vinyl vocal and tonal quality

three grands' worth of vinyl replay system

turned out to have such a superior range

guinea-pigs refused to go back to digital at

all and the fourth listening session came to

a sticky end. However, despite a rather

flat sonic perspective and restrained

dynamics compared to the other CD players in the group, the CDX-880's

overall just-on-the-right-side of rosy glow

Distinctly the odd one out, Arcam's Alpha One turned out to be, well, odd.

Alone, it would be likely to score highly,

obvious. Very tight, very sharply focused,

sounds 'live' between the speakers with.

always, a deep rich 'thrum' from the bass,

since its strengths are immediately

superficially it tightens up a listener's

picture of a rock or blues band, so it

of tonal colour and dynamics that the

colour put it somewhat behind the Onkyo, while a too-refined dynamic

of any of the players. An LP was produced to test the claim, whereupon

CONCLUSION



first Onkyo's DX-750. Certainly the best allrounder, with the widest variety of colour, ripping dynamics and a firm by far the most adept at consistently playing music rather than recordings, a small degree of grain only obscuring the upper midband. With the exception of the Rotel, followed a couple of paces after by the Kenwood, this player also produced the widest and

clearest defined lateral soundstage.

Supreme on depth and coherence, soundstaging was where the Rotel scored. While a certain 'hollow' mid-range quality tended to thin tonal colour, for insight into recording quality the RCD-965BX came second only to the reference. It clearly displayed a 'wet' (liquid) quality, as one listener described it, to one recording which is a consequence of the way that particular recording was mastered. Concommitantly, if perhaps a little artificially,

the Rotel

was better than any of the others at giving an impression of air and space between and around performers.

With a broad array of controls, Kenwood's DP-7060 also produced a well-rounded performance for those who like clarity and refinement, rather than punchiness. Lacking the Rotel's surprising capabilities in portraying the depth (classical) or layers (rock) of a recording, it still had a very tidily defined

player. Only in comparison does it become obvious that the whole tonal balance is slightly skewed, with the emphasis on rhythm and sharpness of projection rather than all the internallydefining subtleties of attack and decay in notes that define a coherent musical performance. Exciting, no doubt, but less than accurate. The benefit is on the side of rock listeners who would be dismayed at the technical inadequacy of some current recordings: the Arcam would still let them spark and sparkle, whereas, at the other end of the scale, the Rotel, especially, or the Kenwood would strip them so bare the result could be dismaying.

more impressive than that from any other

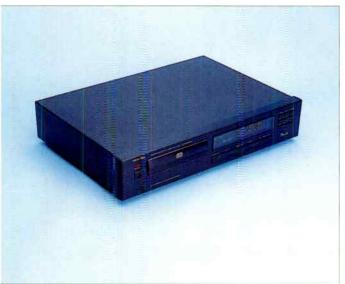
Over to you, Nelly •

II CD players sound the same, go they? Not on your Nelly. For amusement value only, there are two rankings this time. First for facilities: joint winners are Yamaha and Onkyo, though the Onkyo's optical-only digital output puts it one pace behind the Yamaha.

Least facility-bound and therefore bottom of this list, is the Rotel, though of course its simplicity puts it top for audiophile credibility. Only winner of the upgradeability prize is the Rotel RCD-965BX, since it can be transformed into an RCD-965BX LE, where an added UKdesigned board addresses what few sound-quality criticisms can be made of t and puts it decidedly two rungs up on the ability scale.

Sonically, each of these players has a quite different character. In order of bulk, grip on rhythm. It was

brought praise.



HI-FI WORLD DECEMBER 1994

World Radio History 29



Ithough Musical Technology are new to the loudspeaker market, the people behind this venture are certainly not. The Kestrel's impressive paper spec. includes in-house built metal cone bass units and an attractively proportioned triangular floor-standing cabinet, all for a mere £250. This is the work of designer Clive Gibson, until recently with TDL and before that IMF and Acoustic Energy amongst others.

The Kestrels are slim, narrow floor-stander's. This kind of cabinet makes a lot of sense, taking up less room than a standmounter plus stand, but allowing better bass from the increased cabinet volume available to the designer. A spiked metal plate stand is available for an extra £29.95 which gives them a solid footing.

The Musical Technology Kestrels benefit strongly from near-wall placement. Further out into the room bass became light, lacking power and clearly showing the metallic character of the bass unit. Even when pushed right back so that they were virtually touching the rear wall, bass couldn't be described as weighty or strong. They did have enough lower down to establish a reasonable balance, displaying good definition and an ability to play a tune. They coped well with Frank Black's Sir Rockaby, the deep underlying bass line strong enough to make its presence known, whilst upper bass followed the beat of the music well.

Listening to several tracks on the same album also demonstrated their civilised and polite nature. Even with screaming guitars, crashing cymbals and punchy bass lines they sounded comfortably soft. This can be seen in two lights. On the one hand they won't offend, and are particularly suited to relaxing background music. But personally I'd rather have a little more get up and go. From an audiophile point of view, they're not really captivating enough to encourage you to listen deeper and deeper into the music.

A violent drum roll didn't get much louder as the drummer worked harder, and no part of the music ever really made it out of the plane of the loudspeakers and into the room. It's on dynamic contrasts like this that the Kestrels don't really convince. Pink Floyd's The Wall goes from an almost inaudible whisper to super, loud, guitar riffs withir moments, but the contrast between loud and soft was compressed down to reduce dynamics and impact.

In other areas though, the Kestrels do extremely well for their price. Their midrange was exceptionally smooth. The Cranbernies' Dolores O'Riordan showed this to full advantage with her rich, full-bodied voice. Their clarity across the midrange is no doubt due to a well - engineered crossover integrating the drive units smoothly together. The triangular section cabinet will help to prevent standing waves setting up, which can introduce a hard and boxy effect.

The metal drivers gave The Cranbemes a brighter tone than normal, which was quite a pleasant effect with this album, if not the most accurate. This brightening of tone gives the 'speakers an open and clear

sound that certainly seems impressive to start with. After a few hours though, I found myself struggling to hear the finer points of the music. Low level detail such as the ambience surrounding the instruments and the way they decayed were rarely fully exposed, making it difficult to gain much insight into a recording, I found.

**The Kestrels do extremely well for their price. Their midrange was exceptionally smooth. The Cranberries' Dolores O'Riordan showed this to full advantage with her rich, full-bodied voice.

Partly for this reason, the Musical Technology Kestrels have a fairly limited repertoire. Their metal dome tweeter handled cymbals well, giving them the sharply etched zing necessary to become believable, the midrange coped smoothly with most vocals and the upper bass played a tune well. But if percussion became too complicated and laced with high treble energy, the Kestrels quickly became splashy and vague. Counting Crows' acoustic guitars sounded like they were stuffed with foam and the string bass intro to Lou Reed's Walk on the Wild Side was coming from a cupboard at the back of the stage.

I'm not against metal cone loudspeakers; JPW's Ruby Is and Townshend's Glastonburys are among two that I rate highly. I suspect that the larger magnet assemblies needed to drive the heavy cones properly cost a lot and that a compromise has to be made for more affordable designs such as this. Unfortunately, this results in a weak sound, one that at this price level others can beat.

For the money you do get a lot of technology. Metal cone drivers and a triangular-shaped floor-standing cabinet together make the Kestrels look good value. Sadly, for £50 less the standmounting Harman Kardon LS0200s put more effort into the music and if you really want a floor-stander with good bass, then TDL's RTL2s have it sewn up. The Kestrels are a lot more civilised than either of these two though, so if that's what you're looking for, they're worth auditioning •

Kestrel £249.95
Stands £29.95
Musical Technology
Unit 10, Howard Industrial Estate,
Chilton Road, Chesham,
Bucks. HP5 2AU
Tel: 01494 793137

31

MEASURED PERFORMANCE

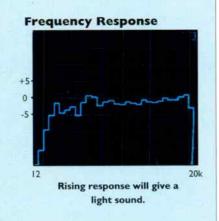
Musical Technology are a newly formed loudspeaker manufacturer, but their designer has had plenty of experience, working for TDL and drive unit manufacturers Elac amongst others. This shows through in the measurements of the Kestrel: they have a well mannered, smooth response and an extremely even impedance curve.

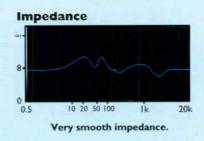
Although the response is smooth, there is an upward trend that will give the Kestrels a light and airy sound. Midrange output droops a little, which will remove some projection and bass was visibly weak. Although this characteristic will impart a light and fast sound to the speaker, the sound will also lack bottom end weight.

As I mentioned above, the impedance curve is one of the smoothest I've measured, making it a candidate for low or zero feedback amplifiers. Unfortunately they'll also have to be powerful; I measured just 84dB SPL at Im for a nominal watt (2.83V) pink noise signal. This, and the low overall impedance figure of 7Ω means that a powerful amplifier will be needed for best results from the Kestrels. I'd recommend at least 60watts.

The Kestrels measure well enough, with a smooth frequency response and

impedance curve. They are insensitive by today's standards, but that's the price you pay for metal cone drivers. **DB**









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KING KLOUT

Is Linn's Kairn and Klout pre/power amplifier the king of slam and dynamics, or is there something more subtle about this top-end combination? Noel Keywood listens closely.

Ithough the days of blind Linn/Naim religion are over, other beliefs being given some freedom of expression, it's still the case that what Linn and Naim do well, they do very well. If you want to hear gripingly dramatic solic-state amplifiers, all punch, power, control and revelation ask for a Linn or Naim demo. Many 'World readers do, and many also ask us how we rate top Linn and Naim models. In the October issue I listened to Linn's top Kairn preamp and Klout power amp, driving TDL Reference Transmission lines. Here's a longer view, based on listening with other, more conventional loudspeakers.

In use, I have two criticisms to make of the Klout. In spite of on/off mute circuits it comes on with a squeal from both channels. And the input impedance is unusually low at 5kohms, causing a potential matching problem with quality pre-amps, especially those without feedback infested, silicon chip line drivers. I saw the relevance in Linn's comment about the Kairn that "most importantly, (it) correctly matches the impedance between source and power amplifier". The Klout is best used with a Kairn.

The Kairn Pro pre-amplifier I reviewed was line-only and, ironically, phono is not now available (I used an EAR834P valve

phono stage for LP). The Pro has a switch mode power supply, a complex way of obtaining mains energy, albeit with practical benefits. Linn were very enthusiastic about this, saying it greatly improved sound quality. The Kairn is remotely controlled and can be used in a multi-room system. It can be manually controlled, but this isn't especially easy. There are seven inputs, three outputs and a very wide range of functions, including balance, volume, muting, input level equalisation, record/listen selection, buffered tape output, mono, etc. In terms of sound quality, the Kairn did deliver. Unlike the Klout, it could be easily matched with items from other manufacturers.

Partnered with Linn Kabers and then the TDL Reference Transmission line loudspeakers I detected some interesting properties in the Linn Klout power amplifier. There were so many other items in the chain, however, that I couldn't distil the sound of the Klout from the rest with any confidence - and it's always dangerous to base firm views on anything other than comprehensive experience in this game. I had to get a Klout home and into a known system pefore becoming more certain about its qualities.

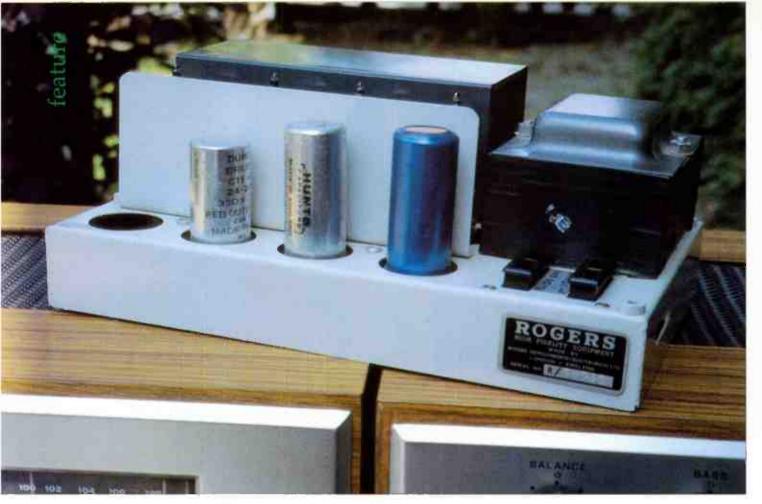
The property that originally captured my attention made itself clearly known straight away: the Klout projects strongly across the midband and lower treble regions, throwing out a wealth of fine detail. This gave a captivating stereo stage with simple recordings possessing well separated instruments and performers, strongly outlining castanets, vocals and strings, for example, on Manual de Falla's 'The Three Cornered Hat', from a delicious analogue 35mm film soundtrack recording (on CD) of the L.S.O., from Everest records. In this area the Klout possesses a master-tape type of presentation, forward, dry and detailed: impressive.

With the Kaim preamplifier especially, and with loudspeakers possessing strong bass, our own KLS3s and Heybrook Quartets, I was impressed by the powerful metronomic beat on Carol Kenyon's Dance With Me (12in single); it's meant to move you almost physically and it punched out from the 'speakers. The Klout has grip and power, it can also reproduce delicacies whilst supporting strong driving bass lines - impressive stuff.

Some of the dryness and in-your-face drama of this combination may be a little overwhelming for some listeners. Depth perspectives and a certain sense of I quidity in the sound are less evident than with good valve amplifiers (or DPA). However, to some extent this is the trade-off you make between good solidstate and valves; some like one, some the other. The Kaim preamplifier survived being hooked up to our revealing 300B amplifier. So often, solid-state pre-amps are revealed as sounding grainy and flat by a lucid valve power amplifier, but in this case the Kairn shone, coming over as clear, conesive and highly detailed, with scant sign of unpleasant colouration.

Ultimately, I was deeply impressed by the Kaim/Klout. It's a forceful combination that images superbly left-to-right, has piledriving power (I measured 78 watts) yet a vividly detailed midrange. Full marks for visceral ty - it's a system that's especially fine for hard driving rock yet it is neither hard nor fatiguing

Kairn Pro £998 Klout £1895 Linn Products, Floors Road, Waterfoot, Eaglesham, Glasgow. G76 0EP Tel: 041 644 5111



Cadet Force

Haden Boardman explores a classic affordable valve amplifier, the Rogers Cadet.



The ECL86 valves are hidden behind a metal heat acreening plate to protect the amouthing especitors.

Itogether there are four versions of this classic little valve amp. The MkI introduced around 1958 was initially called the 'Minor' and used a pair of ECL83 triode/pentode valves to give a claimed 5watts output - quite reasonable in those days. The chassis was very small and neat, with the matching four-knob pre-amp; they 'aint that common though as monoblocks and if you have just one, finding another for stereo sound may take some time.

The MkII arrived in 1961 as a Stereo pre/power combination. This time it used ECL86 valves for a more powerful 10watts per channel. If you already have one of these be warned, the pick-up input on the preamp does not accept MM cartridges.

The later Mkll! from 1964 was much more modern looking. Usually, it was supplied in a little wooden case and early versions were split into pre/power sections. The circuit was not that different from the Mkll, but the pre-amp was significantly better and with a suitable adapter most moving magnets will work very well. Later Mkllls were built as pure integrated amplifiers, and tend not to be as popular as the pre/power item, especially if the case has gone astray.

One fly in the ointment with the

MkIII is the Brimar ECC 807 tube used in the preamp. Supplies of these have long since dried up. Fortunately an ECC 83 is basically the same valve, and will work if you alter the wires on the base of the socket. (The two are not pin compatible). In theory an '807 is an uprated '83, in reality, though, the two measure near enough the same.

The ECC 83 heater does have a centre tap, whilst the ECC 807 heater

doubler power supply, these capacitors each carry half of the full HT voltage on them. Be careful.

Price of Cadets is pretty low, and supply of MkIlls very good. Anyone after an introduction to valves on a very tight budget should certainly consider a good second-hand Cadet with confidence. Sonically they are surprisingly open through the midband, with the extreme frequencies rolled off gently (thanks to a

rather average output transformer). I think this can be a good thing with some budget CD players, taming the bright and sterile treble quality they tend to exhibit.

Power isn't exactly in the Cadet's dictionary either. Unless you own a pair of Klipsch horns or something with 90dB or higher sensitivity, head bangers should look elsewhere

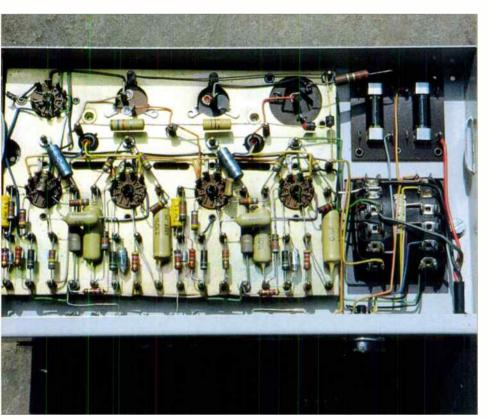
FOR CIRCUIT, SEE SUPPLEMENT, P.19

Rogers Cadet Mellotone Acoustics PO Box 67 Wigan, Lancs WN2 3AG Tel: 0194 57525 £120 Approx.

Valve Pin Connections

The ECC83 and 807 are both twin triodes, i.e. two valves in one glass envelope.

Pir	ECC83	ECC807
I	Anode I	N/C
2	Grid I	Grid II
3	Cathode I	Anode II
4	Heater	Heater
5	Heater	Heater
6	Anode II	Cathode I
7	Grid II	Cathode II
8	Cathode II	Anode I
9	Heater centre tap	Grid I



The underside of the Cadet III power amplifier is easily accessible making servicing and restoration simple.

does not. Connect one side of the heater supply to strapped pins 4 and 5, and the other connection to pin 9. Watch the earthed screen on the 807. When swapping leads about remember not to mix the two halves of each valve up. If in doubt leave this job to a professional.

Another problem that can be usefully solved is the joint cathode resistor for the output valves. As with the QUAD IIs these should be split. Components that give the most aggravation are usually the aforementioned cathode resistors, bypass capacitors and all of the anode load resistors in the amplifier. Around 99% of faults on Cadets are caused by these components. Coupling capacitors and power supply electrolytics are usually very reliable, surprising for an amplifier of this period. Make sure the insulation is good on these electrolytics. Because the Cadet uses a voltage -



The matching Cadet III pre-amplifier and Variable tuner complete with wooden cases.



Part of the new 's' series from Nakamichi, the ST3s tuner is attractively styled. The front panel is clean and uncluttered, having only what is necessary and no more. For £350, this Japanese tuner is surprisingly minimalist; FM only and no RDS - something becoming standard even on £150 tuners these days.

Tuning can be controlled in two different ways. There is the, nowadays, more common push-button scan-up and down, or a nicely weighted rotary control. Rather than being a free-wheeling control though, it turns in 5/100th MHz steps with a positive click for each step. However, this is all a bit academic; the push-button scan controls make tuning fast and accurate, and once you've stored your favourite thirty stations, the rotary control is redundant.

Nakamichi would

do well to engineer

for a warmer,

sweeter balance in

the treble than they

have here. "

The only other controls worth mentioning are for mono and automuting off-station.

Throughout the listening tests, the ST3s stayed admirably clean and clear of birdies or whistles, as you'd expect from a modem tuner. Even from a modest three-element aerial in Central London the signal proved strong

enough for good stereo and low noise from a large range of stations. The ST3s appears to be very sensitive, but be careful of overkill when selecting an aerial: on a couple of stations it came close to being overloaded, and a touch of distortion set in. The signal level meter doesn't seem to be too discriminatory either; if I could get a squeak out of a station it showed four or even five bars - maximum.

On Peter Cirkin's interpretation of a Beethoven piano concerto in C minor on BBC Radio 3, the firmly played notes of the piano took on two characters, depending upon where they were. Above middle C they had an annoying tendency to fizzle out with a phasey, slightly sibilant character rather than smoothly decaying away into the low level hiss. This effect got worse as the notes scaled the keyboard. Lower notes however, were dealt with with more aplomb, having good weight and definition. They still didn't have guite the same atmosphere and three-dimensional scale as on the reference Leak Troughline, but they remained smooth and focused all the same.

The next part of the programme comprised the Chrysler string Orchestra playing Sibelius. The strings were impressively pure and clean, the upper harmonics only suffering a slight brightening in tone. The sound-stage wasn't especially deep though, and when

cello came in, the woody reverberant character was compressed into a two-dimensional plane between the loudspeakers. The space around individual instruments was conveyed well, but the overall sound-stage stood inwards from its boundaries. This was also noticeable on announcements, where the ST3s lacked the ability to draw me into the close-miked atmosphere of the studio.

Initially, the ST3s sounded surprisingly clear and open in the top after the Troughline reference. However, on mainstream rock from Capital Radio and BBC Radio I, the splashiness of the treble made itself known, clearly. Admittedly, transmission quality also took a step backwards from the solid and rich character conveyed by Radio 3, but the Nakamichi struggled to play cymbals with

any power, the papery texture of the upper registers removing body and weight from each strike. Bass lines too, on Kiss FM, weren't given enough presence and attack to really define the beat, although individual notes seemed well constructed.

These days, when a lot of transmissions sound thin and sibilant to start with, Nakamichi would do well to engineer for a warmer, sweeter balance in the treble

than they have here. With light bass and treble that could become a touch sharp, a gritty and weak overall balance was provided. Here, tuners like the Aura TU-50, shortly to be replaced by the TU-80, have a sweeter balance that manages to bring body and warmth to rock, yet stay neutral enough to do justice to better quality signals from BBC stations.

The Nakamichi ST3s is attractively styled, quick and simple to initially program and then use in everyday life. But although minimalist in design, the quality of its sound wasn't quite up to what you'd expect from a £350 tuner. There are cheaper designs around, the Aura TU-50 for example, that gives a smoother and sweeter sound with better body, yet they lose little in terms of clarity to the ST3s.

And there are even more tuners around that can offer a far wider range of facilities, RDS, medium wave etc. for less than half the price. The ST3s looks like it's been aimed at the audiophile with its 'less is more' design approach, but it falls too short in sound quality to gain any appreciation in this market lacktriangle

Nakamichi ST3s Nakamichi B&W Marlborough Road, Churchill Ind. Estate, Lancing, W. Sussex. BN15 8TR Tel: 0903 750 750

MEASURED PERFORMANCE

The ST3s has a small upper midband liftenough to add a little sheen or brightness into its sound. Our frequency response shows this clearly, as well as the sudden drop in output above 16kHz due to the 19kHz pilot tone notch filter. This did a good job in suppressing all unwanted outputs above 16kHz, reducing pilot to -75dB and sub-carrier to -100dB. Bass output extended down below 10Hz.

Distortion was a trifle higher than that of some tuners, hovering around the 0.2% mark, with both second and third harmonics present; this may tinge the sound slightly.

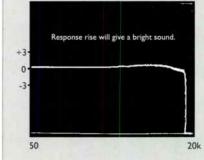
At -71dB, hiss was satisfactorily low, but this performance was no better than that of most rivals. For Radio 3 in particular, which has extended silences, a tuner must offer better than -70dB, so the ST3s just scrapes in here.

Sensitivity was high: just 0.5mV was needed for minimum hiss (full quieting), a level any two or three element aerial can usually provide. Selectivity, the ability to separate closely grouped stations, was also high. Nakamichi have also fitted a useful signal strength meter: all five segments must be lit for full quieting. **NK**

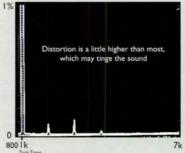
TEST RESULTS

Frequency r	esponse	42	Hz-13kHz		
Stereo separ	ration		42dB		
Distortion (50% mod.)		0.2%		
Hiss (CCIR)			-71dB		
Signal for minimum hiss			0.5mV		
Selectivity (a	t 0.4MHz)		80dB		
Sensitivity					
mono			4µV		
stereo			25µV		
signal strength meter					
1 2	3	4	5		
4µV 16	40	200	500µV		

Frequency Response



Distortion



£350



World

VINYL STAND

I have been reading hi-fi magazines for 25 years now. am 47 years-old and have a large collection of LP records, I have been reading Hi-Fi World for several months and have placed a regular order with my newsagent.

I am completely satisfied with my system which doesn't have a CD player. I remember when they first came out and someone said they had a quiet background. So, Ivor Tiefenbrun of Linn took a lemon to some hi-fi shops, saying that didn't make a noise either.

Although the technology has advanced, I was really pleased to see in a recent issue of Hi-Fi World the advice that readers with large LP collections shouldn't ditch them, but get a really good turntable and enjoy the result. Well, I have just such a turntable; it wasn't expensive and it certainly has a fine sound. It is an Acoustic Research EB101. recently fitted with a Goldring 1012GX cartridge, which I can confirm to your readers as excellent value.

Amplification is provided by an Arcam Delta 60 which has a superb sounding phono-stage. This then drives Tannoy floorstanding 611 Mark One 'speakers.

Ancillaries are an Arcam Alpha 2 tuner - excellent FM sound, the MW and LW bands can be useful too - and an Arcam Delta 150 Nicam tuner for excellent TV sound. Try putting your television between the 'speakers and place the rack with your hi-fi behind, to the left or right; a little trouble making the wiring neat doesn't take long.

In my Target rack there is room for just one more item, a NAD6325 cassette deck. Using TDK AR90 tapes, superb

results can be obtained. 'Speaker cable, I forgot to mention, is the tried and trusted OED 79 strand with gold-plated banana plugs. One other famous make of plug made the sound tinny and the bass guitar wouldn't play properly on my Grace Iones

Finally, the amp, two tuners and my Nicam VCR each stand on a Mission Isoplat; these realy do help.

So why all the funny stares from staff at the High End of hifi shops when I say I haven't got a CD player? One feels ostracised. I daren't ask them to order a stylus from Goldring - I might be thrown out of the shop. I got the 1012 GX direct from Goldring because of the attitude I mentioned with vinyl. And yet CDs are expensive, they can skip or jump, they can rust even. As far as I'm concerned they are also boring. There's nothing like seeing the marvel of a pick-up in its arm and that platter revolving; one can hardly believe it would make the sound it does, or contribute towards it.

Readers who need convincing can visit my home, if they are true enthusiasts. I guarantee some of them will be going away and ditching whatever it is they've got. Look at the letter from Joe Hagan of Thornton Heath, Surrey in your September issue, headed Stunners and Crap. Although you did make a fair point regarding his room and furnishings, how the hell did he house it in the first place?

So keep it up; yours is the best hi-fi magazine I've read to date.

Brian Walker Stratford on Avon Warwickshire.

Just because CD is the latest

medium, it doesn't mean that you can't have musical enjoyment from vinyl or compact cassette. I cringe at the thought of the thousands of records that were ditched in favour of CD when it was first introduced. Even cassette can sound superb, some of my

most enjoyable listening is done on the move with a Walkman Pro.

Let me assure you though, that the attitude you experienced at that particular hi-fi dealer is not

Letter of

Two of your letters in the October edition, and one in particular, brought waves of nostalgia back to me from many years ago.

Your Letter of the Month espoused the cause of quality hi-fi and not simply the latest is always the best, but the letter about the Voigt Tractrix horn loudspeaker was the one which really struck home. I thought you may wish to hear the following true story.

As a preamble my Father, who died in 1980, was always a keen lover of good quality reproduction. His interest was more than academic and he built much of his own equipment in the early days. By the early days I mean the late nineteen twenties and thirties. My mother still holds the third broadcast/receiving licence to be issued in Nottingham, to my father. In the thirties he built a Beard-type television to receive the early transmissions from Alexander Palace. The resolution was so good, he

said, that a pair of 'drop' earrings could just be made out on a female announcer during one of these early broadcasts. I believe the standard in those days was thirty lines!

To get on to the story I intended to tell, my father had a great friend, also a lover of reproduced music, who at the time owned a Magnavox Model 66 12" mains energised drive unit. This was a most handsome unit with a beautiful, black enamel case and cone basket and a chrome carrying handle. With its curvilinear cone and conservatively rated at 20 Watts, it was the apple of his eye. He had this unit mounted on a large baffle and fed it via a DC powered amplifier - I said it was the early days! They had both discussed for some time the merits of the Voigt approach and had both cast covetous eyes over a Voigt unit. At a cost of £17.10 Shillings per unit however, in the nineteen thirties the cost was just too much.

Send your letters to Hi-Fi World Letter Page,

writes

representative of hi-fi dealers in general. Most are run and staffed by music lovers, who either use vinyl as a prime source themselves or respect it as a medium even if they do use CD, like myself, because of the availability of

new releases etc.

As for hearing differences between plugs and Isoplats, pat yourself on the back and ignore their ignorance and inferior hearing abilities. In short, it sounds like you need to find a better dealer - there are plenty out there. **DB**

ANOTHER GOLDEN AGE BECKONS

Following at least a couple of references in recent issues of Hi-Fi World to the book 'Setmakers' by Keith Geddes and Gordon Bussey, I decided to buy a copy. It is an excellent book, telling as it does the history of the British radio and television industry - it even provided me with the answer to something I've been curious about for some time, namely why so many cycle shops branched out into the radio supply business.

However, what aroused me most in 'Setmakers' was the foreword to the book written by Lord Chapple of Hoxton. In the last paragraph, Lord Chapple expresses his hope that 'Setmakers' will be followed someday by a similar history of the hi-fi industry, adding that there is a "mass of relevant documentation to draw upon," at Landseer House (headquarters of BREMA which includes the Federation of British Audio).

The success of Hi-Fi World is evidence in part of the continued interest in many of the glorious names of the past, such as Leak and Raciford, who were part of the history of the British hi-fi industry. Is it too much to hope that at sometime in the near future we will see a definitive history of the British hi-fi industry, similar to that now provided by 'Setmakers'? Who knows, perhaps some hi-fi iournalist at a loose end will take up the challenge (maybe from the now defunct Audiophile magazine or even Hi-Fi World not that I'm suggesting anyone at Hi-Fi World is ever really at a loose end!)

Michael Winnington Belfast.

It should be done - and soon. Sadly, many of the great audio engineers of our past are passing away, taking their knowledge and experiences with them. At the moment there is still a massive amount

continued on page 45...

the Month

One day, much to my father's surprise, his friend announced that he was going to buy a Voigt unit, and sure enough several weeks later he turned up at my father's house saying that the unit had arrived with an enclosure. He was looking glum however and my father naturally enquired about his long face in view of his new acquisition. 'It doesn't look much' came the reply.

With re-assurances from my father, they both went to see and hear the new buy. The Magnavox was taken down with its baffle and the new Voigt mounted into its relatively crude horn, i.e. no bass chamber, and wired up to the DC powered amplifier and switched on. My father said the look on his friend's face when he heard the Voigt with its, for those days, wonderful high frequency response, and natural presentation of sound at head height, was a joy to behold. Within five minutes he had given my father his Magnavox - he wasn't interested in that any more.

I still have the original leaflets on the Voigt loudspeaker and the beautiful Birch ply corner horn incorporating the Tractrix curve. Where this Voigt unit went to, I don't know, but my father, who was never able to purchase a Voigt unit, always spoke in glowing terms about the Voigt. Only in the nineteen sixties when he heard a single Quad ELS, which I had purchased, did he ever admit to being equally impressed.

I hope this ancient story has been of some interest. It is ample proof, if any is needed, that the joys of hi-fi are not new, but were being enjoyed over sixty years ago.

Graham Vickers Arnold, Nottingham.

What a wonderful story, I bet your father would be amazed to see us talking about Voigt and his Tractrix over sixty years later. **DB**

Yes, the joys of hi-fi certainly aren't new, but perhaps they need a little re-discovering. **NK**

64, Castellain Road, Maida Vale, London W9 IEX.

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Just listen. Close your eyes, open your mind, and see the light.

*If you already own an Alpha 5 CD player, we'd be happy to update it to full 5 Plus specification. Please call our service department at the number below during office hours for full details and prices.



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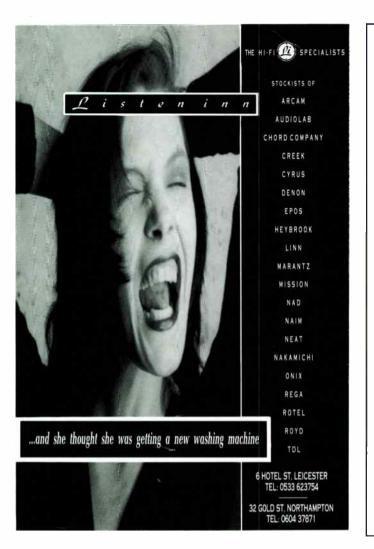
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2 INGRAVE ROAD, BRENTWOOD

Near corner of Brentwood High St. Closed Tuesday

annoy's new 632 is arguably their best looking affordable model so far. The rather blunt hexagonal cabinet from the previous range has been rounded off and is tapered less towards the rear. In the case of the 632, it creates a stance not dissimilar to that of Tannoy's more expensive D100. The squarer footprint also allows it to fit conventional stands, unlike its forehears.

The drive units are similar to the previous Tannoy 605, using a gold anodised metal dome tweeter and variable thickness plastic 6.5 inch woofer. What is new, though, is that the drive units are now inverted. Previously, this arrangement was exclusive to limited edition derivatives. The oxygenfree copper cabling remains, but the actual terminals have been tweaked. The old biwiring terminals were great in principal, with no chance of losing the linking pins, but proved fiddly in practice. The new terminals have greatly improved cable access, although finger space is still a bit tight, despite Tannoy's claims to the contrary.

Unfortunately, the finish proved to be unexpectedly dodgy on my pair, with large gaps around the top cap and cabinet, and an ill fitting top panel. My examples weren't pre-production either, but knowing Tannoy's previously good reputation I'd expect things to improve.

Tannoy have deliberately sought a 'big box sound' from the ported 632 and, with this in mind, it was interesting to see how they compared with Mission's 73 Is which are designed to have a similar balance. The new Tannoys left me in no doubt of their big box pretensions with Bob James' 'Restless'. Although reasonably compact, the bass depth was equivalent to a compact floor-stander. Yet, even over a foot out from the rear wall, it always seemed underdamped and woolly.

It seems Tannoy's engineers have gone all out to squeeze the most bass out of the 632 whilst neglecting control and integration. A good balance could be achieved, but it involved the 'speakers being pulled at least two feet away from the wall; something which a prospective purchaser of

this type of speaker is unlikely to tolerate. The balance would also suit a lean amplifier, although the loose bass may still remain. It's a shame, because the rest of the 'speaker isn't that bad. It showed the customary Tannoy strength of being able to image well, and is more tolerant of room variations than many competitors.

Music with a less prominent bass fared better, although I still felt there was a slight cloudiness to the sound that could make all the difference to the presence and believability of a flute, for example. The shut-in upper midrange also took its toll on pianos, sounding distant and boxy. Female vocals, such as Michell Shocked didn't prove a problem though. The treble was never intrusive and struck a good balance between smoothness and detail retrieval. It also has the edge on most of its rivals in being clean and free from sibilance.

One advantage brought about by the ample bass was decent scale. I could see how this could appeal to some listeners, with music such as Gershwin's Fanfare For The Common Man sounding expressive and powerful. Equally, the overbearing nature of the bass could irritate.

To sum up, I feel Tannoy have achieved their ambition in creating a big box sound. However, whilst this may appeal to lovers of dance or even organ music, anyone else is left with a compromise. The combination of a lack of bass integration and solidity with a nasal mid range spoils an otherwise fine 'speaker. As a student's boom box it would do just fine (and I know many who'd adore the sound) but, unfortunately, the 632 is no audiophile bargain and cheaper Missions (73 Is included), Celestions and even . Tannoy's own 631 model offer a better balanced sound. These represent superior value for the audiophile on a tight budget, or you could save up for Tannoy's excellent D100s, but that's a different ball game altogether. DT

Second Opinion

By far the best aspect of the 632 is an openness that does wonders for its clarity of perspective on classical music. In one choral

recording the positions of the members of the BBC Chorus were quite remarkably obvious for a speaker this price. So was a twittering sparrow on one track, definably up in the rafters. It was a delight to hear the relative perspective of orchestra and piano in one of the Mozart Piano Concertos. Just as good, too, was the enveloping ambience, which adds a great deal to the atmosphere and often somehow separates itself from the music. Through the 632s, this was all a homogeneous whole, a wee bit on the small side of full scale, but that is inescapable. A Sony SBM recording of Haydn had Tafelmusik's gritty, authentic strings and the empty studio space around them down to a T: the T in Studio Monitor, almost.

With this as a serious benefit, a certain lack of weight and definition in the lower registers was acceptable, left hand on piano being there, but needing a bit more power. The 632 wasn't too clear about distinguishing the upper notes of double basses from the lower ones of cellos for example, and timps were a little perfunctory. The Tannoys did, however, offer up a whole orchestra with a very wide range of tonal colour.

While woodwinds, especially oboe and bassoon were splendidly rounded, flute, piccolo and violins missed out on middle notes, resulting in a mildly quacking effect when they happened to be playing at the same time. Harp arpeggios, rich at one end, suddenly 'pinged' at one point, which was mildly disconcerting. Colour rather washed out of boys' and sopranos' voices, too, giving a mildly pinched effect on some notes.

Overall though, Tannoy have produced a relatively affordable speaker which makes a serious attempt to reproduce a full chorus or orchestra. One of the few speakers under £250 I would risk opera, Bruckner or Mahler on **EB**

Tannoy 632 £189.99
Tannoy Ltd
Rosehall Ind. Est., Coatbridge,
Strathclyde. ML5 4FT
Tel: 0236 420199

MEASURED PERFORMANCE

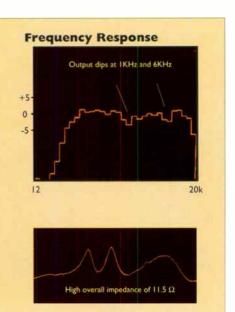
Tannoy's new 632 loudspeakers have an unusual response characteristic. Across the midband output is generally lower than that of bass and treble, which tends to limit projection of vocals and lead instruments. There are a couple of dips in the response too, at IkHz and again at 5-6kHz; they are almost certainly phase cancellations; moving my ear up and down the plane of the baffle I could hear phase lobes as the tweeter added to the midrange output at one point, then subtracted at another.

In the far field (listening position) however these response dips filled in to give a flatter result, so the 632 should sound balanced, but critical listeners may detect a slight loss of coherence or focus.

As far as driving the 632s is concerned,

most modern solid state designs shouldn't run into difficulty. Although only of average sensitivity, measuring 85dB at 1m for a nominal watt (2.83V) pink noise signal, impedance was high overall at 11.5 Ω . So although they will require a healthy dose of volts to go loud, not much current is required. This makes them ideal for many Japanese integrated amplifiers, which can do just that.

Overall the Tannoy 632s aren't quite as polished as we'd expect from one of the most reputable loudspeaker manufacturers in Britain. It looks like a little fine tuning to the crossover may be necessary to make this a more consistent performer. **DB**



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.... continued from page 39

of detailed information upon which to draw. **DB**

That very same remark caught my eye too and I remember thinking I'd very much look forward to such a book. As Dominic says, the first wave of engineers, like Voigt, Leak, Briggs (Wharfedale), Barlow, and others have passed away. However, Walker (Quad), Cooke/Fincham (KEF) and others are alive and able to contribute invaluable information to such a book.

SACKED AND LOOTED

"That Quad don't often get recommended is part of the same problem, one of limited outlook. There's been far too much concentration on some forms of musical presentation to the exclusion of all others."

Hear, hear!. My experience exactly! As a relative newcomer to hi-fi a couple of years ago I went down the 'Naim route' at the recommendation of several dealers. Why Naim? because I was looking for a 'live' sound.

Whilst I enjoyed some aspects of the system (I ended up with CD I/72/HI-CAP/140), it ultimately proved not as enjoyable as I had hoped. Dealers seemed unaware that this would be the case, and attempted to sell me increasingly expensive upgrades to further my listening enjoyment.

Earlier this year I made a bold decision and advertised my entire Naim system in Loot, a London free ad newspaper, and sold the whole lot to a guy who only owns ten CDs and claims to only own CDs at all so he can 'listen to the equipment'. Funnily enough, this reinforced my opinion that a music lover like me, who is not really interested in electronic components per se, would be better to switch to Quad.

Once I had sold the Naim set-up I went out and ordered the top of the range Quad system: 67 CD player, 66 preamplifier and 606 power amplifier. I then made an inspired choice and bought a pair of B&W's fabulous Matrix 805V monitor loudspeakers. These are mounted on Sound Organisation stands - although the finishing touch. the dedicated Slate Audio 805V solid slate loudspeaker stands are now on order.

Noel, I think that you will know what I'm talking about when I describe the many nights of enraptured, totally happy listening that I have enjoyed since changing to the Quad/B&W system. The Quad sounds to me like *music*; it does all the hi-fi things as well, like imaging and so on, but any type of CD that I care to put on sounds musically rewarding and delightful to listen to.

I have a sneaking suspicion that, if dealers sold Quad more enthusiastically, (a typical dealer comment is "Quad. It's not really competitive any more. We only keep it for old times sake") the hi-fi industry in Britain would be in a far healthier state. Many people are sold a middle-of-the-range Linn or Naim system and after a while find that they are not really happy; that's why there's so much of this equipment advertised in the columns of publications like Loot.

People like myself, who have spent a few thousand pounds, but are completely happy and satisfied with their purchases, are becoming increasingly rare. Hi-fi dealers, tempting customers along these 'upgrade paths', in the hope of gaining bigger profits, could be unwittingly killing the goose that, in the past, has lain golden eggs.

PS: can we have the B&W Matrix 805Vs back in World Favourites please? And what about the Quad 66 preamplifier (which I would rate on a par with the Naim 82 with two HI-CAPS - yes, honestly!?

Anthony Edwards Chislehurst, Kent.

Hi-fi is all about finding what is right for yourself. Many people swear by Naim, it's dynamic,

forthright and exciting presentation is just what they are looking for. You have found the more laid back and richer sound of Quad suits your music and taste far better than Naim. Others would say that a record deck and a valve amplifier driving horn loudspeakers is far more effortless, smoother and sweeter. Andy Grove loves horn loudspeakers. I find them coloured, unacceptably so in some cases, but Andy says he can ignore this because they are fantastic in other areas. So be it.

As reviewers we have to appreciate this 'personal taste' factor. When something is not to our liking, we must be able to pull back and listen for what is good about a product, and what may appeal to different listeners' tastes. The attitude of reviewers in the 80s, telling readers that Linn/Naim were the only answer and everything else was wrong was naive. Sure a Linn/Naim system is fantastic, but it's not everyones' cup of tea, as you've found. Nothing comes close to reproducing a live event, it just produces a different interpretation of music that will appeal to some listeners, but not to others. DB

SOURCING YOUR SOUND

Remember when some people said "A turntable cannot possibly have an affect on the sound" - even though they hadn't checked for themselves? In practice, it only took a short audition to hear completely unsubtle differences in sound from systems differing only in the choice of turntable. Later, some people said that 'CD' was vastly superior to 'LP' (they had compared a £200 CD-player with a Dansette-clone) and others said that 'CD' was aurally offensive (they had compared a £200 CD-player with their £2000 analogue front-end).

Having got used to the idea that 'the source' is fundamentally significant, perhaps reviews of loudspeakers should consist only of technical specifications
(among the most important
being physical dimension, colour
range and price) with
instructions to audition them
with various 'speaker cables,
various interconnects and
various mains leads with the
desired front-end/amplifier in
the intended listening
environment.

If the above seems jaundiced, it's because I have just replaced my mains distribution lead with a RATA Distribution Powerkord (incorporating a RATA Superclamp, Olson distribution block and Kimberkable mains lead) and the sound from my loudspeakers (IMF ALS40s) is so enhanced (not just changed) that I would certainly want to experiment with all types of lead/interconnects before considering a change of loudspeakers.

Prior to the new mains lead I tried a pack of Harrnonix tuning sheets which, for a cost of around £2 per disc, improve CD sound dramatically. Is their effect merely to bring the disc to the standard which the manufacturer should have supplied in the first place, or is it that they modify the disc physically, allowing an above £200 CD-player to operate optimally? Incidentally, does anyone know of any catastrophic problems with the Harmonix RFII CD treatment? For example, does the adhesive end up distributed inside the CD-player?

In the lune issue, two of my future letters have been pre-empted (possibly) by your article on CD quality and G A Jolly's letter on 'stereo'. While my predilection is for lazz, Blues and Old-Time Country Music (mostly mono), I find myself buying CDs of classical music (probably recorded in a hall with a crossed pair of microphones) in preference to the pan-potting (fake stereo?) and multiple miking used in a lot of pop recordings. Also, close miking seems a bit of a curse. What about TV

continued on page 47

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.... continued from page 45

announcer sound? Are they in cupboards? My mother's favourite programme is 'Top Gear' - she is not interested in cars, but she can hear every word that leremy et al say.

M Collins Benfleet, Essex.

SOUND COLLECTIVE

It was with great interest that I read your column in the September issue of Hi-Fi World, and your comments on hi-fi clubs.

I belong to a hi-fi club based in New Ash Green in Kent. We meet each month with members taking turns to hold each meeting.

This means you get to hear a wide range of systems and a wide range of music.

We have members who have CD - only collections (myself) or are dedicated to vinyl - one member - who has just succumbed to getting a CD - player; the rest are a combination of both.

The club was formed in the late seventies. I joined in 1981 and it's proved to be very successful. At each meeting there is usually four to eight members. This can increase to quite a few more when we ask various manufacturers to come and demonstrate. Pink Triangle, B&W, Audiophile Furniture, Trichord Research and NVA have all visited.

We also organise trips to manufacturers such as Rega, Naim and DNM.

If you are interested, perhaps Noel or Dominic would like to visit us. As yet we haven't had any hi-fi journalists (apart from Jimmy Hughes, a personal friend) pay a visit. I'm sure the politics of hi-fi magazines would be very enlightening. You would be very welcome to visit; the meetings are very informal. Then after the visit a possible plug for the club in the mag would be very much appreciated? You can contact

either myself on 0732 883950 (after 7pm) or the present club chairman, Mike Blackmore on 0732 461561

Ron Bosio Borough Green, Kent.

NETWORK NORTH EAST

Just a note to let you know of a hi-fi club that's been on the go for some time. It works simply by introducing our customers to each other. They then visit each other and become friends, it's as simple as that! The biggest problem with hi-fi clubs is one of security. If you have a healthy few thousand pounds invested in a system, the last thing you want to do is let people know. Our club gets around that problem as we get to know personally all members before we introduce them to others

The benefits are countless and the atmosphere in the shop fantastic. It does, however, prevent you making some sales when busy, but then again if I were in this business for the money I would be a most misguided individual

Derek Keith Hi-Fi Excellence, Union Grove, Aberdeen ABI 6TD

SCRATCH FILTER QUEST

Congratulations for providing us with the best hi-fi magazine blend of news, views, reviews, and DIY projects. All without losing sight of the original intention - the enjoyment of music!

After years of listening to classical music LPs and (more recently)) CDs on undistinguished equipment, I treated myself to a better budget system. The Pro-ject 6 turntable, Rotel RT-950BX tuner, Marantz CD-52MkIISE CD player and PM40SE amplifier, Sony TCK590 tape deck, Mission 760i 'speakers, stands and decent interconnects. It all proved very satisfying, and a tribute to the

numerous reviews which I read before purchasing. Thanks!

Nearing retirement, I intend to use some time to build even better kit, including valve amplifiers and pre-amps which you have published. My last valve amp I built in 1957! First I need something else from you. For my collection of LPs (most now irreplaceable) I want a really good scratch filter

I do look after my records, am very careful to clean them before playing, and try to avoid static build-up. Even after that, still I want to minimise those faint pops, clicks, and scratching of surface noise. It breaks concentration and reduces my enjoyment during LP listening. Even so, I've decided I prefer LP to CD.

Obviously, I do not want to sacrifice any more hi-fi than necessary by reducing high strings or attack, which presumably is a risk. At the same time I recognise that at my relatively advanced age, my hearing does not extend to very high frequencies. So I'm sure there must be some benefit to be had.

I've seen a unit advertised from Marantz (and dismissively reviewed) but I would rather build something myself. Since there must be many of your readers in a similar position to me, how about this for a DIY supplement project, soon?

Mr. L.A. Saunders Longfield, Kent

I've heard every scratch filter going (try buying a Quad 33 preamp) - and I'd prefer to stick with the scratches. The only system that works is a complex digital one used by studios. Filters remove much of the music all of the time; scratches occur only now and then. Generally, as reproduction quality improves, the music becomes more captivating and noises less apparently intrusive; the brain can learn to ignore fleeting noises. I suggest you try either an Ortofon VMS2E cartridge for its warmth and lack of high treble, or you try covering the

tweeters of your 'speakers, either partially with tissues, or completely. Or perhaps you should upgrade to a Goldring 1012GX cartridge.

If you still insist on making a scratch filter, buy the Active Filter Cookbook, by Don Lancaster (Sams/ISBN 0-672-21168-8; the Modern Book Co., Praed Street, London W2., tel: 071-402-9176, stock it). This gives you all the info necessary to build high-order (fast cut-off) filters around silicon chips.

Publish details of a music removing device? Geroff! **NK**

FAREWELL TO MIDI SYSTEMS

I am a newcomer to the purchase of hi-fi, but not to listening to it. About three weeks ago I decided (rather my wallet did) it was time to dump my midi-system in favour of a more realistic sound. To start with I looked through the usual hi-fi mags and went around some dealers in Leeds and Wakefield. The results of this tentative survey were frightening. The first obstacle was a sneering and a less than helpful manager at the Sony Centre in Leeds, the next were prices that made my mortgage look like dinner money. Finally, after many hours of searching for a sympathetic dealer I found Richard Sounds in Leeds.

I was received with courtesy and shown that although I would not get the best sound from a budget system I could be sure of a reasonable sound and the option to upgrade in easy stages at a latter date. The system I settled on comprised of: a NAD 3020i amplifier, an Aiwa XC-750 CD player, a Cambridge CT200 twin cassette deck and a pair of JPW mini monitors with 79 strand 'speaker cable. The total cost of this was £410! This may not win any awards but it has provided me with a more than passable sound for less money than I would expect to pay for a midi system.

continued on page 53

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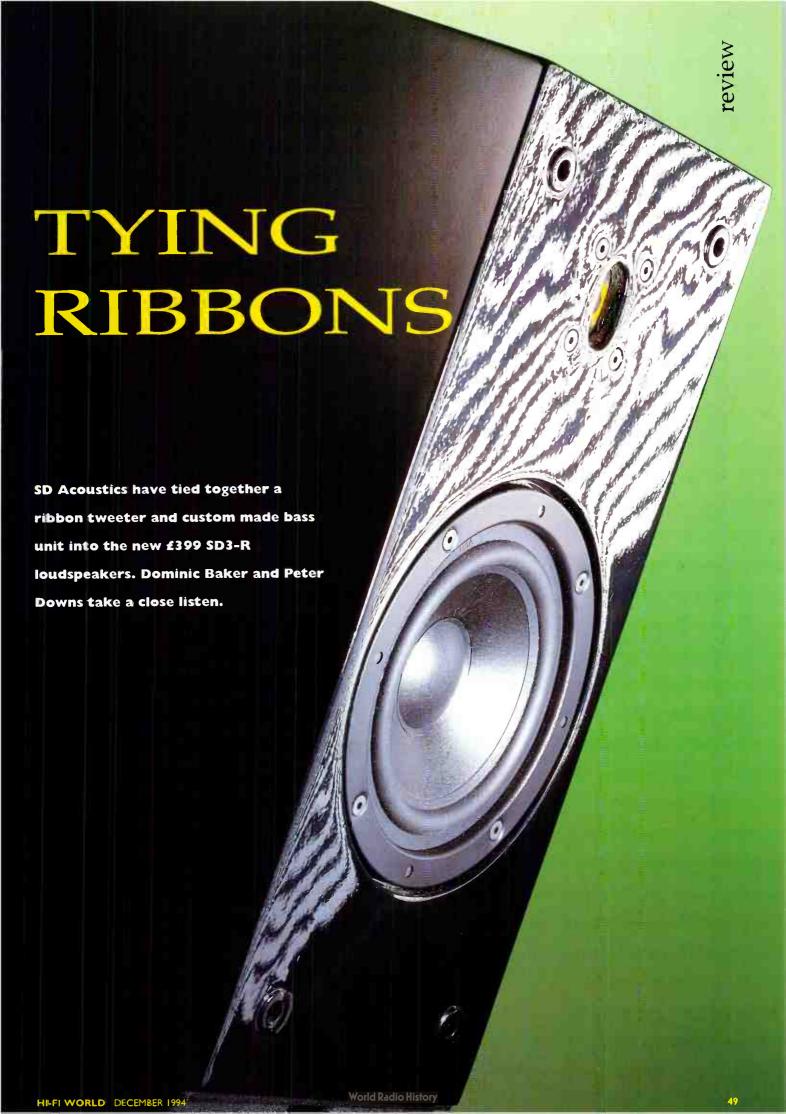
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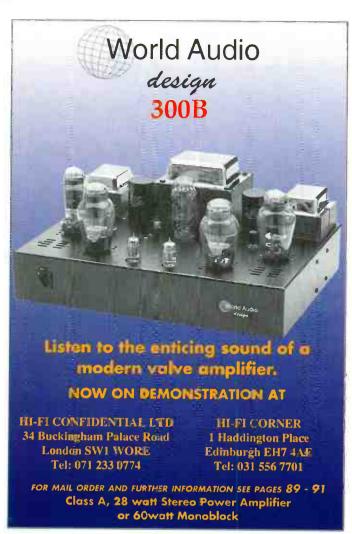
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loudspeaker using a custom made ribbon tweeter and bass unit in an attractive, gloss black, polymer cabinet sounds like the recipe for a unique top-end model. SD Acoustics are aiming to bring this level of technology to the hi-fi market, with the new, very affordable SD3-

Rs, priced at £399.

The cabinet itself is made from polybymin (PBM), a mineral loaded polymer that SD Acoustics claim results in far lower cabinet colouration. The liquid PBM is poured into a mould and then baked

hard, a process that allows SD to make the cabinet slightly wedge-shaped to prevent standing waves between parallel cabinet walls. It also allows the high quality gloss piano black style finish pictured to be offered at no extra cost. A matching pair of stands in a similar finish are available for £299.

The circular ribbon tweeter may look familiar to those acquainted with Infinity loudspeakers, but in fact the only common part is the diaphragm. SD Acoustics choose to fit their own high power magnet assembly and they mould the face plate into the PBM baffle, a neat and effective method of attachment.

Internally, quality hasn't been compromised either. The crossover uses high quality components and is finished off with silver-plated copper internal wiring.

So, with all this going for them, as well as an increasingly appetising price tag, I was eager to listen. Wired up to a trusty DPA 50S power amplifier, the SD3-Rs instantly gave me a taste of what they had to offer. Bass was solid and dynamic, midrange clear and detailed and treble bright, fast and tactile in a way that only ribbons seem able to manage.

As with the Heybrook Sextets, the ribbon tweeter is subjectively quite obvious at first, sounding detached in character from the bass/mid unit. Ribbons generally sound so much cleaner and less coloured than any form of dome tweeter that they draw attention to themselves, but after a few hours of listening you become accustomed to their clarity and everything else sounds vague and spitty in comparison.

The use of a ribbon tweeter helps to give the SD-3Rs an exceptionally open and transparent sound, able to convey atmosphere and sound stage detail with a delicate and focused touch. The upper harmonics that provide these acoustic qualities were handled beautifully.

Lower down in the midrange the SD3-Rs don't give up trying. Whether it's the choice of the PBM cabinet, a good quality drive unit, high quality crossover components and internal wiring or a combination of all of these, the result is superb. The midrange is forward and projects detail well, but without becoming too forced. If I were looking to be

extremely critical, it does suffer a little plasticky colouration and lower midrange could do with a touch more punch and drive, but the 'speakers are certainly no worse in this respect than any other £400 design.

• One side of The Rippingtons was enough and I had to chicken out and turn down the volume, I felt I had gone nine rounds with Mike Tyson.

> One other thing to bear in mind before I hand over to Peter, is that the SD3-Rs are likely to reveal bright or harsh systems for what they are. The tweeter is exceptionally clean, and any hint of grit or grain will be passed directly to the listener. Otherwise, if your system needs a little opening up or an injection of space, the SD3-Rs could be just the tonic.

Second Opinion

This 'speaker is amazingly clean, so forget your rose-tinted glasses. The lack of colouration, due to the polymer cabinet, is quite outstanding, leaving me free to crank up the volume. In fact, I didn't realise how loud I was playing them until I tried to speak to someone. Bi-wiring is a must as the image suffers otherwise.

The bass is forceful and punchy, but doesn't suffer overhang or boom. One

side of The Rippingtons was enough and I had to chicken out and turn down the volume, I felt I had gone nine rounds with Mike Tyson. That is not say that they lack finesse: the opening moment of Rachmaninov's Second Symphony had me

> watery eyed, the delicate strings just exude emotion. Turning up the volume was a mistake, the sudden bass punch had me diving for cover.

Vocals were produced clearly, without chestiness. Piano was played with a solid and three dimensional feel, which Harry Connick Inr's first album showed well.

The treble I have left to last as it was undoubtedly the best. I am used to ribbon tweeters, but the speed and presence was stunning. Percussion has a clarity that was uncanny, bringing them clear of the mix.

The only down side I found was that it could be a little clinical at times but, being used to cabinet colouration from my normal box loudspeakers, this is to be expected. Also, you need to bear your neighbours in mind; the temptation to keep upping the volume is ever present. In my opinion, the SD3-R is a resounding success • PD

SD Acoustics The Factory, Alpha Road, Surbiton, Surrey, KT5 8RP Tel: 081 399 6308 £399

MEASURED PERFORMANCE

The SD Acoustics SD3-Rs took quite some effort to get meaningful test results from. The ribbon tweeter is extremely directional, good for stereo imaging, but a nightmare to measure and combine with the output from the bass/mid unit, as well as the rear firing port, which handles most of the lower bass.

The response shown is built up from measurements taken from in front of the tweeter, bass/mid unit and at rear from the port. It shows that the three are reasonably well integrated, but that between midband and treble there is a dip and that bass needs to be enhanced by near wall placement. This dip in the upper midrange will remove some projection, but because of the rigid PBM cabinet used I wouldn't expect it to become boxy or closed in.

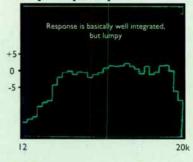
The SD3-Rs don't present the kindest load to partnering amplifiers. Impedance hovers around 6Ω from bass right up to IkHz. Above this frequency it dives downwards, falling through 3Ω at 10kHz and still further to around 1.5Ω by 20kHz. For this reason, treble quality will vary from amplifier to amplifier. Those capable of driving this kind of load will produce a bright and clear sound, whilst those that can't which may be the majority - will sound dull or muddled to differing extents, depending

on their drive characteristics.

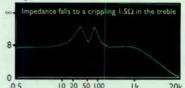
Sensitivity was quite a reasonable 86dB, a touch above average, which is good for a compact design like this.

Overall, the SD3-Rs are a bit of an oddball. I used them on a powerful DPA solid state amplifier to good effect, but because the strongly falling impedance will give variable results, I'd recommend a demonstration with your own partnering equipment first. DB

Frequency Response



Impedance



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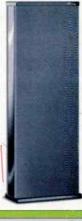


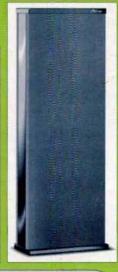




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.... continued from page 53

The reason I am writing is firstly to let other first time buyers know that there is life after a listless midi and to ask if you could recommend a pair of 'speakers that will improve my system as the IPWs are a little bit inadequate for Black Sabbath. I do not intend to upgrade my amp for some time as I am more than pleased with it, as well as my CD and cassette deck. So I need 'speakers that are sensitive enough to work with my 3020i NAD , whilst being of a high enough quality to see me through a complete upgrade in the future.

By the way I am very impressed with your mag even if I don't understand much of the technical details. I am learning and the reviews of products and music sections are excellent.

lain Barclay Knottingley, North Yorkshire.

As you have found, it is possible to put together a budget system that costs a similar amount to a midisystem, but sounds far better. The items you have selected are excellent value for money, and you should enjoy many years of listening to music on your new system.

Many potential purchasers of separates hi-fi are put off by the initial treatment from dealers that you too experienced. The outcome is usually the purchase of an inferior midi-system. By not being dissuaded by the attitudes of those dealers you were eventually able to purchase a sensibly priced system with good sound. Well done Richer Sounds for sensibly showing you the way into separates hi-fi. DB

And try listening to TDK NFMs, RTL2s or Mission 751s, or the new Tannoys. NK

SINGLE-ENDED MANIA

Thank you for your interesting projects. I find them both

HI-FI WORLD DECEMBER 1994

enjoyable to read and tempting to try.

Intentionally or otherwise, two single-ended amplifiers were introduced in the August issue of HFW. One of them is a valve unit from Audio Note and the other a transistor headphone unit from yourselves.

I would have normally concluded your editorial arrangement as a special issue on single-ended amplifiers and simply get on with life. After-all, solid-state or even tube amps have been providing the world (forgive the generalisation) with good music via the push-pull

However, one simply cannot overlook the recent crop of single-ended tube amplifiers that are winning overwhelming acclaims; dare I say a resurrection not seen in the amp world for a long time.

As a absolute amateur not content with merely the marketing impact of these single-ended amps, and with enough physics to know roughly what an amp is, but far from adequate to handle audio electronics. I have to burden you with the following questions.:

- I. Is it possible (and feasible), from a hobbyist point of view, to make a solid state single ended amplifier?
- 2. If single-ended Class A amps can be built to excellent results from valves, can the same be done with FETs?
- 3. If so to 1 & 2, can you recommend where I can learn about such circuits?
- 4. Is a single-ended unit necessarily Class A, or is Class A/B also possible?
- 5. Conventional push-pull designers take pride in their strictly resistive signal path - a claim I more or less understand - whereas most single-ended units I have seen have capacitors and transformers in the signal path. Who's right? What's going on?

I was not even born when transistors became more common and valves less

common, so naturally I felt obliged to defend the inventions - of my generation. I would like to know, for example, if similar wonders like the Audio Note OTO can be had using a simple FET circuit. Knowing that there is nothing factual or rational behind my sentiment, I would very much appreciate your expert advice before I go on singing my stupid song.

I shall look forward to your

Vincent Kan **Philips Hong Kong** Limited.

It is in fact quite easy to build single-ended amplifiers using solid state devices. Most transistor amplifiers, including our own solid state amp, employ mainly single-ended amplification stages with only the output buffer operating in push-pull. It would be possible to modify our kit to operate with a single-ended output stage, but power would drop to around 18W with 90W heat dissipation in the output stage.

F.E.T.s could be used in a single-ended design in exactly the same way as Bipolar transistors, but I'm not sure if there is any sonic benefit in this. There is a group of "F.E.T. Followers" who maintain that the F.E.T. is the best thing since sliced silicon, but the rest of the audio world is realising that a simple, well-designed valve amplifier can sonically outperform the most expensive of heatsink wielding transistor Titans-Bipolar, or F.E.T.

Single-ended audio circuits are, by their nature, Class A. In a Class AB or B push-pull circuit one of the valves is cut off, (non conducting) over part of the audio cycle, its partner supplying the output signal. In a single-ended amplifier if the valve were to cut off it would have no partner to take over the operation so the output would be severely distorted.

In an ideal world we could do without interstage transformers and coupling capacitors, but in order to

operate the valves optimally it is necessary to use them. Many transistor amplifiers use no coupling devices, but usually have five or six times the amount of active devices in them when compared to a valve amplifier, especially a single-ended one.

I think that if you are going to attempt to build an amplifier you should investigate the theory first. We recommend The Art Of Electronics by Horowitz and Hill. It's quite expensive but is a very worthwhile investment. It is available from us or from good technical bookshops. AG

SPIRIT OF THE AGE

Your September editorials imply the death knell for hi-fi if we continue to regard 16 bit digital as a medium, believing that we are very close to the limit of reproduction available from CDs. DACs are still improving in leaps and bounds, with units like DPA's 1024 and PT's Da Capo revealing nuances and information that really had been on the little silver disc all along, (if 16-bit is the limiting factor, why does that battery supply make such a difference?) Of course CDs carry only a finite amount of information, but ultimately so does vinyl.

Pioneering implementations of digital technology like the above have convinced me that there is still plenty of life in 16bit. I certainly agree that we should be discussing a replacement, but 20 or 22 bit is far too low, (in 10 years time I shall be reading that these were inadequate!), but whatever system is implemented, it will most certainly be digital, not as you wish, analogue vinyl.

CD was viewed by many hi-fi nuts (myself included) as a welcome alternative to the constant stream of expensive inferior pressings that we had endured for years. Some felt, that the hardware had actually surpassed the performance

continued on page 55....

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...Mesmerizing

.... continued from page 53

limit of available software. Sound familiar?

Many CD player sales were in the budget-mid price range, as owners of Thorens, Regas, Heybrooks et al like myself, realised that for less than their planned upgrade to Linn, Logic or PT, they could buy a CD player, with no precision engineering or intensive assembly labour costs to hike up the price, that gave a substantial upgrade. Sure, first generation machines sounded artificial and harsh, but so did a lot of hardware then. CDs also had the secondary advantage of convenience. Of course the downside was actually finding a disc to buy! Initially, CD availability lent heavily towards the more mature and discriminate classical buyers, who surely were most likely to have serious systems. If it was as inferior as you now believe, it would not have become as popular.

I am certainly not anti-vinyl. I strive to reproduce a live performance in my lounge, and I do not care whether it is played on CD, vinyl or wax cylinder. What does concern me is the quality of reproduction - as should all hi-fi enthusiasts by definition.

Judge each piece of equipment on its merits, be it IC transistor or valve. Promoting the opinion that the only good hi-fi is vinyl and retro valve will leave you only with readers who are proud owners of SP25s and Bush stereograms from car boot sales.

David Carter Trowbridge, Wiltshire.

We are not anti-CD, all of us own players and listen to silver discs daily. The view we do have though, is that if you own a lot of records, tapes, a vintage valve amplifier, old horn loudspeakers etc and enjoy your music, it is not wrong to carry on enjoying it. Good sound is good sound, and it doesn't matter how it's produced.

I am a little upset, justifiably so, I feel, that after spending thousands of pounds on CDs after deciding at the age I got into hi-fi, it was going to be the medium of the future, that it has already been announced that a replacement system using different lasers and disc pressing processes is to be launched in the very near future. I bought into CD hoping that quality would improve and that some day it would overtake vinyl. It never has, comprehensively, and I could have had a fabulous record collection by now rather than an outdated CD format. But that's life, I still enjoy my music. DB

Analogue systems are open ended to development; digital systems are not. I wrote that we were running out of development potential with CD some time ago and that it was basically an old and now inadequate seventies technology, rushed into commercial production by Philips and Sony to capitalise on the wonder of "digital sound", which was no wonder at all. CD suffers 0.5% of the most horrid digital distortion at -60dB; in my view it has a distortionlimited 50dB dynamic range not 90dB as claimed.

I have actually never promoted vinyl as an analogue carrier; I did suggest Laservision, with its FM carrier might do, or some equivalent. If we have to stay with digital, it must be considerably more future-proof.

Now we learn that CD sales are slowing and that, with the emergence of 18 and 20-bit professional recorders for studio use, the music business has finally accepted that 16-bit does have audible limitations and is, therefore, not perfect (phew, it took them long enough!).

I suspect that the marketing men already fear that CD has peaked as a consumer medium and may well go into decline over the next few years (they insist

media have "lifetimes").
Consequently, the race is now on to replace CD, with something that sounds more "analogue like", I'm told. Last month we heard that HDCD will be announced soon, meaning that CD has now been accepted as inadequate just as I and thousands of others have always said. Oh, and how long did perfection last - I2 years. Hah! NK

LONE LOWTHER

Back in the early '40s I wanted a Radio but couldn't afford to buy one. So, armed with a little knowledge I set about building one. I was pleased with the result for about a fortnight and then I started musing "I wonder if I can make it sound better?" If only I'd rested content I would have saved a lot of money - but also missed out on an enduring hobby!

It was in my early days that I concluded (and still believe) that the major problems of record reproduction lie in getting the "music" off the record and into the amplifier and then getting it out of the amplifier into the room as sound. In my early days I made my own moving coil pick-ups with coil connections that broke about every three months! My wife got used to holding very fine wire that she couldn't see whilst I soldered it. My liking for MC cartridges continued, culminating in various Dynavector products.

I converted to CD during their first year of production - they may not be perfect but they do have some major advantages. They don't pop, crackle and hiss, masking important low level ambient sounds like vinyl, and any fool can put a CD in a player without having to apply laboratory standards to ensure proper pick-up tracking and stylus tracing.

I first got interested in hom loaded loudspeakers when I encountered a pre-war Voigt Comer Hom. I also became enchanted with a Voigt derivative made by a man called Enock - but his studio was an old wooden Gymnasium in Ealing and I could never make up my mind whether it was the 'speaker or the room acoustics that sounded so nice. I flirted with Klipshom, Decca folded organ-type pipes and have suffered a number of various conventional resonant boxes.

Hike Quad Electrostatics but they give my wife apoplexy because of their appearance. I am currently using a couple of the original Lowther Bi-Cor cabinets fitted with the latest and superb PM2C/Hi Ferric drive units: these are the first reasonably sized hom derived 'speakers that I have encountered that will reproduce at 40Hz. For my personal taste the bass generally is a bit light, but this is easily overcome with a gentle bottom end boost.

Mention of Lowther brings me to the main point of my letter. Hi-Fi World is the only magazine where, in recent years, I've even seen the name Lowther mentioned, let alone run a technical review of any of their products. Lowther are now producing a couple of new 'speakers and I enclose for you the blurb they have sent me. As the bass level/room acoustic adjustment appears innovative what is the chance of you testing them?

Noel Parks Brockenhurst, Hampshire.

Yes, there is a chance of us testing the new Lowther loudspeakers. I have contacted Lowther and hopefully a review will appear in the coming months. The model we hope to be receiving is the Bel Canto at £1799, using a single PM2C/Hi-Ferric drive such as the ones in your Bi-Cor cabinets. Sadly though, Lowther specialise in export only nowadays, so their new loudspeakers are unavailable in the UK. However, if a review creates enough interest, I'm sure they will re-think this strategy. **DB**

And any man that winds his own moving coil cartridge has my utmost admiration! **NK**



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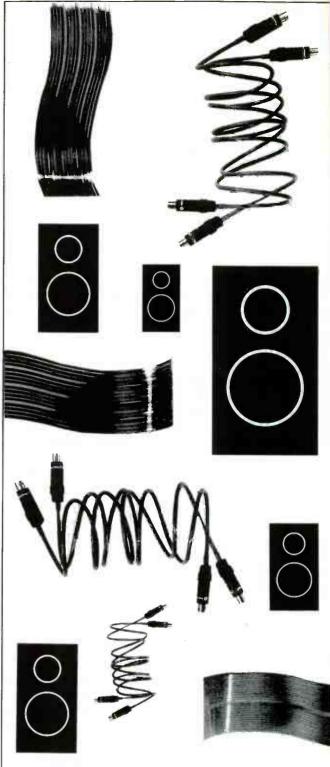
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GRAND BOHEMIAN

The combination of Pro-Ject's 6.1S turntable, a Sumiko arm and Ortofon's MC30 Supreme has Eric Braithwaite enraptured.

ot long ago a reader wrote to Hi-Fi World wondering how a Pro-ject 6.1 could be improved. As it happened, Ortofon were thinking on similar lines, wondering how far a very good basic turntable design could be pushed. The 6.1S is the result. I'd hate to

project the Pro-ject's sales trajectory, but the omens are good. Very good. No, let's be brave. How about excellent?

Mind you, Pro-ject has certain advantages. In this case, one of them is the fact that Ortofon imports the company's products into the UK.

Therefore the 6.1S now comes with an Ortofon MC30 Supreme, well-named at that, for that is what it is, thrown in for the grand this set-up costs. The other is that Pro-ject now fits a Sumiko arm, addressing the one disadvantage the 6 had: an arm that simply wasn't as good as

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the turntable deserved. The result is doing the Cansberg thing in case somebody is in suing mood - probably the best turntable for the price in existence.

Last time round, I praised the '6 for its dynamics. This time round, believe me, this aspect is astounding. Checking out the new RCA stereo re-pressing of Also Sprach the way the strings and then brass arrive on your doorstep with heart-stopping vitality was enough to provoke a cardiac arrest. Not just that, but the low thunder of the organ note at the beginning was positively stomach-shivering as well. The reason we all praise these early stereo recordings up to the skies after forty years is that they recreate a profound and exciting musical moment, with all the tingle of a live experience. And that is what the new Pro-ject

Only top-rate turntables, as the Pro-ject did, allow a listener to say during the Strauss "Ah, that phrase is more reminiscent of Till Eulenspiegel than I thought", realising the intentions of both conductor and composer without the thought disrupting the flow. This turntable/arm and cartridge combination is a musical experience projector.

amplifies. Shivers down your

is on the musical part of the

equation.

spine; tingles in your toes; ears

at attention. And the emphasis

Now that phrase is not entirely metaphorical. Apart from an orchestral tutti

burgeoning full tilt and gung-no out of the 'speakers, the overall presentation of these RCA's was just enough more forward than normal to add five per cent more excitement without destroying the perspective. While not in the high-end league for Pacific Trench depth, the Project's abilities in this direction rate Alpha. In Bartok's Concerto for Orchestra (another classsic RCA), the depth of space the simple miking arrangement put down on tape was obvious.

The top end on these LPs is not exactly up to modern recording standards, being a bit thin and shrill, but the Ortofon/Pro-ject combination erred on the side of good taste rather than cruelty. The upper strings had a small degree of richness and smoothness added that took the bitterness and edginess away, while adding a bright clean edge to the attack, if that doesn't sound

control room rather than precisely beaind the desk.

If this lounds a subtle difference, it was meant to be. It's illustrated by shading like one backing vocalist being 'breathier' than his counterpart, or the absolute certainty that you could mime the engineer's fingers on the faders. Or, the oh-so-subtle difference between hearing the afferent force of one palm on a bongo to that of another. Considering the Pro-ject was up against a QC-powered Gyrodec, if this is now a 6 with a Sum'ko and an MC30 can perform on its lonesome from the grubby mains we are now afflicted with, then, the possibility of an add-on power supply had better become a probability.

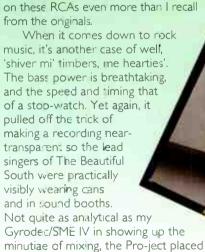
With such a tight control of all the essentials - rhythm, a metronomically tight beat, almost outrageous dynamics, a superbly wide dynamic range and punchy, senously heavy bass - the 6.15 is the brightest set of fireworks you'll ever see on November the Fifth. Or, if I have my publication dates wrong, the sparkler at the top of the Christmas tree.

A thou' is not exactly small change,

but ask any actuary what a Project plus a Sumiko plus an MC30 Supreme really adds up to and it would be a bargain at twice the price. It will definitely have some other manufacturers getting their drive belts in a twist. Let's hope Ortofon, Prcject and Sumiko stay one big happy family. Meanwhile, my vinyl collection is wearing a big grin and saying 'Play me''. I'm hanging the "No visitors" sign on the front door for the first time in quite a while

€999

Pro-Ject 6.1S Ortofon UK Ltd., Chiltern Hill, Chalfont St. Peter, Bucks. SL9 9UG paradoxical. Add an MC30 into the Tel: 0753 889949 equation must also be responsible for a



World Radio History

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INTHE IANUARY ISSUE

Don't miss the bumper Christmas issue of Hi-Fi World complete with a FREE supplement full of puzzles and games to keep you amused over Christmas as well as gift ideas and much more. Of course we'll still be bringing you news from the world of hi-fi, features, a fabulous competition, and lots of new products. Here's just some of what we hope to bring you in the January Christmas issue.

DENON D-FIO



We review Denon's latest high quality component system for those who like a little style in their lives.

HEYBROOK HEYSTAK

A new floorstanding loudspeaker from Heybrook featuring a passive bass radiator for deep and powerful

Using high tech. Kevlar drive units, B&W hope to find success with their new 'P' range of loudspeakers. We test the 2-way floorstanding P4s.

AURA TU-80

Replacing one of our old favourites. the TU-50, is the new Aura TU-80 tuner. Does it still offer the sweet and clear sound that we liked so much from its predecessor?

ORTOFON MC15 SUPER II

This £100 affordable moving coil cartridge from Ortofon is a bit of a shocker. Find out why in the January issue.



TRIANGLE COMETE TZXe

Triangle have made major revisions to their whole range of sensitive loudspeakers. We listen to the popular standmounting Comete, now in TZXe

CHIRSTMAS SUPPLEMENT

FREE with the January issue of Hi-Fi World, the Christmas supplement is packed with games and puzzles to keep you amused over the festive period. They'll also be great ideas for Christmas gifts for audiophiles, music lovers and enthusiasts...

COMPETITION - WIN THE PRODUCTS FEATURED IN THE JANUARY ISSUE.

That's right, to celebrate Christmas we're going to try and give away everything reviewed in the lanuary issue as a prize. Just pick which product you'd like to win and if your name is picked - it's yours.

> 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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t must be down to a conjunction of the planets. Suddenly, it's all good news, so much of it in fact that people in the hi-fi business are wandering around looking a little bewildered, wearing fragile smiles of half belief. Live '94, the Consumer Electronics Show, was the major reason: it was one hell of a show in size and razzmatazz. Held at Earls Court 1, an enormous display hall, and organised by News International, it was heavily publicised and strongly attended by manufacturers and public alike. No fewer than 186,484 people made it through the doors, compared with 15,000 or so for a typical, specialist hi-fi show, like Bristol or Penta (in its heyday). And as if Live wasn't big enough this year, it will be bigger next year - proving that Britain can support a great Consumer Electronics show. one in which hi-fi still plays a major role.

This, everyone agreed in the hi-fi business, was what we need - one yearly mega event, no argument, something everyone can look forward to, a real focus for the year. Why? Well, sales of proper hi-fi are in steady, if gentle, decline in Britain, large companies relying heavily - sometimes almost entirely (e.g. B&W, Lowther) - on export. Yet separates have never been so inexpensive, rivalling cost cut mini/midi systems. It seems that an increasing proportion of the British public now believe 'hi-fi' is something you get for £500 from Rumbelows, when better is available for little more. There's widespread agreement amongst specialist manufacturers that this impression needs to be countered, and one large show with everyone in attendance is a good way of going about it.

So many people, including myself, remember with affection coming to London to visit the Audio Fair at Olympia back in the late sixties/early seventies, as well as other mega-events like the Motor Show at Earls Court. These shows were galactic events it seemed to me at the time, coming 'up' from the West Country.

London I remember for the curious but intriguing smell of the tube trains - and when you emerged from that experience, large aircraft lazed through the skies overhead. The exhibitions themselves seemed to distil out the city's life and excitement, concentrating it into a frenzy of vivid displays, hordes of beaming sales girls, a cacophony of noise and more goodies then you could see in Hamley's in half-a-dozen Christmases. It wasn't an experience to forget, yet it disappeared for many reasons.



replacement after a few years.

The organisers told me that this year's show was a great success and that Live '95 will be bigger, spilling over into Earls Court 2, next door. Many exhibitors judged it a success too, although sadly one or two saw it only in terms of whether their own, specific customers had turned up and were, inevitably, a bit disappointed. Such a narrow view was rare, luckily. Most were pretty pleased about the whole shebang. Linn had a bigger log cabin than last year, immaculately built by a Finnish company who assemble such things for

Reflections from Noel Keywood kaleidoscope

The seventies degenerated into a decade of strikes, it seems in retrospect, and they put paid to Olympia and Britain's only major hi-fi show. The audio industry has seen a lot since then and although not exactly out of the woods commercially as yet, it is larger than ever and needs a major exhibition of international stature to display its goods not only to a wide buying public in Britain, who seem to have forgotten about the delights of good music reproduction, but to those overseas who still value British hi-fi.

I was delighted to see Quad in the thick of things at Live '94, loving every minute of it and, still, displaying a cutaway electrostatic loudspeaker. How that cutaway used to intrigue me when I was barely out of my teens, wide-eyed and eager to learn about such mysterious things. This year KEF joined them with cutaways of their Reference 2 loudspeaker, showing its internal chambers and drive units. Linn have taken to showing internal bits too, especially the impressive Klout amplifier one-piece chassis extrusion. Audio is or should be - about super

quality specialist engineering, serving us by increasing our pleasure in music. This sort of display emphasises the point.

Really successful products possess many attractions: great visual appeal, novel yet superlative engineering and, last but certainly not least, a really thrilling sound. Add to this unquestionable reliability and long, long service and you find a quintessential good hifi product.

A dreamer? Not entirely. Many companies strive hard to reach such a goal, recognising that is how it must be if hi-fi products are worthy of the quality tag they claim.

I have to say that, debates about sound quality apart, Ouad have been something of a long term torch holder in this area. But Arcam, Audiolab, SME, KEF and others have all in their time claimed, to some degree justifiably, to offer the same sort of exceptional product quality and customer service that Quad have, through years of consistency in this area. And product longevity effectively makes a quality hi-fi system better value than a midi that needs

ordinary domestic use in their home market. It took five days to build and, I reckon, cost around £100,000; Linn wouldn't divulge the figure, but said it was a great success. Everyone was awed by Sony's stand, reputedly the most expensive at around £1.2million, but Sony reckoned it was worth it too. That's how much goes into these things.

The only people missing an omission the organisers are aware of - were the smaller UK specialist companies. There was plenty of room for them upstairs, but the cost of exhibiting is a little high for most. The show would be a lot more varied if they were accommodated. We then wouldn't be the only ones with valve amps on display, a dubious honour amongst a sea of lollipops, camcorders and the other electronic paraphernalia of modern living. Only our regular readers knew what they were. In a few years time, as a result of a few more shows, perhaps this will change. If everyone's optimism is justified, many more people in Britain will become aware of the sheer variety of products available in our vigorous audio market

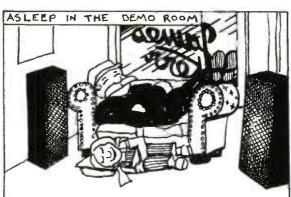
OUR FAVOURITE PAIR ARE OUT FOR A WALK-TAE James Korn









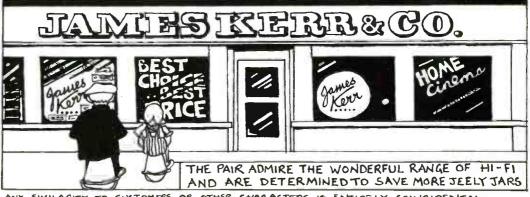












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James Kerr 100 WOODLANDS RD., GLASGOW RENTAL OF HOME THEATRE AND HI-FI CLOSED TUESDAYS - TEL. 041 332 0988 T's probably about ten years ago that I read a letter in Wireless World magazine from the late, and great, M.G. Scroggie deploring the term "current dumping" to describe the amplifier topology invented and exploited by the Acoustical Manufacturing Company in the Quad 405.

Scroggie acknowledged that the term pertained to the relatively straightforward task undertaken by the output transistors in such an amplifier. However, he argued, since the current that the output transistors passed was used directly to energise the loudspeaker and thus produce sound, the role these transistors played could hardly be considered "dumping", suggesting - as the word does - that they were involved in disposing of a useless commodity.

Now dumping is an everyday word for storing precious computer data. Perhaps it is only the ever-Victorian, scatological British who could regard responsible "dumping" as the hallmark of an accountable professional life.

Not that Scroggie was criticising the development of the Quad 405. I've owned a Quad 405 as a studio amplifier for many years and it's a wonderful product. I choose to ignore the engineers and academics who consign it to the wastepaper basket of history They blinded by mathematics prefer their own (faulty) reasoning to the evidence of their own senses. Technically, currentdumping does work believe me. It works well and it goes on working. But how exactly does it work?

In Fig. 1, I've drawn a simple power amplifier with a voltage amplification stage (A) and a complementary bipolar transistor outputstage. In many ways this looks like any other complementary power amplifier, except that there is no static bias applied to the output transistors. Negative feedback encloses the whole and attempts to maintain linearity despite the large transfercharacteristic discontinuity

introduced by the unbiased output stage.

If you breadboard something like my Fig. 1, I guarantee you'll be surprised. It doesn't sound that bad. Provided the gain/bandwidth of Al is large enough, the output signal is remarkably undisturbed, especially at low frequencies.

Essentially this arrangement would be acceptable were it possible to construct the amplifier A perfectly, so that it "slewed" infinitely quickly across the crossover "deadband". I've



and sub-bass roll-off (features which have many times saved my 405's life). It is almost certainly not the action of the amplifier topology itself which accounts for this apparent lack of subjective impact, but the effect of these other ancillary features and design decisions.

Is it, perhaps, because of this poor subjective reaction to Quad amplifiers that other manufacturers have not trodden the currentdumping route? Unlikely, more probable is that Quad's patents have prevented a

recorded message

Left by Richard Brice

tried to show the way A1 behaves by sketching the signal waveform at the bases of the two transistors.

Of course, it isn't possible to construct a perfect amplifier for A1 and, in practice, as frequency increases, crossover distortion starts to make itself heard. The essence of the idea behind currentdumping is illustrated by the inclusion of Rd (shown with dotted connections in Fig. 1). Rd feeds current directly to the load during the proportion of the output cycle when both the output transistors are off. In effect, Rd reduces the "gap" A1 is required to slew across and permits a practical amplifier to be used instead of a mythological, perfect amplifier.

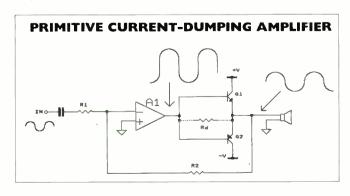
Stripped of their duty during the essential and fragile crossover region, the output transistors are only called upon to deliver drive into the load at powers above about 100mW whilst A1 does all the clever bit in between - hence the term "current-dumping" to describe the uncomplicated job they perform. In Quad's final circuit, the resistor is augmented by a capacitor and inductor which act in a reactance-bridge arrangement to enhance the effect of Rt across the whole audio bandwidth.

Despite the undeniable engineering ingenuity displayed in the 405 amplifier, Quad never seem to have earned creme-de-lacreme audiophile status for this product, nor indeed its heirs. However, comments that amplifiers of this stable lack "slam" or "punch", probably derive from Quad's prudent decision to employ extensive current-protection

flood of carbon-copy, current-dumping amplifiers.

Granted, Quad have kept the technology to themselves, but have they sold more amplifiers, I doubt it. Quad's undoubted reputation for reliability and solid engineering would hardly have fallen apart if they had (like everybody else) built upon their success with the 303 and continued with the development of the class A/B audio power amplifier.

True, the designers, freed of their usual commercially-rooted secrecy by the sanctions of the law, were able to write articles explaining the technique in full. But, did Quad really hope that other manufacturers, wowed by the brilliance of their idea, would opt to pay Quad a royalty for every power amplifier sold? Surely not. It's not as if they invented an amplifier without the need for a mains transformer! Interestingly, Quad's patents for currentdumping were published in 1975 which means the protection expires next year. So current dumping could yet become household bywords for high-quality amplification. Sorry Mr. Scroggie •



63 🚈



Noel Keywood scrutinises Kenwood's new three-head, KX-7060S, cassette deck with a host of features including Dolby S.

ony started something with their marauding TC-K611S cassette deck. Launched as a DCC spoiler - and Philips recently admitted it has had some impact - this £330 deck has sold in container loads. Immediately, of course, clones have appeared. Here's one - the new Kenwood KX-7060S Dolby S cassette deck, priced at £329.95.

Kenwood offer a package very similar to that from Sony, a deck that is at heart very sophisticated, but comparatively easy to use. To gain advantage, they've incorporated a dual-capstan transport. against Sony's single-capstan unit, which should give less flutter. An automatic tape tuning system has been included too, as well as a powered door, both useful

convenience factors. Trouble is, the door on our first sample never worked properly and that on our second sample proved temperamental. Sometimes it refused to budge, no matter how many times the open/close button was pressed. Dolby selection was similarly blighted sometimes a long switching delay occured.

The KX-7060S is a three-head deck, like the Sony, so recording quality can be judged whilst a recording is being made a very useful feature. I would have preferred tape tuning to be manual (adjustable bias), since it's a doddle with three-heads and the final balance can be adjusted to suit preferences. Kenwood's

MEASURED PERFORMANCE

Replay response, which determines performance with tapes recorded on other machines, including commercial prerecordeds, measured flat to 20kHz and high frequency output from the head was relatively stable, indicative of good tape guidance and head surface finish. Noise in the replay amplifiers was low at -60dB and replay speed absolutely correct. So the KX-7060S will make a good job of replaying pre-recorded tapes.

The head has, in essence, a superbly flat frequency response, but tape tuning put in treble lift with metals, but flat response with chromes and treble roll-off with ferrics.

Maximum recording levels weren't so high with metal tape - this is no Nakamichi - but they were very good with ferrics and chromes. With 0VU set high, above Dolby but below IEC reference fluxes, record levels will not go much past +3 on the display before overload compression and muddle sets in, and wallowy bass too, since bass distortion was high at 5%. Hiss levels were low, especially with Dolby S.

The dual-capstan transport suffered some flutter and a little capstan wow, seen respectively as a minor peak in the speed stability analysis and as 'shoulders' each side of the main test tone peak, at right in the analysis. Overall though, it held speed tightly and will provide a stable sense of pitch.

Input sensitivity was high at 100mV and output level also healthy at 800mV, so the deck will be broadly compatible.

At heart the KX-7060S is a well engineered product, but it would benefit from more attention to detail to eradicate niggling faults. NK

TEST RESULTS

REPLAY (pre-recorded tapes) Frequency response (-2dB) 30Hz-20kHz Speed accuracy 0% (70uS, Dolby out) -60dB

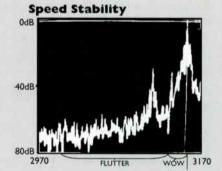
RECORDING (blank tapes)

Frequency response (IEC Primary Refs.) ferric (IECI) 10Hz-20kHz (IECII) 10Hz-16kHz chrome (IECIV) 10Hz-20kHz metal Separation (IkHz) -60dB Distortion (315Hz) 0.8% (70uS, Dolby out) Hiss -56dB 0.06% Speed variations (DIN total) Flutter energy (3-3.13kHz) -44dB MOL/SAT 315/10k (IEC Refs) 4dB/-4dB IEC I (ferric) IECII 3dB/-4dB (chrome) **IECIV** (metal) 3.6dB/+1dB

Frequency Response



Rising treble with metal tape.



Some flutter, but stable speed.

auto-tune system was slow and whatever it decided couldn't be altered. So, for example, whilst TDK AR tape consistently tuned-in sounding a little dull and warm, TDK MA metal tape always ended up sounding bright and brittle. Consequently, I preferred AR - something of a cockeyed result.

The KX-7060S has been fitted with a host of convenience features, such as Index Scan and A-B Repeat. It also has the usual tape/monitor button with autosetting and automatic tape type selection too. The display panel has pale blue graphics, with red to indicate peaks exceeding 0VU. Kenwood set 0VU highish, meaning it is wise to record up to +3 or so. Going much further introduces muddle with chromes and ferrics, even with Dolby S.

The deck is built and styled in a conventional manner. It worked smoothly, albeit erratically at times, not always obeying commands first time, possibly due to faulty switches. This was a little disconcerting; whether it will happen commonly we cannot tell. This is a question for the dealer and cause to scan the after-sales guarantee.

Sound Quality

The tightly held beat of a Tina Tumer track suggested straight away that the Kenwood's transport keeps good control - and so it does. Timing was right on the nail; this deck gave tightly timed bass lines and clean, fast transients, free from slurring and splash. Piano notes decayed naturally and there was little sign of pitch 'wateriness' to notes; they sounded solid and well defined in the time domain. A superb sense of clarity brought tapes to life - the Kenwood's head seemed surprisingly good in this respect, and I suspect the replay electronics helped too.

Although dull tapes remained dull - a Nakamichi can get more out of apparent duffers. - they also came over as entertainingly clear and dynamic. Bass quality was better than usual I fancied. In all, this deck played pre-recorded tapes extremely well.

Recording raised some minor peculiarities. The tape tuning system worked well enough but the Dolby systems seemed far more obvious in their companding than usual, which was odd.

"The KX-7060S is, at heart, a good deck. I got fine recordings from it with all tape types and superb results with pre-recorded tapes."

Dolby B cut off decays noticeably and pumped, Dolby C pumped so badly it was beyond serious use and whilst Dolby S was good, it wasn't transparent, coarsening treble. I settled on Dolby B with high-ish recording levels to hold it off, my usual preference. I feel I've heard Dolby S sounding better though.

Most users would fancy that TDK AR ferric tape was as good as anything with Dolby S engaged; it gave a very even balance, if slightly ragged treble. TDK AD

was no better on this deck, but hissed.

TDK MA metal tape tuned in sounding a trifle brittle, but with Dolby B gave fine results. Again, although S suppressed hiss more it didn't sound convincingly better, just a trifle different due to glassy treble. TDK SA chrome tape matched it well, but produced a softer, easier treble delivery.

I don't recall ever being so aware of Dolby B/C action; I strongly suspect the Dolby system of this deck was operating incorrectly. The selector switch sometimes had a time delay and stuttered. The door close button was occasionally not of a mind to work first time either, so perhaps the deck had a switch problem. Our first sample had a door problem too.

The KX-7060S is, at heart, a good deck. I got fine recordings from it with all tape types and superb results with pre-recorded tapes. Whilst Dolby S worked well and would be fine for all but the most pernickety, I was suspicious about the obvious failings of B and C. Being a bit pernickety myself, and being used to recording on a Nakamichi ZX-9, which has superb Dolby B - all that's needed these days - I was a little disappointed by the Kenwood. However, there's no denying that with Dolby S engaged it offered excellent recording quality on all tape types and this is perhaps enough ●

Kenwood KX-7060S Trio Kenwood, Kenwood House, Dwight Road, Watford, Herts. WDI 8EB Tel: 0923 816444 £329.95



WIN A COMPLETE SYSTEM WORTH

ne for the vinyl lovers this month: a complete top-end system to get the very best from your records. The system is built around the

Systemdek IIX900 record deck, reviewed in our September '94 issue and set up with the same Rega RB250 tonearm and Goldring 1022GX cartridge. This feeds

the new DPA Digital Renaissante integrated amplifier which in turn drives a pair of Systemdek Systym 931 loudspeakers.

The Systemdek IIX900, complete with RB250 tonearm and Goldring 1022GX cartridge, represents one of the pest viny front-ends available. When we reviewed this combination we found it had marvellous definition, laying out a whole band between the loudspeakers. Vocals were clear and intelligible, the record deck possessing fine detail and tonal shading in this area. In summary Eric Braithwaite wrote "A very detailed sound stage, with a good broad image, was allied with a wider and more even range of tonal colour . . . always producing a lively and entertaining performance".

The DPA Digital Renaissance integrated amplifier comes complete with a phono-stage to resolve the very best from the vinyl front-end. It produces 32watts of clean, smooth power, enough to drive sensitive loudspeakers to high levels without trouble. It also has four line-level inputs where a CD player, cassette deck and tuner or any other line level source can be connected.

Although the Renaissance integrated amplifier has been designed for a good sound first and foremost, it doesn't lack useful features either. There are bass lift and treble cut controls, a tape monitor balance and even a headphone socket

The Renaissance integrated feeds the talented little Systemdek Systym 931 loudspeakers. These are compact min monitors, but there is nothing small about their sound. They have an expansive detailed and open sound that will give you hour after hour of listening pleasure The also have a polite and balanced nature with good bass impact and definition to their size, which helps to produce if realistic, full scale performance

To enter this fabulous competition simply complete the questions of sending your entry or a POSICARD the back of a SEALED ENVELORE AND completed in block capitals to show the later than Friday 4th Dicember 1994 to:

SYSTEMDEK/DPA DIG TAL Completion HI-FILMond Magazi 64 Castellain Ross London, WP IEX

COMPETITION ENTRY QUESTIONS

- 1) What is the finish on the Systemdek IIX900 turntable and Systym 931 loudspeakers?
 - A. Natural Ash
- B. Oak

C. Walnut

- D. Black Ash
- 2) What is the arm and cartridge combination fitted to the Systemdek IIX900?
 - A. Rega RB250 + Goldring I012GX B. Rega RB250 + Goldring I022GX

 - C. Rega RB300 + Goldring 1022GX D. Rega RB300 + Goldring 1042GX
- 3) Select one of the following features that the DPA Digital Renaissance integrated amplifier possesses?
 - A. Dolby Surround Sound
- B. Tape Monitor

- D. Headphone Socket
- 4) What kind of loudspeakers are the Systemdek Systym 931s?
 - A. Electrostatic

- B. Mini-Monitor
- C. Floorstander
- D. Disco

TIEBREAKER

The sound of vinyl is still superb after all these years of CD blurb why change when music sounds so sweet making our enjoyment so complete instead just fill in the forms to win a system above todays norms

(Complete poem with another four lines).

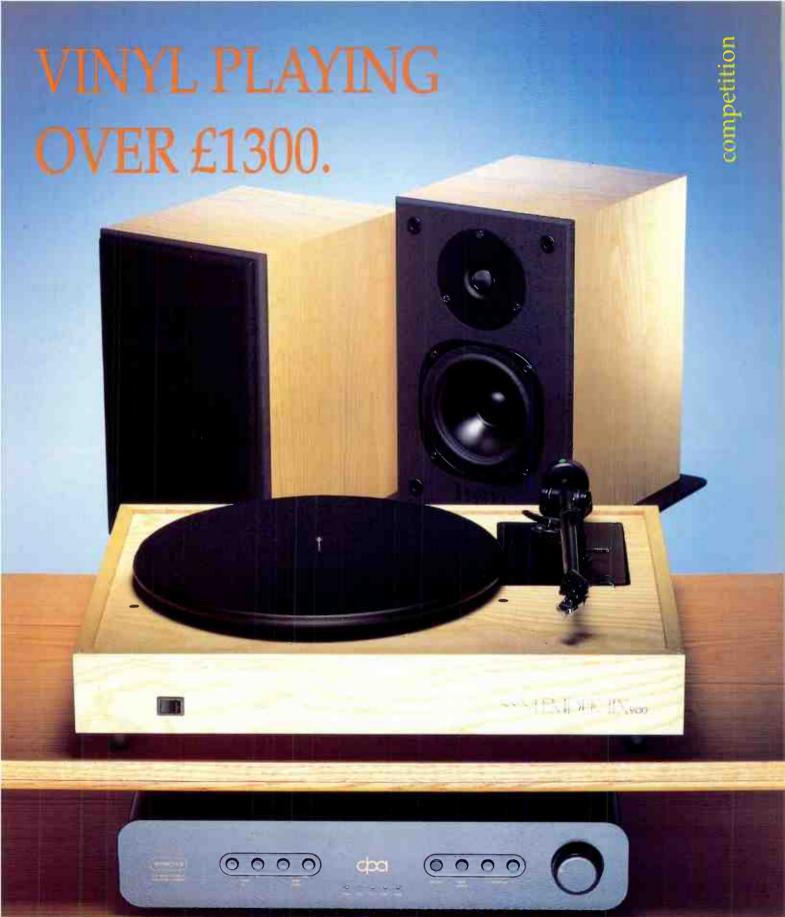
Don't forget to include your name, address and a telephone number so we can contact the winner promptly.

In the event of more than one entrant submitting all the correct answers, the winner will be picked by the Editor from the tiebreaker. We will endeavour to publish the results in the February 1995 issue. Purchase of the magazine is not a pre-condition to entry.

No correspondence about this competition will be entered into and the Editor's decision is final.

No employees of Audio Publishing Ltd. or any of the companies associated with production or distribution of the prizes may enter.

Your name and address may be added to our mailing list only. If you would prefer not to receive details of new products or special offers from us alone please state so on your competition reply form. Hi-Fi World magazine is published by Audio Publishing Ltd.



OCTOBER ISSUE COMPETITION - A COMPLETE MISSION CYRUS SYSTEM

It's not fair, there's a fabulous system on offer and we're not allowed to enter. You did though we received masses of competition entry forms this month, and no wonder - the Mission Cyrus system on offer is a fantastic przz. Included in the prize is a top flight two-box CD player, superbituner, powerful amplifier and the latest high technology 752 louidspeakers. Sadly the time has come to give it all away, but the happy winner is:

Ms. R. Wallace of Chiswick in London

Congratulations, this system should put a smile on your face for the rest of the year.

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HI-FI WORLD, 64 Castellain Road, Maida Vale, London W9 1EX.

ince we started the DIY Supplements, designing loudspeakers for the home constructor and more recently selling Audax high technology drive units, there have been an increasing number of you contacting us regarding loudspeaker design. I'm not going to get too technical here though, it is more of an introductory level that needs to be addressed. The apparent simplicity of a DIY loudspeaker has encouraged many to have a go, and it is for these first time builders that this column is devoted.

One area which receives numerous queries is that of reflex ports. Tracking back a few paces, the quality of bass and depth of bass you get is determined by the box volume, the size of the port and the parameters of the drive unit you are using. As far as bass reproduction is concerned, the shape of the box is not important, neither is the position of the port. It is the ratio of box volume against port size that matters here, so the port can be mounted on the back, side, front or top of the cabinet, which itself can be tall and thin, short and fat, round etc.

For practical reasons, we decide to configure our DIY loudspeakers in a particular way. Take KLS3 as an example. We made the box tall and thin, partly to get the drive units off the ground where they would drive a room's resonant modes most effectively (undesirable for clean, dry bass) and to place the drivers close to ear level (the on-axis response of the loudspeaker being the most truthful). This last point is especially important if you are constructing a two-way design, since the mid-range output from the bass driver is directional and will need to face the listener, along with the tweeter, for the clearest sound.

We also choose to place the reflex ports on the front baffle, facing in the same direction as the drive units. This isn't really critical and is a decision based on what we want the loudspeaker to look like, and the gut feeling that if the port is venting sound, it ought to do it towards the listener. In theory, it doesn't matter which direction it is facing at the frequencies concerned, since they are normally well below 100Hz and non-directional.

Another reason for making our designs tall and slim is to improve the ability of the loudspeaker to produce a good stereo image, something we are particularly keen on, having spent a lot of time with Quad electrostatics, which are masters in this area. A drive unit still produces a considerable amount of



cables from the crossover to each drive unit are only carrying the signal that particular driver requires. So for the tweeter, the wires from the crossover are only carrying treble energy, not bass as well, and the cabling becomes that much more efficient.

At the end of the day though, it's your loudspeaker. We design our loudspeakers in a particular way according to those areas which we feel are most critical. Every designer has their own idea of what is important in a loudspeaker and this can be seen in the

Dominic Baker

dB on the level

sound energy from the side, and it is these sound waves travelling across the front of the baffle that disturb the main frontal sound and produce a reduction in image focus. A thin cabinet has less frontal surface area, so will produce less of these harmful reflections.

Another practical consideration concerns the powerful rear sound wave produced by the drive unit inside the box. This will reflect strongly off the rear face of the cabinet, so it is useful to keep the rear baffle of the loudspeaker a good distance away from the driver and to damp it well with carpet felt or other similar acoustic treatments that will help absorb as much of this energy as possible.

'Handing' the loudspeakers, with the drivers offset toward the inside wall of the baffle, is a further refinement based along similar lines. When you sit between the loudspeakers, the majority of the treble energy you hear comes from the inside half of the tweeter dome which is facing you. By

moving the tweeters to the inside edges of the cabinet, this half of the dome 'sees' less baffle area from which to produce destructive reflections. It only makes a small difference, but a worthwhile one in my view, and as you're building the things yourself it takes little extra effort to implement.

Another query concerns where to put the crossover. We place them inside the cabinet for obvious practical reasons. However, for home constructors who aren't going to shift their loudspeakers around quite so much, there's a better way. Getting the crossover out of the cabinet and away from the strong vibration produced by the drive units is certainly a step in the right direction. But if you're going to go to this effort, you may as well take one step further.

Mount the crossover right next to your power amplifier. This has two advantages. Firstly, the power amplifier can drive the crossover more effectively than it can if it were at the end of a long piece of wire. Secondly, the

wide variety of designs on the market today. DIY loudspeakers give you the chance to decide what is the most important aspect for yourself, and then implement those ideas in a design of your own.

One last thing I would like to mention concerns the Audax drive units we sell. Although we have only published two designs using these drivers to date, if you want to design a loudspeaker using a different line up of drivers, we offer a service which gives workable box volume and crossover designs for anyone purchasing Audax drivers from us. So if you want to create a six way, triple bass unit, floorstander with open baffle mid range and line source tweeter arrangement, we can give you a box volume, port size and basic crossover design that will get you into the right ball park first time. A little fine tuning will almost certainly be necessary for perfect results, but we can offer advice here too. Have a go, I'm sure you'll be amazed by what you can

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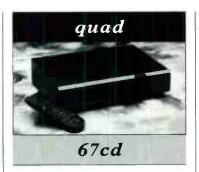


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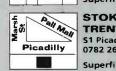
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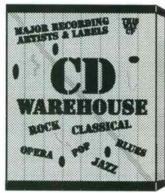


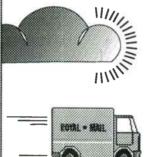
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Hype Nº 2

Last month we talked about 'front & back ends', so now it's hype Nº 2, the single speaker demo room. Now I'm not implying that other speakers in the room don't affect the sound, but then everything in the room does. The demo room won't sound exactly like your room at home anyway, so all you can try and do is to determine if a particular speaker comes close to what you require. When you are reasonably happy, then a home demo is vital to make sure it works in your home. That is where my personal involvement also helps, I will give you the benefit of my experience as well, ad if it's not right we start again

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t's been that time of year again. The time when the usually comatose British hi-fi industry leaps into action with a flurry of trade shows and then strong sales up to the Christmas period (well that's the theory at least).

This year the focus was very much on Live '94. It could hardly fail to have been a success for the audio manufacturers after last year's results, and a massive advertising campaign. This time round, I didn't make the same mistake as last year by going on a Sunday; by mid afternoon the gates had to be closed and I understand it was similarly packed this time round.

The venue itself was new too. Earls Court provided the desperately needed extra square feet, and a far more logical layout. The most obvious change from the layout at Olympia last year was the abandonment of the 'Real Hi-Fi Village'. This meant that rather than the specialist hi-fi companies all being bundled together, they were spread out throughout the venue. I had mixed feelings about the new arrangement. At first I found it rather confusing, having to weave my way through budding Beadles on camcorders and spotty faced youths gawping at the latest 'beat 'em up' computer game, in order to locate the hi-fi stands. But most of the companies were

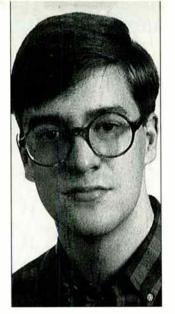
see why. This year companies such as Tannoy, Mission, B&W, Naim, Linn etc. had just as equal prominence as the big Japanese players. Whilst their stands may not have been quite as flash, I think they were perceived by the public at large, on level terms with the majors. This has to be a good thing, because it not only promotes brand and therefore hi-fi awareness, but it also does a lot to destroy the cliquish elitism

happy with the new

layout, and I could

that the real hi-fi industry is often thought of as possessing by the general public. A Real Hi-Fi Village tucked away in the corner of the building simply promotes such a stereo-type (pun definitely not intended!).

As well as the presence of the hi-fi companies, the sheer razzmatazz of the whole event couldn't fail to impress. The glamorous girls (on around \$100 per day I was reliably informed), were out in force. It could have easily been the Motor Show rather than an



mouth, brat fashion, that I came across the Hi-Fi World stand. Thinking that going to say, "Hi", to those brave souls on the stand with a lolly in my mouth would look a wee bit immature, I ducked round the Meridian stand and quickly crunched it up. Only, when I arrived at the HFW stand I was to find the crew completely disregarding their personal vanity munching on Richer Sounds' lollies; apparently their staple diet for the entire event!

So where does all this

Fair Views

- from Dominic Todd, our man in Scarborough

electronics show in only its second year, such was the hype and excitement surrounding everything.

There were some pretty hard-hitting publicity stunts going on too. One such promotion that I was aware

**The fact that during its entire duration this year Ramada hosted around 7500 visitors, compared with 25,000 on Wednesday alone at Live, must weigh heavily on Ramada's future. **

of even before I'd set foot in London, was Bose's expensive sounding claim in giving away \$50,000 worth of trainers, if you were prepared to nail your old shoes to the floor! I had it sussed. Not wanting to nail any of my own shoes to the floor, I took some tacky BMW flip flops to slip into;

cunning eh? Unfortunately I wasn't picked, but it was possibly for the best as I don't think I could go through the process of some patronising PR man telling me that Bose really did sound better than the other

'speakers. Of course they did. The Boses in question were the £1700 901s on stands with the conventional sound coming from little more than some old Videotones situated on the floor! Still, two of my friends won pairs, so going home with £140 worth of trainers made the nine hours

of travelling worthwhile after all. Other bribes were rather more mundane, usually sweets, although Richer Sounds would only give its lolly pops away to the over - 18s!

It was whilst sucking on such a lolly, complete with sucked in cheeks and the stick hanging out of my glamour and triviality leave Penta (or Ramada as it's since been renamed). The fact that during its entire duration this year Ramada hosted around 7500 visitors, compared with 25,000 on Wednesday alone at Live, and a staggering total of over 185,000, must weigh heavily on Ramada's future. Especially as most of the large British and Japanese companies have since pulled out of Ramada.

I see no reason, though, why Ramada shouldn't continue as a specialist show, although why on earth can't they be on at the same time? Better still, if the organisers got their heads together, the specialist hi-fi could be moved into some of the rooms around Earls Court, or a nearby hotel. This would make it so much easier for those who don't live in London, and would also help to increase public awareness of hi-fi still further. So how about it News International - a consumer electronics show akin to America's CES for Live 95? Fingers crossed ●



Giovanni Dadomo

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CLASSICAL

Simon Hopkins Simon Cooke



LYLE LOVETT I Love Everybody MCA MCD 10808

 What do you get if you take John Cooper Clark, guillotine his head off and replace it with a huge wedge of Parmesan cheese, topped off with a mess of used Brillo pads? Easy you got yourself Lyle Lovett, that's what. But the eye can be a big deceiver, don't you think? Superficially, this gent's about as geeky as they come, but if seeing were believing then how come this seemingly haphazard hunk of skin and bone should end up being partnered with Julia Roberts, a woman who - if she were French would most definitely be called Le

That said, it's somewhat sac, not to mention unjust, that Lovett's name should only be brought up primarily by virtue of his relationship with the divine

wears the XL stetsons. But today's hair - if you'll allow me the one Gump-ism - is tomorrow's fallout. Any s-milarity between Lyle and people who don't need to go to the parber's is purely coincidental. In short, what Lovett does is craft songs of great wit and imagination, and if his material tends towards Country and Western in feel, that's far from all he does, did, or will and can do. Items such as 'Skinny Legs', 'Penguins' or 'Creeps Like Me evince a lyncal wit and an even rarer sense of irony you'll be hard pushed to find this side of Randy Newman, and Lovett's words are inevitably matched by an equally broad vocabulary in the music department. On 'I Love Everybody', the singer-songwriter's fifth album, the instrumentation is predominantly sparse, Lovett's vocais and guitar assisted by a simple, classic bass and drums format (ohn Leftwich and Russ Kenkel respectively) - names, ask anyone who studies their sleeve notes with both eyes open, which are hardy to be dropped lightly or heard without gasps of respect and admiration. Aided and abetted where Lovett sees fit, and primarily by the sensitive violin of Mark O'Connor, Lovett and friends produce music of much breadth, warmth and, frequently, heart-lifting inspiration. Add a spot of cello or violin here, the occasional gospel-flavoured voca! expansion there, and you wind up with a collection of songs filled out with considerable colour, charm and breadth of vision. Lovett's powers as a song-writter of considerable merit and elegance are never in doubt. Or this instalment, and as with previous forarys. I Love Everybody is brim full of evidence that this is a pan-American musica talent of the first order.

Ms. R. He is,

after all, one of the most engagingly witty and talented songwriters to have come out of the USA in some time. Equally unjust is the fact that, as a result of his general style, and by virtue of the fact that he first came to prominence

RECORD OF THE MONTH

R.E.M. Monster WARNERS 9362-45740

 Monsters - ask any of Christopher Lee's short-lived co-stars - ought to be approached with at least a modicum of care. So it was with said necessary

trepidation that I set myse f to lock homs with the atest offering from Athens, Georgia's most famous sons. After all, had not Michael Stipe, bless his pointy little head, not warned us that this lates: offering would see R.E.M. at their most basic, stripped down, carnal, whatever...a disc conceived and delivered if not in the garage, then at least in a rough contemporary approximation of the same. Like, uh, out the orchestra, choke the cellos, vilify the violins...in short, elbow all the embellishments of recent products and be prepared to meet a re-born R.E.M. one whose heroes, primary sources reported, were Iggy and The Stooges re-

incarnated. Now, like U2 before them, R.E.M.'s back catalogue was, or is, fast approaching double figures — my, my, don't time fly? So you can't blame them, let alone us, for maybe thinking an, erm, re-think might not be in order.

Aforementioned trepidation well and truly in hand, I gave this monster the once over. And true, this really is just R.E.M., frugal not merely in instrumentation but also in terms of arrangement and melody. In short, if this record were a shirt it would be a plain white St. Michael first-day-of-school cotton/polyester mix, no frilly col'ar or cuffs, Paisley patterns or fancy tab or button-down collar included.

But hey, as anyone who wasn't born yesterday will happily tell you , there always was more — and less — to R.E.M. than the fancy pageantries of 'Automatic For The People' or audience-expandingly catchy predecessor.

So sure, you do get the occas onal heads-down, brains-out, gloriously void, straight-ahead "rock'n'ro!" snite a la prime time Stooges ('I Took Your



Name') but then it doesn't take a Big Brain or, come to that, even a fair-sized record collection, to suss that even Mr. Pop and Co. couldn't have done it without having first being pummelled into love eterna by exposure to those blessed early concoctions delivered by The Kinks and producer Shel Talmy.

But of course, R.E.M. — bless their pointed little brains — know all this, because, if not, why bother to give the aforementioned lggy a namecheck within the lyrics of the, ahem, aforementioned song? lggy's shade pops up in another guise in the ironically titled 'King of Comedy', both in the lyrics — "I'm not the King of Comedy/ I'm not your magazine/ I'm not your television ..." et cetera — as well as in a dense, smoothly mechanical

arrangement and whispered Machiavellian vocals that carry echoes not only the of Ig of The Idiot but also of U2's only recent saving grace, that well-known Edge cut off the predominantly dismal Zooropa effort.

But R.E.M.'s palette has always been nothing if not broad, and without a

painful amount of patience and reflection it quickly becomes they were. From the opening happy-to-greet-the-day vocals, snappy back-ups and brilliantly resurrected backwards guitar drones - through to the languorously spaced out 'You', where Stipe recalls the Lennon of 'Strawberry Fields' and 'Tomorrow Never Knows', the instruments just sound like they've been abandoned and are drawing an exhausted, if breath.This is a great band proving once again that pop music can be a cure-all of longevity.

In between we have glories such as 'Let Me In', Stipe's suitably heartfelt adieu to the late Mr. Cobain, all agonisingly pure vocals set against the most evocatively restrained guitar and keyboards you'll hear this side of paradise. Place this beside the ensuing Circus Envy', an item as engagingly primal and froth-at-mouth energetic as anything put down by everyone from the Kinks to the MC5 and anyone in between or since. Just compare these two cuts and it's immediately and lastingly obvious that Monster is a disc of broad contrasts, wild imagination, the result of considerable thought, much feeling and – for a combo who've been in the saddle so long - admirable power. Thank God, Satan and all the little angels and demons for that.



SUEDE Dog Man Star NUDE 3CD

Now perhaps it's a question of how old you are and/or how deep your record collection is, but it seems to this old fart at least that we have to draw the line somewhere; and it also seems to me that Suede are what we call in the Smoke, "Having a laugh". I mean, does the fact that I happen to be circa 437 years old give me the right to say this record is a piece of pure, unadulterated

crap or not? Or does it mean that it's me that's the piece of crap?

Success does indeed breed strange bedfellows. I've just been glancing at a bunch of reviews of Dog Man Star and it is rather amazing how many people who used to think Suede were a bunch of uninspired and derivative dolts reckon they've now, with this second LP, somehow come into their own.

Ho, ho and another ho. don't make me laugh, John. I don't buy that for one second or division thereof. So I sit here looking at a picture of Brett Anderson in a bomber jacket I wouldn't be cremated in and I ask myself, as I listen to his laughably derivative new record ("screaming my name through the astral plane...shaking around in the underground.." et al), did Sid Vicious die for nothing, so that we could all go back to platform shoes and too-tight bombers and eye-liner and lord knows what other rubbish' I may be embarking or a wild, southern Rab C. Nesbitt-meets-Hunter S. Thompson trip here, but, to quote one of my favourite poets E.E. Cummings — "there is some shit I will not eat".

So either I've lost my marbles or there's something wrong here. And I say to myself, would Brett Anderson have got a band together, let alone a record contract, if he looked like the Hunchback of Notre Dame. Well, the answer to that one's easy – yes on both counts. But it'd be a Heavy Metal band on some Death Rock label or other.

But, strangely enough, none of these thoughts seem to have crossed the minds of one's inewsprint brothers, they being too busy instead pondering on the dreadful dilemma of will Anderson and Suede survive the departure of guitarman Bernard Butler, to all intents and purposes the "new" Mick Ronson to Anderson's "new" David Bowie?"

There's a short answer to this particular poser: Who gives a toss about Suede' They have all the substance and quality of Bauhaus, of Gary Neuman, of Nelson Stater. Of who, you say? Exactly.

And me, I'm left with the age-old question: Is this a record that desperately wants to be an ashtray? Or is it an ashtray dreaming that it's a record? Both.

Carpenter

VARIOUS ARTISTS If I Were A Carpenter A&M 540 258 – 2

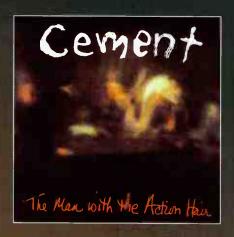
She had a great voice, he had great hair, they were brother and sister and Karen thought square meals were square. Mama Cass should've given her that sandwich but she didn't, end of story. Most of the songs were naff except the one ("Calling Occupants Of Interplanetary Craft") where they pretended – maybe – to be on drugs. The fam ly back catalogue goes through

the mincer c/o the likes of Sonic Youth, 4 Non-Blondes, The Cranbernes, Babes In Toyland and other laff riot acts. I laughed. I cried etc.



ERIC CLAPTON From The Cradle REPRISE 9362 45735 - 2

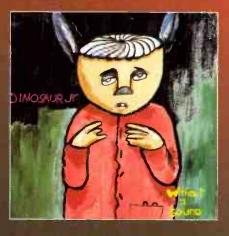
• New Blues boom? Okay, let's wheel out Eric Clapton and let him run through The Songs That Made Him God. In point of fact, the old bloke accuits himself extremely well, thundering through sixteen Blues classics with all the verve, style and precision his reputation requires. The big surprise is the vocals—always his weakest point, age appears to have given the big E that world-weary texture this classic music demands. And if it goes on a tad too long, well you can always switch off.



CEMENT The Man With The Action Hair WORLD SERVICE RTD 157.1745.2

Second LP from the new band fronted by the original vocalist with Faith No More (viz. circa It's A Dirty Job., etc.). Chuck Mosley, as he be called, spends more time muttering and mumbling than he ought. Caught in full flow—'Magic Number' is a good example—he has tonsils to kill for. But the man can also spit venom with the best of 'em; on the self-explanatory

'Hotel Diabo', to name but one, Chuck sounds like PM Dawn on a wicked mix of speed and testosterone. No bad thing



DINOSAUR JR. Without A Sound BLANCO Y NEGRO 4509 96933 2

Pal of mine – fema e as it happens, but these things co happen – recently gave up the so-called crusty life. This entailed inot only pathing more regularly but stopping her aural subscription to the likes of Dino Jr. I find all this a trifle unfair, not only to the laws of hygiene, but also to Dinosaur Jrs mainman. J. Mascis, a musician and writer of considerable talent and ability – as usual, he played and produced the bulk of this record, but – as usual again – he's too imaginative an artist by far to be locked in anyone's stylistic or fashionable straight-jacket. Good record...goodnight.



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A superb, Class A, 20watt stereo power amplifier that uses the Russian 5881 output valve, a military version of the American 6L6, designed for low distortion audio work. It has super-quality output transformers (4/8/16 Ω selected internally) to minimise distortion and the input stage uses triode working. A rugged, sixteen-gauge, all-welded steel chassis is provided, together with protective bottom plate for safety.

Designed for long life, low running costs and excellent sound quality, K5881 is sensitive enough to be used with a simple passive pre-amp, or our own line-drive pre-amp, and it matches modern loudspeakers well. There is a choke-regulated power supply and the channels can be paralleled to turn it into a 40W monoblock if desired.

SPECIFICATION

Power	20watts/ch.	(
Frequency resp.	16Hz-40kHz	١
Distortion	0.02%	- [
Separation	60dB	

Noise (CCIR) -103dB Sensitivity 240mV Weight 16kgs(34lbs) Dim. (mm) 300x400x180

300B VALVE AMP KIT

£850



This is a specialised amplifier based on the highly linear 300B triode valve. Our 300B runs in Class A, giving one of the most sweet, open and neutral sounds possible today. Matched with good loudspeakers, it is unsurpassed.

The kit comprises a strong 16-gauge mild steel chassis, fully punched, welded and ground smooth. Finish is a durable 'powder coat' black. A protective bottom plate is provided for safety. Output terminals (one pair) take 4mm plugs axially and radially for bi-wiring, or heavy gauge bare cable. Output options of $4/8/16\Omega$ are selected internally at the transformer. A small circuit board carries most of the components. Can be monoblocked for 60-watts.

All parts are included in the kit, except valves since different 300B makes are available.

SPECIFICATION

51 E-511 1-6-A 114		Separation	D 1 0D
Power	28watts	Noise (hiss/hu	m)-100dB/-72dB
Frequency resp.	5-18k-nfb	Sensitivity	240mV
	50k-fb	Weight	20kgs(44lbs)
Distortion	0.2%	Dim. (mm)	405×295×175

4W SINGLE-ENDED VALVE AMP KIT

£385 ¥



The 4W Single-Ended amplifier kit is a line level integrated amplifier. It comes with three line level inputs and a tape output. High quality components are used throughout, including polypropylene signal capacitors, Alps volume control, custom C&K gold plated selector switch etc. Valves are included.

SPECIFICATION

Power	4watts	(hum)	0.7mV
Freg. Response	9Hz-64kHz	Sensitivity	180mV
Distortion	1.3%	Weight	10Kgs (22lbs)
Separation	74dB	Dim. (mm)	260×200×180
Noise (hiss)	-100dB		

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See page 83 for order form...

WORLD DESIGNS

by Mail Order

VALVE LINE LEVEL PRE-AMPLIFIER £295

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The components are all high quality and include a special screened toroidal transformer, Military Spec. Russian valves, Alps

polypropylene signal capacitors, silver plated copper wire etc.

Dimensions (mm) 290x200x80



HIGH DEFINITION LOUDSPEAKER

The High Definition loudspeaker is ideal for low power, high quality amplifiers, transistor or valve. It goes very loud with just I-5watts, having an enormous sensitivity of 94dB - that's 8dB more than most other speakers. It is also a very easy load for

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The High Definition loudspeaker is available in two forms; as a drive unit pack containing two bass units and two tweeters modified and tested, or complete with all crossover components, gold plated biwire terminal dishes, silver plated copper wiring and long haired wool.

Drive Unit & Crossover kit etc £195

Drive Unit Pack £145



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The 1994 range of Audax drive units sees many modern high tech materials and technologies that would normally be unavailable to the home constructor. We offer a small range of the highest quality drivers, including High Definition Aerogel (HDA) units, carbon fibre and three superb soft dome tweeters. Sadly there isn't enough room to print the specs, but if you are interested in any of the following drivers, please ask us for a detailed spec sheet.

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	4 inch mid	6.5inch bass/mid	8inch bass
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NEW 3inch HDA			

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SPECIFICATION

Power (8 Ω)	36watts	Distortio	n (%)	
Frequency Resp.	1Hz-50kHz		` íw	Full O/P
Noise	-104dB	l kHz	0.003	0.005
d.c. offset	3mV max	10kHz	0.008	0.04

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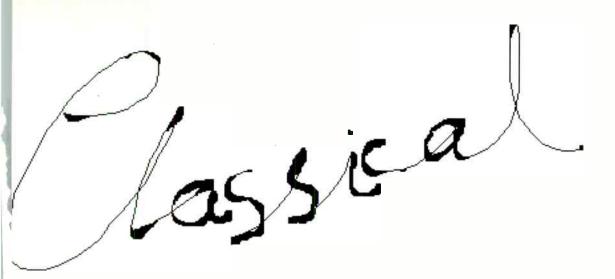
KLS3 has been engineered to get the best from your amplifier, be it valve, solid state, single-ended or zero feedback. Its High 90dB sensitivity and near flat 8Ω impedance make it one of the easiest loudspeakers to drive.

KLS3 is available in three forms: Drive unit pack £230; Drive units + crossover etc (just about everything but the wood) £350; fully built, tested and finished in high quality, real wood veneer for £1500.



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inspiration.

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BELA BARTOK
Rhapsody No2 for violin and
piano/Hungarian Folk
Songs/Sonatina/Hungarian
Folk Tunes/ Sonata No I for
Violin and Piano

Susanne Stanzeleit, violin; Gusztav Fenyo, piano ASV CD DCA883 (DDD/68.41)

● This is the second collaboration between these musicians in the music of Bela Bartok and the partnership once again produces highly enjoyable results (the previous release was on ASV CD DCA852). As the booklet note points out, although Bartok was a virtuoso pianist, it is not at all surprising that he also made a substantial contribution to the violin canon. During his years in Hungary, he partnered some of the finest violinists of the age. And then there was the long tradition of violin playing at the heart of Hungarian and Romanian folk music.

The Magyar flavour permeates much of the music here, although the folk element is explicit in only two works, both transcriptions for violin and piano from the piano original. In the Hungarian Folk Songs of 1908-09, Bartok collaborated with Tivadar Orszagh and, in the Hungarian Folk Tunes of the same period, but to a lesser extent, with the legendary Jozse Szigeti. It's infectious stuff, played with great elan and evident enjoyment.

Of the other works here, the First

Violin Sonata of 1921 came at a critical time in the composer's development. Within the formal, three-movement structure, Bartok gives his imagination and his technique free rein and the result is compelling and exciting, not least in the rondo finale, with its clear debt to Romanian folk music.

Romanian folk dances and, for that matter, several aspects of folk dancing's performing style, are distilled into the exhilarating Second Rhapsody, which inspires Susanne Stanzeleit and Gusztav Fanyo to some breathtaking playing. And the same can be said of the Sonatina, another set of transcriptions for violin and piano, this time by Andre Gertler. Above all, the programme here provides a revealing insight into the way that classical disciplines were fused so effectively with eastern European folk music and performing styles in Bartok's music. If, like me, you enjoyed the first CD in this series, you'll love this one.

CARL NIELSEN
Prelude to Act II of Saul and
David Op25/Clarinet Concerto
Op57/An Imaginary Journey
to the Faroe Islands/Flute
Concerto/ Springtime on
Funen-Lyric Humoresque

Asa Baverstam, soprano; Kjell Magnus Sandve, tenor; Per Hoyer, baritone; Linnea Ekdahl, girl soprano; Andreas Thors, boy soprano; Swedish Radio Choir; Stockholm Boys' Choir; Swedish Radio Symphony Orchestra; conductor, Esa-Pekka Salonen
SONY CLASSICAL SK 53276 (DDD/75.02)

Op42

• An all-Scandinavian production: Swedish performers, Finnish conductor, and music by Denmark's greatest composer. Not, for once, one of the six symphonies which are the comerstone of Nielsen's output, but two of his concertos and three less-well known orchestral pieces.

Continue on page 87

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RECORD OF THE MONTH

Should there have been any lingering question about the international status and appeal of Britain's Tallis Scholars, here surely is the ultimate recognition. It was they who were invited to Rome last February to celebrate the four hundredth anniversary of the death of Giovanni Pierluigi da Palestrina, arguably the greatest composer of the High Renaissance and, for Italians, the musical equivalent of Michelangelo, Raphael or Leonardo. By any measure, quite an accolade.

There were concerts over three days in the splendid setting of the Basilica of Santa Maria Maggiore, one of four religious foundations in Rome in which Palestrina is known to have been employed. The Basilica was chosen for both its splendid acoustic and because it has little changed since Palestrina's time. (of the other locations, the Church of

St John Lateran has been extensively rebuilt, St Peter's was impractical and, if you have heard recordings made in the Sistine Chapel, you will know that the adjective 'atmospheric' barely begins to describe the amorphous clouds of sound it produces!)

Palestrina's position at the apex of Renaissance music remains unassailable, not only through the matchless body of work which he produced, but because he stands at one of music's great crossroads. By the mid-sixteenth century, the development of the Franco-Flemish style of composition had reached such a level of elaboration and technical effect that the Church was coming to the conclusion that composers had completely lost sight of the original purpose - music was intended to enhance understanding of liturgical texts, not obscure them in a

web of sound.

Discussion of the problem which difficult as it may be to accept these days - could have altered the whole course of the development of western music, was instigated by Pope Marcellus II in 1555 and discussed by his cardinals at the ensuing Council of Trent. It is probably a mixture of fact and fiction, but the story goes that Palestrina wrote his Missa Papae Marcelli to demonstrate to the Pope and his clerics that it was possible to combine liturgical demands and musical aspirations to the satisfaction of both parties, with a style of polyphony, fusing clarity and concision with beauty and splendour. Given the historical importance of this work, it was only fitting that it should become the centrepiece of the Tallis Scholars' commemorative concerts, 'Live in Rome'.

GIOVANNI PIERLUIGI DA PALESTRINA Missa Papae Marcelli/ Stabat Mater/Motets: Surge

Mater/Motets: Surge illuminare; Alma Redemptoris Mater/Magnificat and Numc dimittis GREGORIO ALLEGRI Miserere

The Tallis Scholars, director Peter Phillips

GIMELL CDGIM994 (DDD/73.19)

 It is not just the uniqueness of the occasion which makes this recording so reasonable, or the fact that one is simply swept away by the performances. Equally commendable is the attempt to represent the full range of Palestrina's art, from the brilliance of the double-choir motets to the profound, deeply-moving setting of the Stabat Mater (Stabat Mater dolorosa, iuxta crucem lacrimosa -The grieving mother stood, weeping by the Cross), one of the supreme achievements of the late Renaissance, and of the composer's last years (it dates from around 1589-90). What a contrast with the bright exultation of the Magnificat, which of course presents a very

different depiction of the Virgin.

As mentioned in the introduction above, the Missa Papae Marcelli marked a turning point in music yet, as the Tallis

Scholars' finely-shaped performance demonstrates, three of the five movements remain rooted in the 'old' polyphonic style. Was this Palestrina's way of making the change evident in the other two movements all the more emphatic? Certainly, the double-choir motets reflect the new approach, with the music quite clearly the servant of the words

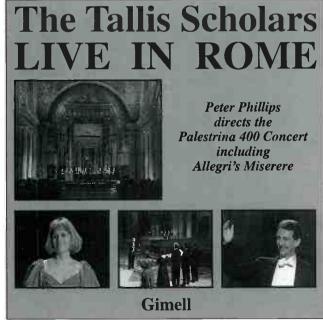
Peter Phillips unashamedly admits that the opportunity to perform the famous Miserere by Gregorio Allegri in this moment of self-indulgence.

Originally, this setting of the Miserere (Psalm No5) was the exclusive property of the Sistine Chapel Choir and sung by them just once a year, during Holy Week. Anyone caught trying to smuggle out a copy of the piece was liable to nothing less than excommunication (and you thought today's record contracts were draconian!). But copies did reach the outside world and a certain Wolfgang Amadeus Mozart, having heard the

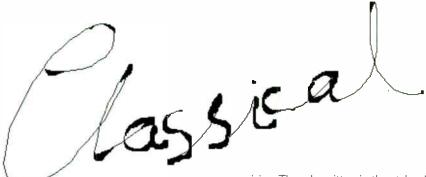
work just once, promptly wrote it out from memory.

Allegi's Miserere shares, along with the rest of the music here, fine recorded sound, engineered by Philip Hobbs with the assistance of Ben Turner. But those accustomed to listening to the Tallis Scholars in a kind of spiritual quietude will have to adjust to the applause which follows each work. Somehow, applause doesn't seem to equate with the celestial, contemplative nature of this music but it would be churlish to deny the choir the appreciation it has so richly earned. In his usual lucid notes, Peter Phillips reveals: "I felt that we had touched the spirit of this unsurpassed master as never before." I couldn't have put it better.

The Tallis Scholars' 'Live in Rome' is also available on VHS videocassette - GIM VP994 - and Laserdisc - GIM LD994 - both highly recommended if you want to combine the visual experience with the aural.



the glorious acoustic of Santa Maria Maggiore was irresistible. Hearing the end result, with Deborah Roberts' soprano hitting those spine-tingling high Cs and the thrilling antiphonal interplay between the voices, you can forgive him





Nielsen had planned to write concertos for all the wind instruments of the orchestra but, in the event, only completed those for clarinet and flute. Neither is especially virtuosic, the emphasis being more on simplicity and lyricism. But both are attractive, idiomatic works and the Clarinet Concerto evokes echoes of the notorious Fifth Symphony with its 'disruptive' role for the side-drum. Both soloists here are impeccable, Per Flemstrom the flautist and Hakan Rosengren the clarinettist, and both are recorded with a fullness and firm focus, if perhaps a little too closely.

The Imaginary Journey to the Faroe Islands is a kind of orchestral namative, not unlike Nielsen's magnificent Helios Overture which, I believe, has yet to appear on CD. It begins slowly, broodingly, evolving into a glorious orchestral tutti. Nielsen derived some of the thematic material from a Faroese folksong, Easter bells chime softly, and it is used most effectively.

Saul and David is a fine opera which, sadly, has never become established in the repertoire. However, the colourful Prelude to Act II with its 'pomp and circumstance' opening, has justly become a concert showpiece and makes a stirring opener here. It is splendidly played, too. The programme concludes with Nielsen's 'folk cantata' Springtime on Funen. The island of Funen was Nielsen's birthplace and his love for it never diminished. Here, in a simple, joyul, tuneful fashion, the people of Funen celebrate the coming of spring. At its heart is a sequence where an old, blind musician plays the clarinet while the young people of the island dance around him. It is difficult not to imagine that Nielsen was recalling his own father here, an intinerant country

musician. Though written in the style of Danish folk music, Nielsen made no specific use of folk melodies and this charming work ends with an ecstatic proclamation of spring's arrival.

Delightful performances throughout, and the recording - made using Sony's 20-bit Super Bit Mapping system - is strikingly truthful.



ANDRZEJ PANUFNIK Sinfonia Concertante for Flute, Harp and Strings*/ Concertino for Timpani, Percussion and Strings/Harmony

Karen Jones, flute*; Rachel Masters, harp*; Richard Benjafield, percussion; Graham Cole, timpani; London Musici; conductor, Mark Stephenson
CONIFER CLASSICS CDCF 217
(DDD/54.48)

 From first to last, an enriching musical experience. What a distinctive and appealing voice, Andrzej Panufnik possessed, and how the earlier neglect of his work now seems so misguided and unfair. I had not read the booklet note before playing the first piece here, the Sinfonia Concertante. Beguiling, enchanting, magical, mysterious were the adjectives that sprang to mind, as I was mesmerised by its poetic utterances on the flute and the glittering droplets of sound cascading from the harp. It was only later that I discovered that the composer had dedicated the work to his wife, Camilla, beginning and ending it with a C to represent her initial, and placing another C at the very centre. Now its warm, gently lyrical nature was explained.

But it is not an exclusive pleasure: anyone can share in and enjoy this richly expressive, highly inventive music, and I feel sure the composer would have appreciated Mark Stephenson's finely-judged and clearly sympathetic direction. The playing of both soloists and orchestra in what Panufnik considered his 'Fourth Symphony' is first-class.

The Concertino for Timpani, Percussion and Strings is a more extravert piece. As with so much of Panufnik's music, the music grows organically from a 'cell' or motif, in this case made up of the four notes F-G-B-C. Its development is then governed by both musical and extramusical considerations (Panufnik was fascinated by geometric patterns, especially those occurring in nature).

Equally apparent here, though, is the composer's mastery of instrumental colour: sample the eeriness of the pedal timpani played glissando in the fourth movement, Canto II. The work opens with a dialogue between the tubular chimes and strings, punctuated by a dazzling solo on the vibraphone, then continues to explore the potential of the last instrument, along with the timpani, in music of vivid originality. The Intermezzo finds four unpitched drums, three triangles and three cymbals having a splendid time against a backcloth of chordal strings in quintuple time, while the finale is an explosion of triple rhythms and cross-accents culminating in an exhilarating quasi-cadenza for timpani and unpitched drums. The Concertino was composed in 1979-80 and received its first concert performance in 1981. Quite why no recording company has seized upon its sonic potential before is quite beyond me, so all credit to Conifer, and to Technics Hi-Fi who - as with a number of other Panufnik recordings - have provided the finance to allow this recording to be made.

The final work here, Harmony, dates from 1989, just two years before the composer's death. No diminution of creative power or energy is evident from the intensity and craftsmanship of the writing; quite the reverse. Andrzej Panufnik's creative spirit was as fertile as ever, producing a haunting dialogue between strings and woodwind groups and enlarging the normally vertical notion of harmony into other planes. The playing here, as throughout this recording, is wholly committed and the recorded balance is exemplary. Andrzej Panufnik, for so long denied proper exposure for his music, could wish for no more eloquent exponents.



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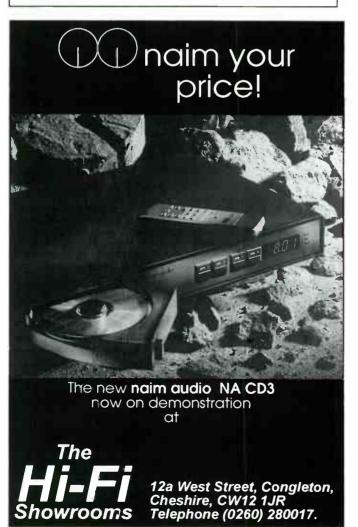
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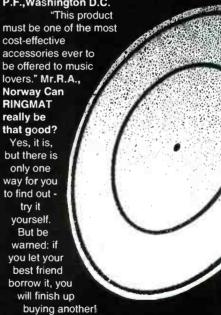
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Simon Hopkins



JAN GARBAREK/THE HILLIARD ENSEMBLE Officium ECM 445 369-2

● Last time I reviewed a bunch of reissues from the ECM label I made the point that while its reissue program was all fine and dandy, it at times rather showed up some of the new material being released on the label. I also made an observation that perhaps label main man Manfred Eicher's greatest energy had recently been reserved for the ECM New Series - the label's increasing output of "contemporary classical" (a term inherently oxymoronic but one we'll have

to live with within these pages). Anyhow, no sooner have I said all that than the label go and stick out three records which somehow at once underline and deny this criticism.

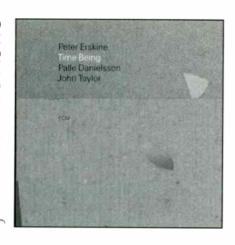
First up, a real masterpiece, and no mistake. There's a general tendency in the hyperbolic world of the music business to grant the status "classic" to any record which immediately captures enough critics', listeners' and music biz moguls' imaginations. This is ridiculous, of course, for the whole point about any creative endeavour being a "classic" is that this judgement must have some degree of hindsight. All that said, I find it difficult to believe that listeners ten or twenty years hence will regard Officium as anything but an honest-to-goodness, no-holds-barred classic.

The official story on how this record happened is this... While at work in Iceland in 1991 on his film "Holozan", an adaptation of Max Frisch's apocalyptic novella "Man in the Holocence", Eicher found himself frequently listening to the Officium Defunctorum of the 16th century spanish composer Crisobal Morales, the Tenebrae Resposories of Morales' Italian contemporary Carlo Gesualdo, and to the work of one of his label's stars, the Norwegian tenor and soprano saxophonist Jan Garbarek. Eicher had an initial impulse to marry the work of Garbarek and these 16th century masters to his film, and although he later dropped this idea, in his own words "The vision remained".

Two years later Eicher brought together Garbarek and the Hilliard Ensemble, a vocal quartet specializing in - perhaps perversely - early, prebaroque European music and late 20th century work. The group have worked widely for the ECM New Series, recording work as diverse as that of the 13th century father of polyphony Perotin and the recent new work of genius composers like the Estonian Arvo Part and the Briton Gavin Bryars.

Together, Garbarek and the Hilliards take as a starting point excerpts from Morales' Officium, 15th century pieces by La Rue and Dufay, and even earlier anonymously-written chants. To this Garberek adds soprano and tenor saxophone, with a combination of written and extemporised lines which seem to flow organically out of the singing. In his notes to the recording, one of the group's two tenors, John Potter, makes much of the fact that Garbarek's saxophone often seemed like an extension of their own voices. I would add to that that while much of his recent work with the Jan Garbarek Group - to all intents and purposes a jazz-rock group, albeit a very sophisticated one has been increasingly reserved, the saxophonist's two outstanding albums of the last few years have been recorded with vocalists: 1992's collaboration with the Pakistani Ustad Fateh Ali Khan, Ragas and Sagas, and 1991's blissful Rosensfole, a collection of Norwegian mediaeval music recorded with the breathtaking Scandanavian singer Agnes Buen Garnas. There is quite simply something in the nature of the human voice which brings out the most lyrical and plangent side in Garbarek's playing.

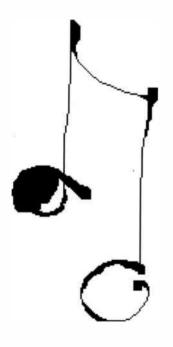
There are already signs that the classical music establishment will turn Officium into this year's answer to Gorecki's Symphony No 3, but as with that piece, too much public attention will sell this record short. Like the Gorecki 3rd, this is a record which, while superficially gorgeous and highly accessible, only offers its real fruit on repeated and close listening. This is music of an emotional intensity at once bleak and lovely. It's certainly a record which will sit in the ECM canon alongside, say, Keith Jarrett's Koln Concert or Arvo Part's Tabula Rasa when it comes to weighing up the label's contribution to the music of the late 20th century. Buy it before everyone else on the block does.



PETER ERSKINE Time Being ECM 521 719-2

• While Officium is the kind of genrestraddling work of greatness for which ECM first gained its repuatation, Peter Erskine's Time Being is one of two straight jazz records released by the label this month which, while undoubtedly fine sets, nonetheless do little to expand the music's horizons. But then, they hardly set out to, and any comparison with the Garbarek/Hilliard record is bound to be unfair.

Time Being is a follow-up to You Never Know, the ECM debut for a trio of British pianist John Taylor, Swedish double bassist Palle Danielsson and drummer-leader Erskine. That record established the trio's reputation for finelycrafted, fragile, exquisite improvisations which heavily recalled the work of one of the trio's collective heroes, the late American pianist Bill Evans. Time Being is again drenched in Evans' highly lyrical marriage of early 20th century French music to jazz improvising, but this time out the group are altogether tougher, the lyricism of songs like Evansong and Liten Visa Till Karin balanced here with the strident odd-meter work-out of Taylor's composition Page 172 or the leader's



Eastern European folk music pastiche Bulgaria.

Through this easily accessible mix of the poetic and the hard, the trio improvise with a dexterity and ingenuity that you'd expect: Daniellson remains one of Europe's finest bassists; Taylor is one of contemporary jazz's most overlooked and underrated pianists, whose playing and composition deserve a much wider hearing than he'll ever get as the regular sideman choice of American stars visiting Europe; and Erskine is consistently one of the most inventive jazz drummers working today. To my mind only Paul Motian - Erskine's senior is as outstanding a drummer-composerbandleader, and that's no slim praise.



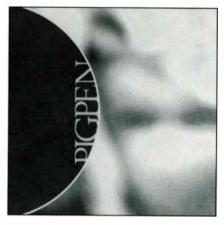
JOHN SURMAN QUARTET Stranger Than Fiction ECM 521 850-2

 Although this group of musicians has played together in a huge variety of combinations over the last thirty years, Stranger Than Fiction is in fact a debut recording for this particular quartet: leader John Surman, the baritone and soprano saxophonist whose solo records - exquisite, highly pastoral, multi-tracked affairs using synthesizers and saxophones - have been one of the chief points of musical enjoyment for this hack over the last few years; once again, pianist John Taylor, adapting himself with ease and skill to yet another group; double bassist Chris Laurence, an alumnus of Surman's large group, the Brass Project, whose oblique lines underpin that music in a constantly surprising way; and the underused, but fiercely swinging drummer John Marshall (check out Marshall's 1970s work with bassist Eberhard Weber's jazzrock group Colours for as fine a blending of drive and grace as you'll hear from any jazz-rock drummer).

Together the group rework seven Surman pieces which date from throughout the saxophonist's career, from 1973's Promising Horizons to 1992's Across the Bridge; it's a set which easily demonstrates this group's ability to swing from the urgent to the lyrical, from the abstract to the tangible. It's music at once highly accessible to the experienced

listner (and, indeed, certainly nothing new to him or her) and a strangely unique sound-world for the newcomer. And despite Surman's undoubtedly tremendous contribution to jazz composition, perhaps the piece I'd recommend most highly here is the closer, Triptych, a fifteen-minute group improvisation which develops from a Surman/Taylor duet and spontaneously suggests its own structure. This is highly developed group improvising at the outer limits of consonant, acoustic jazz and personally I could have taken a whole album of this alone.

Not earth-shattering stuff, then, but highly enjoyable for all that.



PIGPEN V As In Victim AVANT AVAN-027

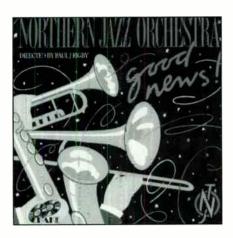
● There's been a plethora of hugely enjoyable recordings out on John Zom's Japan-based label Avant lately; for space reasons, we've barely been able to touch on them here, a situation I hope to put right soon with an Avant round-up. Before then, however, a brief mention for one of the label's stand-out recent releases.

Pigpen is the latest in a series of fine groups led by Wayne Horvitz, the chameleonic keyboard wunderkind whose melding of cheesy B-movie organ, Lennie Tristano-inspired hard-bop piano and jazzrock synth-abuse (a sort of Jan Hammer on serious psychedelics) made him the natural choice of keyboardist in Zom's own freewheeling eclectic collagists Naked City.

In Pigpen he's joined by bassist Fred Chalenor, alto saxist Briggan Krauss and drummer Mike Stone, all new names to me. Together they tackle Horvitz's fantastic take on jazz-rock as play area for jazz heads with a serious penchant for garage-band enthusiasm, cocktail-lounge sleaze and prog-rock weirdness. Into the bargain, Horvitz throws in some of the best keyboard sounds heard since someone first stuck a Fender Rhodes through a fuzz box, and a desolate reworking of guitarist Bill Frisell's Again - which is as fine a piece of music as I've heard all year.

Highly recommended stuff.

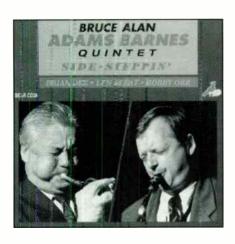
Simon Cooke



THE NORTHERN JAZZ ORCHESTRA Good News LAKE LACD38

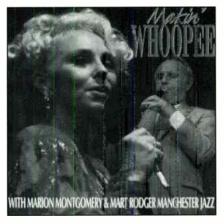
• Roll over Glenn Miller, the band members' average age is 19, they recorded this in Blackburn College, and the recording sessions had to be timetabled around school exams. But, they breed 'em tough up north, and the band passes with flying colours, playing a set that ranges from the 'Starsky and Hutch' theme to 'Harlem Noctume' and similar standards, which are acceptably well recorded.

This month's treat for big band fans.



BRUCE ADAMS/ALAN BARNES QUINTET Side-Steppin' BEAR CD38

• Soft bebop from two fine exponents of the style, supported by Brian Dee on piano, Len Skeat on double bass, and Bobby Orr on drums, p'aying tunes ranging from Horace Silver's 'Opus De Funk' to Berlin's 'The best thing for you is me'. Perhaps only acceptably well-recorded, but expert, impressive, energetic stuff.



MARION MONTGOMERY Makin' Whoopee owscd 2602

● Like an eggshell, fragi'e, smooth and seamless, and without the glossy finish of many performers, Montgomery's voice is well suited to the slower Trad-based jazz offered here. Many tracks have more than a hint of torch-song about them ('The Inkspots' 'I get the blues when it rains', taken slow, for example) and the title track has a perfect knowing air about it which leaves most other versions standing. Basically, Marion Montgomery is a world-class jazz singer, and it shows.

Mart Rodger and his band make an excellent backdrop for Montgomery, all damped brass and shrilling clarinet, they bring out the elusive soul of Trad jazz in a way that the usual breakneck Trad treatments of tunes fail to. There is a depth and emotional parette worthy of the finest mainstream players here. Well-recorded, well played, and fronted by Marion Montgomery. What more do you want?



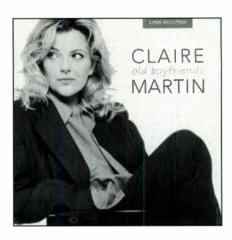
RUBY BRAFF Cornet Chop Suey CCD-4606

Ruby Braff is more of a musician than a jazz player, using notes and phrases sparingly because every nuance overflows with emotion, and the kind of player who returns from a half-hour set break to find his last note still hanging in the air. For Ruby Braff to play a venue is

to spoil it for other players, as his sound hangs in the air long after the notes have died.

Here, the solid Braff-Alden-Tate trio supported by Ken Peplowski's clarinet and Ronnie Zito's drums - skips lightly through a range of the usual thirties and forties tunes, like the Satchmo title track and a 'High Society' medley, encing with Hammerstein/Romberg's 'Lover come back to me', a track that'll doubtless get the man swamped with Valentires in '95.

When Braff plays, any description becomes superfluous, suffice to say that Concorde have done their transcription to disc well enough for me to leave you with these words of advice; just buy it.



CLAIRE MARTIN Old Boyfriends LINN AKD 028

• The much publicised latest from this Linn stalwart although, for those who don't know her work, the next item may be preferable.



ANTHOLOGY The Jazz Album LINN AKD 038

• An anthology of jazz artists available on Linn; Claire Martin, David Newton, Carol Kidd, Tommy Smith (a personal favourite), Stefan Grapelli, and Martin Taylor.

An excellent chance to dip into the Linn jazz catalogue, and worth recommending as a sampler for Linn's recording quality alone.



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The Troika



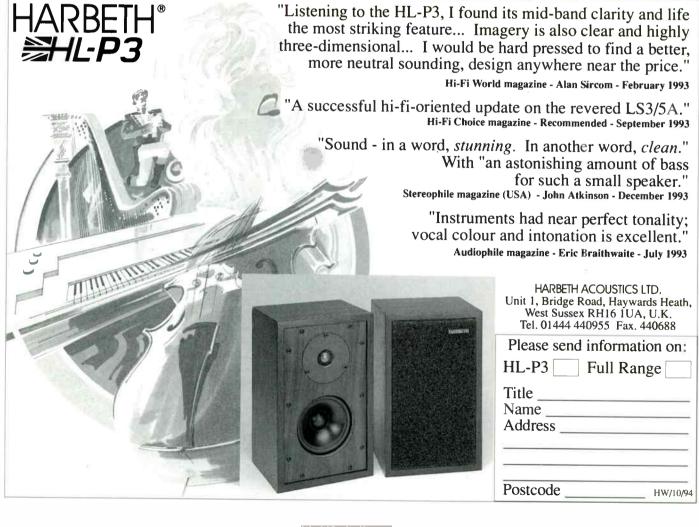
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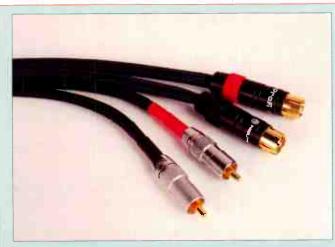
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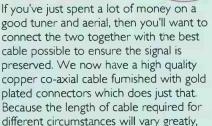
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LP together. Review in Hi-Fi World August 1994, these machines are a must for the dedicated Vinyl collector.

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BUG AUDIO

A fascinating little device no larger than a hand-held remote which allows the user to adjust bias on any cassette deck perfectly for any tape. You can check the state of your cables and connections with it, too! Supplied with a cassette test tape and full instructions. (See review, Nov. 1992 issue.)

BUG AUDIO......£59.99

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Craftsmanship marks out Michell Engineering's rage of gold and rhodium plated plugs from the competition.

GOLD-PLATED SIDE ENTRY
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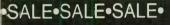


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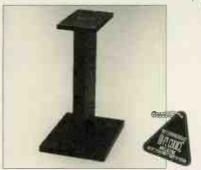
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I found that, as it had done last year, the stand offered a sound that was characterised by its lack of intrusive character On the Slate Stand, speakers seemed to shake off unmusical, unnatural qualities that were audible on other stands. I noticed this lack of added colour particularly with female vocal music. Voices had openness and a tangibility that reinforced their communicative qualities. Singers appeared more expressive and technically more impressive. Last year, I remarked upon the stand's "cleanliness and lack of clutter" and nowhere was this better demonstrated than on the Annie Golden and Frank Carillo CD, which can appear far less polished on a system whose set-up is below par. The Slate stand's ability to refine a speaker's presentation was evident even with the Mordaunt-Short MS10, for which it's not ideal. Golden's taxing voice and Carillo's acoustic guitar both sang out with striking verve yet never approached coarseness, nor did they fall short of refinement.

The stand's sonic transparency and musical fluency are partly a function of its excellent control at the frequency extremes The Slate allows bass lines to thunder without wallowing, and treble to sing without zing. Having lived with, and appreciated, a pair for a year now I'm not going to do what I did last year and allow their cost to stop them obtaining a

VERDICT: The Slate stand is unusual and expensive. But if you're after an exceedingly neutral stand it's the leading contender. This stand offers an exceptionally neutral platform for speakers; highly transparent sound leads to musical performances with real insight.

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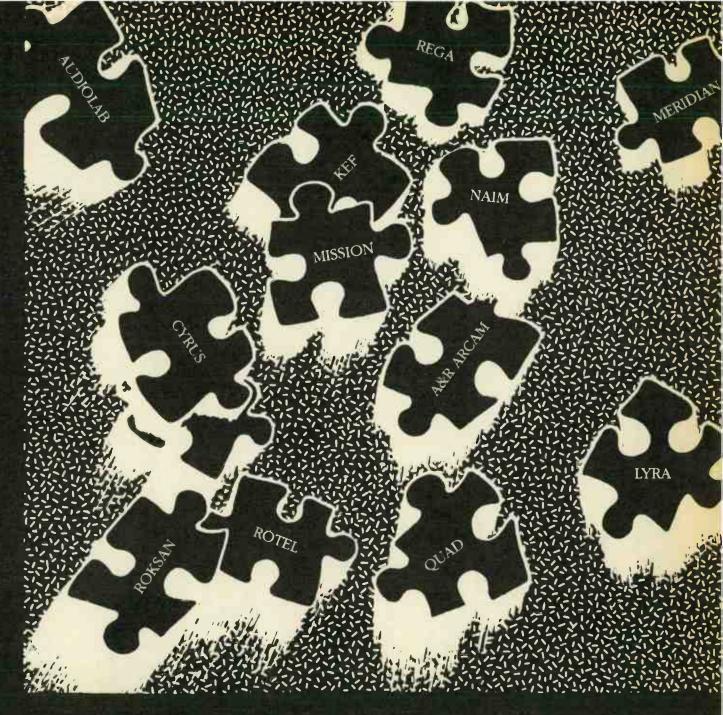
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NAD 501	£180	A break from the MASH tradition, the Phillips powered 501 gives excellent results.	Apr'94	
ROTEL RCD965 DIS QUAD 67	£350 £790	A smooth and easy sound make this one of the best value players around. A new breed of Quad. Lacking nothing in verve or excitement.	May'93	
SUGDEN SDT I NAIM CDI	£850 £1598	Airy and spacious with a rare quality of ambience. Single box, 16 bit player. Close to the two box CDS, has vital 'tingle factor'.	Mar'93 Apr'92	
COMPACT DISC TI				
ARCAM DELTA 250	£750	Transport with sync-lock facility. Good partner to BB50		
DPA DIGITAL T-1 ORELLE CD10-T	£795 £799	Superbly detailed sounding transport when sync-locked to DPA's converters. Very involving, unforced and natural when used with Orelle's DA-180 DAC.	Jan'93 Feb'94	
DIGITAL TO ANAI				
DACULA	£376	This little devil from Select Systems really gets its fangs into the music.	Dec'93	
DPA LITTLE BIT II	£450	Clean and confident sound with good resolution and focus.		
ORELLE DA-180	£599	'Analogue' sounding converter, best with matching transport.		
P. T. ORDINAL P. T. DA CAPO	£695 £1450+	Pure sound, smooth and free from hardness. One of the best at any price. Pink Triangle's own one bit DAC reaches new standards in digital. One of the very be		
T. T. DA CALO	LITJUT	Even better with DC supply and new filter options.		
DPA 1024	£6000	A reference for all other convertors. DPA's own discrete design.	July'94	
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SYSTEMDEK IIX900	£230	£330 with RB250 tonearm. A fine all-rounder and easy to upgrade. Neutral character.		
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CARTRIDGES				
ORTOFON VMS-2E	£10	Warm, full bodied, punchy, fast,good tracking - what else can you get for a tenner.		
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LINN KLYDE	£450	Soft treble, but a stonkingly good cartridge.		
ORTOFON MC2000	£650	We came across this one by accident; used on a Garrard 401 with an SMEIV it	june / 1	
		gave one of the best results we've ever heard.		
ORTOFON MC7500	£2000	The best MC available? Produces real-life scale of music.	May'94	
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QUAD 66FM	£490	Among the very best in terms of tonal colour and imagery. Remote controllable.		
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NAD 302	£160	Lots of insight and detail, but could sound a little rough in the wrong system.	Jan 93
PIONEER A-300X	£200	Exceptionally sweet mid and treble, plus the superb dynamic range of the A400.	Dec'92 Sep'93
DENON PMA-350II	£220	Powerful and with deep rhythmic bass drive.	June'94
ARCAM ALPHA 5 ROTEL RA960BXII	£230 £325	Lots of life and energy; a good phono stage too. Suits a wide range of music always sounding confident and open.	May'94
AUDIOLAB 8000A	£430	Very neutral and superbly built. Good bass, great imagery, but can be sterile.	Apr'92
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SYSTEMDEK 931	£330	Coherent and involving, these little gems really sing. Super value mini monitor.	Nov'94
HARBETH HL-P3	£479	Neutral and revealing sound that produces a fine, cohesive performance.	Nov'94
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REL STRATA	£499	Rel's Strata offers excellent bass depth and power. Using High Definition Aerogel drive units the 752s are clear, crisp and focused.	Oct'94
MISSION 752 H'BROOK QUARTET	£500 £555	Sensitive enough to work with low power valve amps. Fast and detailed sound.	Jul'93
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PROAC Studio 100	£699	Excellent monitors with detailed, natural sound and plenty of atmosphere	Feb'94
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SPENDOR SP3/I	£890	Beautifully built and finished. Superb midrange and treble detail and clarity.	Nov'94
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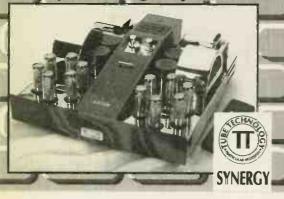
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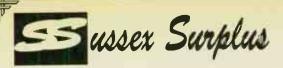
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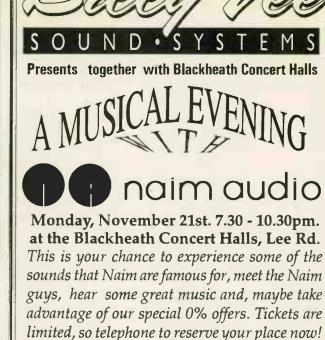
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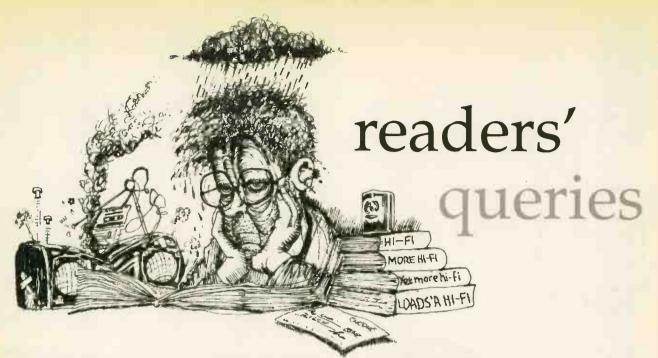
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TRANSPORT AND CONVERT

I currently have a Denon DCD-1520 CD player, Croft Charisma pre-amp, Series X OTL power amp and custombuilt 'speakers using Decca London ribbon homs and Volt eight inch bass units. Interconnect is Kimber PSB with Audioquest F18 speaker cable.

I'm very happy with the overall balance which sounds very open and detailed, but I feel the Denon CD is letting the side down. What would be the best replacement for the CD player? I've short-listed the following: NVA, TES, Roksan, P.T. Da Capo (keeping the Denon as transport), Micromega T-Drive/T-DAC.

My budget is around £1,500-£2,000 and musical styles include jazz, female light rock and film sound-track music. The sound must be detailed with high resolution dynamics. If you have other ideas or advice I would be very grateful.

Marc Helliwell Exeter, Devon.

The one we use as a reference both for reviewing products and for developing designs for our DIY supplement is the Pink Triangle Da Capo. We have found it gives an exceptionally clear, clean and accurate sound, but conveys enough character to make

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Our panel of experts
will endeavour to
solve them, or at
least offer some
practical advice.

music involving. Whilst developing the solid state monoblocks and the carbon fibre drive unit KLS-3 loudspeakers we went through many convertors and players and all of them, apart from the Da Capo, imparted some character of their own to the sound which was undesirable as far as we were concerned.

The Da Capo has the ability to resolve amazing levels of detail and present it in a natural and informative manner, an ability that only a handful of the convertors we have come across possess. We use the Philips 1307 digital filter, finding it gives a bit more body to the sound than the Yamaha 22-bit filter, which has a cooler presentation. This ability to change filters also makes the Da Capo very

versatile, since when new filters are introduced, you can just upgrade, rather than buy a whole new model.

The Da Capo also has a re-clocking circuit, which reduces jitter from whatever transport it is connected to, making the DCD-I520 you have fine as a transport, although it would be worth upgrading to a dedicated transport at a later date. **DB**

DANCE-HALL DAYS

My query comprises two parts: firstly my system comprises Meridian 200/203 (DAC7), Pioneer A400, TDL Studio 1s, bi-wired with silver-plated copper multi-strand cable, with solid-silver multi-strand interconnect (both excellent value from the Maplin catalogue).

While I am essentially happy with the sound, I feel that the bass has perhaps more weight than actual definition and I suspect the amp may be the culprit. If so, would a change to a decent valve amp improve matters? How about one or two of your own K5881s, or would the TDLs be too much for a valve amp to handle? If so, perhaps you could recommend some compatible solid-state amplifiers at around £1,000.

My listening tastes cover most areas except opera and country and westem.

The second part of my

query is somewhat more unusual, but I hope you can help. My partner (who Teaches dance to school children) having experienced real hi-fi at home, would like to achieve a similar level of sound quality in the school hall!

The proposed system will comprise CD player, tape deck (both easily chosen from the budget end of the market), amplifier and 'speakers. It is the choice of 'speakers and amplifier which concems me rather, given that they must provide enough music to fill the hall, not to rock concert SPLs, but to a level adequate to accompany a dance performance to an audience of around 150 people.

I'm of the opinion that the finer points of hi-fi may be safely ignored (particularly imaging and soundstage) but I would appreciate any thoughts vou may have regarding the use of long 'speaker cables (20m) and the necessary physical size of the enclosures and power output of the amplifier. The size of the hall is approximately 25m long, 20m wide and 12m high.

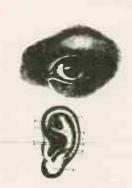
lan Jones Market Harborough, Leicestershire.

Firstly, as far your own system is concerned the Pioneer A400 amplifier, as good as it is, is not

Continued on page 117...

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Quad FM4	434	325
Mod Squad Preamp	500	250
Lexicon CP2	1,100	899
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Ariston Maxim Amp		250
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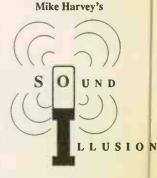
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.... Continued from page 115

the best match for your Studio Is. The A400 has a full sounding bass which gives small budget loudspeakers real punch and apparent bass depth, an area in which your Studio Is certainly don't need any more help. To tame the strong bass of the TDLs and get a taut and tuneful bass line you are going you need something with a little more power and grip. Having said this, I'm sure that you won't want to compromise the superb clarity in the midrange and treble of the A400, so something powerful and smooth is the order of the day.

If you want to stay on the safe side of £1000, then your options are limited. The Quad 606, at £675, has the power and is certainly smooth, but I suspect that it may be a little too laid back for your system. Have a listen anyway, it is a superb amp. If it sounds a little too soft for you, then Sugden's AU41P is much the same, but with a little more sparkle in the treble. It again has a lovely smooth and detailed sound, but is slightly less powerful, so may not be quite as good in the bass.

Both of these are power amplifiers, so you will need a pre-amp to drive them. If you are just using CD as a source, I'd recommend you invest in the Audio Synthesis Passion at £475. It's a lot of money for a passive pre-amp, but the stepped attenuator using high quality bulk foil resistors and a heavy duty selector switch are the next best thing to a piece of straight wire with attenuation.

Alternatively, as you're into building your own cables, use a high quality Alps volume potentiometer with a silver-plated wafer switch and silver cable from Maplin to make your own. Maplin also stock gold-plated phono sockets and a suitable case.

For your partner's school hall system, I had a quick discussion with John at the

Leicester hi-fi company (Tel: 0533 539753) and we decided that the best bet would be a pair of Klipsch horn loudspeakers driven by either a powerful integrated or a budget NAD pre-power combination. The Klipsch loudspeakers, being hornloaded, are very sensitive and will drive a large hall with ease from few watts. Although the Leicester hi-fi company don't stock Klipsch, I spoke to the importers (Midland Radio Supplies Tel: 021 430 7817) and they would be prepared to discuss which of their range would be most suitable and then deliver them to the Leicester hi-fi company who could carry out the installation. I hope this is of some use. DB

Public Address (PA) work demands very high SPLs, although not necessarily high power in the case of horn speakers. Other speakers to consider are American Cerwin Vega for a big sound from little power. If the budget is limited then think about a big threeway (good power handling) bought secondhand from our Classified Ads section. There are a lot of bargains here and great variety too. But stick to big, multi-unit speakers from KEF, Celestion or Tannoy if possible, which are well made and can take continuous power without falling apart. Keep away from strictly domestic hi-fi two-way speakers; they are inappropriate. NK

MYSTERIOUS MC

I just thought I'd put to pen to paper to try and find out if you could answer a query of mine.

I have recently found a moving coil cartridge which I believe to be called an Entre I. I have hooked it up to my tumtable, from which it gave out an excellent sound, far exceeding my previous cartridge (Nagaoka MP-II).

Could you please give me some background information on it, such as when it was built and how much it probably cost?

I also think that the stylus

may be on its way out. Is it possible to fit a new cantilever and stylus, as I seem to remember a previous reader's letter mentioned a man who re-built a cartridge for him. If this is the case, could you give me an address so that I can contact him about the cartridge.

I have included a list of the Entre's technical specifications for you to browse over. Your help would be much appreciated.

'Entre-I':

Frequency response - 10Hz-

50.00Hz

Output voltage - 0.2mV (35.4mm/sec, 1000Hz 45 degrees) Channel balance - within IdB (1000 Hz) Channel separation - better than 28dB (1000 Hz) Compliance - 10×10-6 cm/Dyne Impedance - 3.0 ohms Tracking force - 1.8gm +/-Vertical tracking - 20 degrees Stylus - diamond, elliptical with a radius of 0.3mm x 0.8mm Mass - 5.8gm Mounting - half-inch or 12.7mm

Adam Russell Willenhall, West Midlands.

Two companies to contact are the Diamond Stylus Co. on 0492-860881 and The Cartridge Man on 081-688-6565. Both offer a re-tipping service and may be able to help with repairs, according to what is needed. **NK**

LACKING SPARKLE

I think I have wrecked my hi-fi system. The sound has certainly improved a lot in recent years, but who stole the sparkle? The overall presentation used to be a lot brighter than it is nownot as solid, but where has the snap gone out of my snare drum? Could it be that I have OD'd on valves?

As it stands, my system is as follows: Garrard 401, Slate plinth, SME IV, Denon DL-304, EAR 834P phono head amp, Concordant Excelsior pre-amp, Quad II power amps and Castle

Durham Mk Is on Heybrook HBSI stands.

I want to spend about £1,000 on sparkle, but where to start polishing?

I am convinced that there is no problem in the tumtable department. This leaves the amplifiers and 'speakers. This is where my problems start. Do I rebuild the two pairs of Quad Ils I have and bi-amp with them, or replace the Quads completely? Alternatively, should I hang on to the Quads as they are and look to replace the 'speakers first?

The power amps and 'speakers are, by the way, the same items that used to sparkle when fed from a modified Michell Hydraulic Reference tumtable, Keith Monks unipivot arm, A&R P77 cartridge, and Hafler DH101 pre amp. Sadly, none of these items are available for re-instatement as they have both expired. Your help in this matter would be very much appreciated. Best wishes for the future with your erudite publication.

Alan Mildren Ealing, London.

If you have made absolutely sure that the cartridge isn't worn out (get a good dealer to check it under a microscope) then I too will assume that the problem is elsewhere. The EAR head amplifier, Quad power amps. and Castle Durham loudspeakers all have a similarly soft and warm balance and the combination will be compounding this quality, If you spend £1000 on your system not only should you be looking to inject a bit of life back into it, but also upgrading the whole sound at the same time.

Your have some excellent core items - Garrard 401, SME IV, Quad IIs - and I would suggest you build around these for best result. The DL-304 is a lovely cartridge, but the combination of 401 + SME IV is worthy of far better MCs. I'd have a listen to Ortofon's

Continued on page 119...







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.... Continued from page 117

MC10 Supreme, I think you'll find this a lot more dynamic, open, cleaner and brighter. This will give you an absolutely superb front-end, in which case a top flight phono stage is in order. Again the EAR 834P is good, but with a front-end of this calibre you really should be aiming a little higher. Try Michell's Iso, which combines the smoothness and richness of the EAR with greater dynamics and better detail resolution.

The Quads are best left alone, i.e. unmodified, but get someone like Graham Tricker of GT Audio or Hayden Boardman of Audio Classics to make sure that they are in top condition, with no leaky capacitors or out-of-tolerance resistors, etc.

The last step I would make is to find some high sensitivity loudspeakers that will get the very best out of the Quads. Try auditioning the Cabasse Prao which are sensitive and have a forthright sound with lots of detail. Others to audition include Triangle's new Cometes, and the Heybrook Quartets. **DB**

Having owned Quad Ils I would be prepared to suspect they might be contributing to your dissatisfaction. Whilst these amplifiers are as sweet as can be, they are also a little mellifluous and too vague on the beat to be true rockers. Many people prefer this sort of presentation, which is unavailable in solid-state - no transistor amp could match the Quad II for sheer beauty of sound. But limited power output (8watts-12watts according to condition) and poor 'speaker matching can conspire to make the Quads struggle. Bearing this in mind, you could well try the Ils with a sensitive, 'fast' loudspeaker, the new Mission 752s being one possible option, Heybrook Quartets another. Ultimately though, I'm not sure that it is possible to get the best of solid state and the best of valve perfectly combined. You might have to accept some slight compromise between the two. Our K5881 kit valve amp achieves this trick nicely, sounding clean, fast and lively, and so does the EAR834 integrated valve amplifier. NK

THE UPGRADE PATH

My present system comprises: a recently purchased Goldring 1012GX cartridge (upgraded from an Audio Technica AT95E) feeding a Revolver Rebel turntable, through the turntable's own interconnect into a Creek 4140 S2 amplifier. I have original wooden Sonata speakers on JPW stands and use DNM solid core speaker cable. Since the cartridge upgrade I have noticed an improvement, but it is not quite as breathtaking as I'd hoped.

I rarely use my cassette deck and have weaned myself off the few CDs I own as I vastly prefer records, especially since I buy mainly pop records from the '80s, at one third of the price of new CDs.

I have recently left student life (where my speaker cable was slightly gnawed by my housemate's rat) and have become a small cog in the financial machinery of the City. Unfortunately, I have yet to see a commensurate improvement in my bank balance. Further improvements to my system will have to wait a while.

When I do upgrade, what should I do? I could wait for a good turntable to be advertised second hand in your classified pages (I particularly have a Roksan Xerxes or a Pink Triangle in mind) or upgrade the speakers, possibly to your own KLS2 design, I am particularly keen on the secondhand market since I bought the Creek at a bargain price through your classified pages, from a gentleman halfway across the country who sent it to me to try before even glimpsing the colour of my money.

I am now considering a Garrard 401 with a high end arm; your articles have inspired me to hear the sound of some of these antiquated beasts myself. However, I know production quality varies considerably and I was bom after their heyday, so I am not confident of finding a good specimen to build on to. Perhaps an article on what to look for?

Before we fix it, what is wrong? Imaging, deep bass reproduction and ease of distinction between instruments and vocalist have improved since the cartridge upgrade. However, there is none of the startling realism, openness and sense of power I experienced several years ago during several visits to Oxford Audio Consultants. Admittedly, that was through such esoteric components such as Krell amplifiers and six-foot high electrostatic speakers whose manufacturer I have forgotten.

Finally, a tweaking question. I cannot decide whether adhering blocks of lead in the holes underneath my tumtable platter would enhance or degrade pitch stability, without access to precise balancing. What do you think?

William O Smith Palmer's Green, London.

If you are not against buying second-hand, there are certainly some bargains to be had. With second-hand turntables there is little that can go wrong. In most cases all that will need replacing is a worn out drive belt. If you're unlucky the motor may be starting to wear, but these are relatively inexpensive to replace. Be a little wary of second-hand tonearms though. If they have been on several turntables and roughly treated the bearings can be damaged. Stick to Rega and SME. Both are strongly made and can deal with a little punishment.

Looking through our classifieds from last month, there is a Gyrodec with RB300 and K9 for £495, an RB300 on its own for £95 and numerous Garrard 301 and 401s for around £125. The

Gyrodec is beautifully engineered and stays 'in-tune' once it has been initially setup, which makes life a whole lot easier. The Garrard 301 and 401 are both superb turntables, but be prepared to spend at least £200 on restoration etc before their full potential can be realised.

The Creek amplifier has a lovely sweet and gentle sound and for this reason I'd hold on to it for the time being. It may well be worth adding an external phono stage to get the very best from your front end - the EAR834P is excellent value. The Creek is fairly lowpowered though, so a good pair of sensitive loudspeakers are in order. Models to try include Castle Durham 900s if you want good imaging, Heybrook Quartets for a bouncy and entertaining sound, TDL RTL3s for good bass power and ProAc Studio 100s for a refined and detailed sound.

Blocks of lead are not a good idea. They will stress the motor and belt on start up which may lead to premature failure. **DB**

If you are interested in a Garrard try contacting suppliers first to ascertain costs and potential problems. Spares are now available from various sources, some remanufacture having started, such is demand. Loricraft (tel 0488-72267) are long-termers in this field, having workshops and plenty of experience. Slate Audio (0525-384174) are also experts and Technical & General (0892-654534) have a wide range of spares and parts, plus plenty of expertise. The Garrards are beautifully engineered and a pleasure to own and use. Get a Garrard 401 Celebration tone arm (SME IV) and fit an Ortofon MC cartridge when you make it big in the City, but in the meantime use a Rega RB250 with your Goldring 1012GX or a budget Ortofon MC like the new MCI5 Super II.

Continued on page 121....



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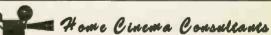
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.... Continued from page 119

The electrostatic speakers you heard at Oxford Audio Consultants (0865-790879) were Martin Logan Arias, which are very impressive. Don't forget that a pair of early Quad Electrostatics properly positioned and, preferably, raised up off the floor (stick them on a cardboard box first and listen from below to check this out) offer superb results at a fraction of the price and may well be a satisfactory alternative until you get into The Sunday Times Top 100.

SOUND PROOF

I live in an end terraced cottage of stone construction, built as a pair of cottages with just a single brick party wall separating the two houses

I get on very well with my neighbours who are very quiet, unassuming people and I have on two or three occasions asked them to say, if at any time my hi-fi disturbs them. They have never complained, but I find it difficult to settle down to serious listening knowing that I might be disturbing them. Having said that, I do try to limit my listening to, at most, a couple of hours per evening before 10pm.

Having now definitely decided to stay in this cottage (a proposed move to a detached house having fallen through) and feel that my solution is to, attempt, as far as it is possible, to 'soundproof' the party wall.

I have taken some preliminary advice from a firm of sound and vibration consultants whose thoughts concurred with my own ideas, i.e. to construct a secondary wall of timber frame construction (say two inch by two inch, spaced half an inch) away from the main wall filled with high density sound absorbing fibreglass matting and faced with two layers of overlapping plasterboard.

I would be extremely grateful if you could advise me

whether or not the above is my best course of action, before I go to the expense of having the work done. I am sure that this is a common problem for fellow music freaks and perhaps an article on the subject might be welcomed. I look forward to hearing from you.

PS: just for the record I've just

finished upgrading my system which now sounds glorious - it really makes music! It comprises: ProAc Studio 200s, Kenwood DPX 9010 Transport (Trichord modified 'Clock 2') Sugden SDAI DAC, Audio Research SP9. Nakamichi BX300E. Denon TU260I tuner, VDH First cables (including a digital link), VDH 122 single 'speaker cables and Denon POA 4400 monoblocks (to be replaced by valve amp(s) next month). I have heard it with an Audio Innovations First Audio and it sounded fabulous, or would you recommend any other valve amps - any other comments!

Phil Willan Mellor, Blackburn.

The first thing to do is to identify where the transmission occurs; this is of vital importance prior to any form of acoustic treatment. Ceiling voids and electrical conduits are known weak spots and may often contribute to poor sound insulation. These should be thoroughly assessed before embarking on any secondary wall construction as significant time and cost savings can be made.

Room Interaction
This is the relationship
between the audio
components and the room and
their influence on the overall
dynamics. Wall surfaces,
furniture and room dimensions
all play a large role in
determining what happens to
the musical energy after leaving
the loudspeakers.

Two types of intrusive noise concerns us. a: airborne and b: impact. Floor-standing loudspeakers with large internal volumes are capable of

generating high sound pressure levels in the sub-sonic domain. Although inaudible, these frequencies can most definitely be felt, especially by your adjacent neighbours where the corresponding wavelength extends beyond your party wall and rebounds off their outer wall.

With respect to the ProAc Studio 200s, the manufacturers have made provision for fine tuning the bass response. By means of filling a small cavity with dry silver sand the low frequency response can be altered to compliment the room acoustically. An accurate measurement by an acoustician can identify whether this is necessary (in relation to the room's central resonant frequency) and at which point precisely this intuitive method is most effective.

Room Modes

These are the relationships between the wall, floor and ceiling dimensions. Certain ratios are preferable and are mathematically prescribed. These ratios have an important bearing on the final sound of the room and ultimately, its insular potential. A good acoustic consultant can help here (feel free to give me a call at European Acoustic Repertoire on 0732 763046) compiling a room mode analysis and report defining these relationships in relation to your equipment and furnishings.

Conclusion In the November issue of HFW we discussed the effectiveness of diffusion in a domestic listening environment. There are a number of 'install yourself' packages available that can create an optimal and diffuse linear listening environment. This acoustical treatment uniformly affects the internal airborne energy thereby attenuating the actual transmitted sound. As a result of correct treatment, the psycho-acoustic perception is that the music is actually

World Radio History

greater in volume while the adjacent neighbour experiences a much reduced transmission level. **DFD**

LOOKING TO CD

My system consists of the following components: Rega Planar 3 with Rega RB300, Goldring Eroica LX (MC), Musical Fidelity A1, Rogers LS4a2 (bi-wire) on Target HJ20/2, Van den Hul CS122. Equipment supports are Target.

I'm happy with the sound of this system, moreover, I have set four cones of steel under the platform of the Rega Planar 3 and this has isolated perfectly any vibration problems. I must confess the result is fantastic.

I love vinyl records, but here in Spain, they're difficult to find. So, I wish to buy a good CD player. I seek a smooth sound with superb fidelity of tonal colour. Would the Marantz CD 52SE profit my system or perhaps the renowned Rotel RCD-965BX? Could you give ideas of price, say between £500 and £1,500. I would appreciate your information. Thank you.

Jose Manuel Lis Malaga, Spain.

To get the same level of enjoyment from CD as you do from vinyl, you will need to aim higher than the two models you have mentioned in your letter. If the CD player you buy is lacking, you will quickly discard it and revert back to vinyl in disgust. To get enjoyment from CD I'd suggest the Rotel RCD 965 Discrete as an absolute minimum, and more in line with your vinyl front-end would be the Quad 67 CD player.

The Quad is an especially good buy, having a sweet and fulsome sound, being well-built and having a high quality CDM-9 transport which could be upgraded with an outboard CD convertor at a later date. Audition carefully though, you may well decide to stick with the extra effort of searching out the black stuff. **DB**



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GARRARD 301 £125, Leak Stereo 70 £50, Leak Stereofetic £30, Leak Varislope 3, Mono Preamp £30, Ferrograph Series 4 two track £50, Brenell Mono two track £25, Armstrong 626 £20, Metal Reels (8.25") for Ferrograph £5 each (24). Tel: 0794 322782 (Hants).

ELITE ROCK MK II, Excalibur Arm, Goldring 1022 Avondale Taps Power Supply Seismic Sink £800. Lrnn Basik plus arm £40. Offers. Tel: 0902 762395. Evenings.

TECHNICS SV-DA10 DAT deck £275. Pioneer CLD 1750 PAU/NTSC laser disc with 13 movies £450. Sony TAE1000ES Digital pro-logic pre-amp £475. Sony TAN220 Four channel bridgeable power-amp £99.00. B/W Rock solids £125. Meridian M30s with stands £495. All mint condition with manuals, most boxed. Tel: 01661 822564.

JPW AP3s + Stands £135. Celestion Is + stands, absolutely as new, packaging, guarantee, £89 (£159). Naim IBLs (latest drivers) £459. Alpha CD £210. Al amplifier £115. All excellent camage included. Tel: 091 4144221.

NEAT PETITE Loudspeakers, boxed as new £350, Quad 33/303 pre/power £150, Quad Racks for 66 series (£30) and 34/FM4/306 (£25), Empire MC1000 Cartridge recent re-tip £175. Tel: 0603 714528.

WANTED NAIM 82 Hi Cap and 250 power amp. Must be new shape + excellent condition. Cash waiting, Tel: 0333 424642 after 6pm.

FOR SALE. NAIM Nait 2 integrated amplifier. Lots of power from a little box! £200 ono. moving up to Hi-Fi World 300B. Nait.sale buys valves! Ring Guy Tel: 0923 262895 – Answerphone.

SD ACOUSTICS SD 5 floor standing speakers, new, unused, full manufacturers guarantee, Hi-Fi recommended, highly reviewed, £750 (new £1,250). Nakamichi 580 cassette deck, vgc, superb sound £300. Tel: 0494 721274; Bucks.

NAIM NAP 110 (£100), NAC 42.5K (£130) and Hi-Cap (£280) – No longer required due to recent up-grade. (All boxed). Also Yamaha K300 Cassette (£50). Tel: 0349 877243.

MUSICAL FIDELITY MVT pre-amp & P270 power amp. Excellent condition – can demo £1,250 ono. Tel: 031 661 6040 (anytime).

ORACLE ALEXANDRIA turntable, Oracle silver wired tone arm, Grado signiture 8 cartridge, massive power supply by Mod Squad probably the best sound for £400 ono. Tel: 0908 502795 (Milton Keynes).

EARLY 60s LEAK STEREO Equipment. Lenco Goldning GL68 turntable, FM Troughline III, Leak Stereo 30 amp. Wharfedale Airdale speakers (4 comer units). Sensible offers. Tel: 0885 400312 after 6pm.

ROKSAN XERXES/Artemiz/Chorus Black. Latest spec power supply, matt black finish, ex demo condition, boxed £775. Tel: 0989 764396 Evenings.

SILVER SOUNDS 16/4 I metre stereo pair bi-wired speaker cables fully terminated. Cost £400, accept £175. Hi-Fi Choice recommended. Tel: 0623 798210.

MUSICAL FIDELITY P270 Mkll 150wpc power amplifier £745 Musical Fidelity Pre3a pre-amplifier £155 Alphason Sonata turntable HR100MCS arm Ortofon Quasar £675. Pair KEF C95 floorstanders Walnut £295 all boxed v.g.c. Paravicini "The Head" TX4 MC transformer £195. Tel: 0843 862603 (Kent).

KENWOOD DP5030 CD player £110, KRA5020 receiver £100, KXW6030 tape deck £50, HECO 220S speakers £110, Target AER5 equipment support £90, QED Cabies £15. Or all for £450. Excellent condition. 2 years old. Mostly boxed. Tel: 0734 662620.

LINN LP12, VALHALLA, Ittok, new K5, spares, dealer serviced £595. Naim Nap 140 power amp £280. Epos ES 14 + dedicated stands £430. Receipts available for all items. Tel: 0423 863770.

PINK TRIANGLE LPT GTI, Manticore Musician tonearm, Goldring 1042. Cost new £1,000.00, asking price £400.00 o.n.o. Sale due to up-grade. Tel: Edenbridge 0732 866817.

SPEAKER CABLE, 2×4 metre lengths of silver sounds cost £280 (£35 per metre). Sell for £128 (£16 per metre). Tel: 0884 32465 (Devon).

CROFT SERIES 4 valve amplifier (KT88s) £375. Four Bandor 50mm Speakers (instant Pentachords!) £100. Pioneer tuner £50. Wilmslow Microbass sub-woofer £70. Stacked Quad Els frames, offers? Weightman Tel: 0782 658114 evenings (Stoke)

SPENDOR SP1/2 + M.A.F. Stands two months old £900. Leak Stereo 20 fully re-built £320. Trilogy 948 tube stereo amp 50 W.P.C. £550. Tel: 081 531 5979 any time.

GARRARD 401 – £150 SME 3009/2. Damper, spare head £50 Technics EPA500 Arm (unused) £75 Wharedale RS12/DD £35. All mint and boxed. Lowther PM6C (four) need reconing £100 lot. Tel: 0423 868144 (Hamogate)

DUNLOP SYSTEMDEK/Helius arm/ Ortofon MC20 vgc £200. Tresham DRI pre-amp + PSI power supply £50. Tel: 0909 (Worksop) 475890 (evenings).

MUSICAL FIDELITY B1 £100. Denon DCD 1420 £100 QED T260 £100. Gale AS220s + stands £100 Sony ICFSW1 £80. Sony D99 £80. Audio Technica ATH911 £40. (0705) 753054 (Portsmouth).

ROGERS CADET III integrated valve amp £85. Rotel 965 BX CD player £180. Denon TU 260L tuner (rare gold version!) mint £85. Audio Alchemy DDE V.I. DAC (mint) £235. Power Station Two Up-grade for DDE (mint) £140. Furukawa PCOCC Interconnect £25. Tel: 0462 678158 (N.Herts).

DENON HEAVYWEIGHT CD player (14Kg) £245 Marantz CD63. Sony CDP.101 R/C £150 (£549) TD160B/ Grace/P77 £150, Magnum MF250 Power-amp £275. Yamaha £X630 £150. Isobariks £795 P/X? Tel: 0206 861457 (6-7pm Jim).

REGA RB300 Pick-up arm, brand new and unused, £105. Tel: 0403 254117.

AUDIONOTE VALVE system. Unwanted prize worth £6,000. Will sell unused £3,750. Comprises DAC 3 signature feeding PISE valve amp. Speakers & stands high quality cables & interconnects. Willing to split. Tel: 0303 840 303 anytime.

TDL STUDIO 1 Speakers with TDL stands, black ash veneer, perfect condition, boxed, £375. Tel 0734 869789 (Berkshire).

TASCAM 32 2 TRACK recorder/ reproducer, boxed as new (RRP £1,549) will accept £750 and include 10 Ampex tapes. Tel: 0480 464132.

VTL DELUXE valve pre amplifier cost £1,300 sell £650. Audio Research SP9 £950. Electro '25' Class A power amplifier with matching pre £350. Mission 737R £120. Wanted Nakamichi. Mick Tel: 0926 831388.

TONEARM Alphason Xenon (Titanium) Linn fitting. (cartridge available). £95. Speaker/Crossover design package for your computer — many complete designs and data files. £30. Tel: Hinckley (0455) 619007 (evenings) 637765 (day).

EAR MOVING Coil step-up. the head. Brand new and unused, big saving. £365 (£590). Tel: 081 659 9538.

PRIVATE

ORTOFON/SME 30H cartndge in CAI type arm VGC £25. Two Fane 3" tweeters, two Fane 8" units, one Fane 12" unit in 4.5 cubic foot enclosures Fandler units in their own enclosures £50. Radford amplifier type SCA 30 good condition, Teak case. £40. Tel: 0903 247779

MISSION 752 speakers, Rosewood, I month old, mint, boxes, £325 ono, London. Tel: 071 387 7189.

CABLES & BITS. Audioplan Super AF Im £60. 1/2m. £40. Type 4 1/2m. £25. XLO Pro.100 Im. £45. Siltech MC4.24 Im. £125. VdH. The First 0.6m. £65. All pairs. Siltech HF6 Digital 1/2m. £40. Audioquest Optilink X Im. £20. Kimber 8TC Mains 1/2m. £15. DPA Power Sink Im. £20. Fitted MK/IEC. Lynwood Mains Cleaners. Basic £25. Advanced £80. Mendian 209 Remote £30. Tel: 081 871 2345.

OLD VALVES FOR SALE: Osram PX 4; Marconi MHL 4; National 6D6; National 75; Cossor 10/VG; Marconi U14; Raytheon 6A7; National 185/R8; Mazda AC/HL; Mullard 76; Osram VMP4G, National 12Z3, Bnmar 6D6; Mullard PCL86 Offers or swaps. Tel: 0956 363699.

MERIDIAN 203 DAC. £250. Kenwood DP X 9010 transport £250. Both £450 ono Or exchange for SME IV arm. Tel: Marc 0392 498913 Exeter,

MONOBLOC ULTRALINEAR valve amplifiers, custom-built to high standard, 30 watt £325, 100 watt £525, or can supply complete build plans, parts lists, PCBs etc. Tel: 081 427 1378.

PAIR EARLY Quad ESLs, fitted black grilles, new treble units and clamp boards last year. £245. Tel: 081 742 1170 daytime or 081 940 7289 evenings till 9pm.

GARRARD 301 Senal No 26827 (grease bearing). White slight dust bug mark but with new sealed Dust bug (collectors item) included. £120. Tel: 081,742,1140 daytime or 081,940,7289 evenings till 9pm.

LEAK STEREO Troughline tuner (black and silver) with matching Stereo 70 integrated amplifier. Both working perfectly. £220. Tel: 081 742 1140 daytime or 081 940 7289 evenings till 9pm.

AUDIO INNOVATIONS SERIES 500 amp, as new, £595 (999); Technics MC head amp, battery operated, superb sound £150; F+S MC transformer £20 (-2) Tel: 0642 542395 (day) 0424 274638 (eve)

DENON POA4400 monoblock power amps 160 wpc. One of the best sounding transistor amps, still under guarantee. £495 ono. Mendian 204 DAC7, superb first upgrade £265 ono. Both boxed and in superb condition. Tel: 0254 81288 (eve) 061 773 9121

AUDIOLAB 8000A 7 months old, as new £350. Call Huw.
Tel: 071 425 8557 (work hours)

(x2945, day).

LINN KAN MKII black superb, biwired with Atacama SE24 stands, superb condition £275 ono Linn Troïka cartndge, good condition £150 ovno and Linn/ITTOK LV2 arm good condition £150 ovno or £280 for the pair. Tel: 071 606 0888 (day), 081 665 6183 (eve).

TECHNICS DIGITAL REFERENCE senes SLZ 1000 CD transport & SHX 1000 DSP brand new, was, £4,995, now only £1995. Also new Technics USV920 integrated amp at only £400. Tel: 081 742 1140 (day), 081 940 7289 (eve).

GARRARD 401, SME Senes II, SME senes 2000 plinth, £180. Revolver, Linn LXV, Boron 11, £180. Revox A50 amp no sleeve, £80. 1961 EMI portable reelto-reel (ex BBC?) absolutely mint. £350. Tel: 0604 37872 (N'ton).

PYE MOZART single-ended amp with matching pre-amplifier and tuner (fully restored). £225. Lowther twin Acoustas (4 PM6 drive units) £250. AVO valve tester, tatty but, working £45. Tel: 01903 715191.

SYSTEM FOR SALE Mendian 206 CD, Leak Troughline plus stereo decoder, Audio Research SP9 Mkll, Krell KSA 50A Mkll, Acoustic Energy AEI +stands (piano black) including all cables etc. £3250 ono, may split. Call Enc. Tel: 051 722 291

AUDIO RESEARCH SP14 pre-amplifier black two years old, mint condition, £1595 (new £3000). Art Audio Tempo monoblocks £995 (new £2.150), Straightwire interconnect £50 (new £120). Phone Chns.
Tel: 071 617 2109. (Mon-Fn 9.30-5.30).

PENTACHORD PENTACOLUMNS (active stereo crossover), £750 ono; Orelle CD10T Transport and DA 180 DAC £850 ono; XLO RS dedicated digital cable £50. Oxon/Berks border. Tel: 0235 850 393 (eves and w/e)

LEEK STEREO 60 Chromed, Groove tubes £650; mint Garrard 301, African Mahogany plinth. SME arm, Shure V15, £395; Harman Kardon Pro turntable, pivoted tangential arm, mint £120; Linx Theta tuner, analogue output stage, £175; Nakamichi LXS 3 head cassette deck, Nakamichi serviced, £295. Coventry. Tel: 0203 679165.

LINN KARIK/NUMERIK CD transport & DAC. £2575, new will accept £1600, still under warranty, mint condition, can demonstrate/deliver within reasonable distance. Call David.
Tel: 0256 28117 or 0831 104253.

CHORD COMPANY INTERCONNECTS I have a number of Chord interconnects surplus to requirement, mainly one meter phono to phono leads, at £10 each. For full details: Tel: 0992 632777 (home) 071 382 4175.

TDL STUDIO 2 transmission line loudspeakers, walnut excellent condition and fine full-range sound. Too large for current location, £245, ono. QED headphone/speaker switch £5. Sage Digitraps £10 Tel: 0962 851802.

LINN LP12 (VALHALLA), Ittok, Karma. New armboard, 45 adaptor, Sound Organisation table, £430. Ortofon MC20 Super little use £25. Tandberg TCD 310 cassette deck, £15. 0728 747735.

HARBETH BBC LS5/12A speakers, black ash finish, £550. Call Plymouth. Tel: 0752 405052.

MOD SQUAD, passive line drive, 5 inputs +2 tapes, mint condition with instructions, £275 ovno. Wirral. Tel: 051 327 2436.

GRADIENT SUB-WOOFER for onginal Quad ESL (including £100 worth of interconnects). £600; Quad 44/405 £300; Decca London Super Gold. 5 hours use, £150. Wanted Leak 2060 or 2075 'speakers, Sinclair Neotenc 60 amp.

Tel: 081 393 4265 (day), 081 393 4147 (eve).

ARISTON CD 3 CD player, transport modified by Tnchord Research, £180. Ring after 6.00pm for details. Tel: 0634 221100.

ROKSAN/XPS2 ARTEMIZ Shiraz in black. Superb tumtable. Lovingly cared for, but cartridge past its best. Will PX against TMS if unwanted by discerning music enthusiast, circa £925. Mike, Thanet.
Tel: 0843 597822.

AUDIONOTE ONGAKU, Kegon, M7 phono, M7 pre-amp, Voyd reference, Snell E, will split. Ask for Steve. Tel: 0992 620905.

REVOX A77 REEL-TO-REEL (3.75/7.5 ips) two-track. Cased model with power amp and 'speakers, good condition, recent new head. £595 ono. Tel: 081 743 1140 (day). 081 940 7289 (eve)

PT TOO BLACK £250; Helius Onon 11, £150 (recently serviced); NVA AP30 (mc), £120. Unwanted pnze Bandor units 2X8" bass. 2X50mm modules + crossovers £175. Tel: 0603 665003.

NAIM ACTIVE SYSTEM Naim CDS, Naim SBL 'speakers, Naim NAC A5 cable, 2X250 amps, 2X Hi-Caps, Naim 72 pre-amp, Naxo 2-4 crossover, all in excellent condition, may split £6,250. Tel: 0628 38153.

ARCAM ALPHA 6 amplifier. As new £249. Philips AZ6815 portable/car CD player £70. Horsham, after 6.00pm and weekends. Tel: 0403 250570.

LINN NAIM EQUIPMENT black: LP12; Armageddon ARO Troika £1800; CDS £1900, NAC82 £1500; Old Style: NAT02 £600; HI-Cap £250; NAP250 £650; black SPLs £950. All mint all boxed, tripods 3X2S XIS, 2X1m £150. Shrewsbury.
Tel 0743 709411.

VOYD TRIPLE MOTOR tumtable, twin-belt, split phase, light ash; Helius Onon II; Audio Note silver wired; Miltek Aurora, totally mint, superb sound, £1150 ono, may p/ex CD. Tel: 0602 286710. SONY CDPX77ES CD player as new boxed,£395; Celestion SL6Si, black as new boxed,£250; Spendor BCT full working order,£160, NAD 3020i as new boxed,£95. Lancs.
Tel: 0257 263403.

QUAD II VALVE AMPLIFIERS control unit, FM tuner, £300; AM2 Tuner, £60; FM2 stereo tuner, £75; Leak TL12 + monoblocks, £225; TL10 monoblocks, £175; Stereo 20 and pre-amp £175; Radford STA15. All vgc.
Tel: 0245 266027.

QUAD EQUIPMENT ESL-63 'speakers, £1250; 606 power amp, £350; 44 preamp, £175, complete set £1600. Very little used and in excellent condition. Tel: 071 725 8324 or 0474 703347.

PINK TRIANGLE, Mission 774 AT37e, £295; SME plinth (401), 3009ND, Elite 700, £95; Crimson 1704 power amplifier. £135; Connoisseur BD2/SAU2, £35; IAS plinth (301), £20; Acos lustre, £25; ETi pre-amp mm/mc, £95; H/K T403 tuner, £65; Armstrong valve receiver £75.
Tel 0503 250679

GARRARD 301 on board with unusual pivot arm; Ortofon headshell and cartndge, £175; Arcam Alpha 3 amp, £115. Wanted: Shure V15v; Quad 67 CD. N. Herts.
Tel 0462 678158.

B&W 803 LOUDSPEAKERS, brand new, but must see, hence only £1650, also Alphason Sonata turntable with HR10 0 arm, mint condition, £500. Tel: 081 742 1140 (work), 081 940 7289 (eve).

MERIDIAN 208 CD player and preamp, plus 209 remote control, boxed, excellent condition will demonstrate, £550. Herts.
Tel: 0923 282129.

CHORD SPM1000B power amp, factory-fitted grab handles, £1800; AVI \$2000mp pre-amp, £650, both six months old, stuning sound, mint, boxed, forced sale.
Tel: 0222 499561.

SPENDOR SP1/2 + MAF stands 3 months old, £900; Leak Stereo 20 £320; Trilogy 948 power amp 50wpc, £650.
Tel: 081 531 5979.

AUDIO SYNTHESIS passion passive pre-amp (Vishay/Vemon), £300; London (Decca) Jubilee phono cartndge, £400 ono.
Tel: 0403 733 055 (answerphone).

KEITH MONKS record cleaning machine, mint £350; serviced Bastin modified Garrard 301 with Rega RB300 am. slate plinth, £300, mint. Leicester. Tel: 0533 553176

EPOS ES14 with stands, black five years-old, immaculate; £285; Target 5-shelf rack, black, spiked feet and top shelf, £55; 5 mins M4/M5 junction. Tel: 0454 614883 (eve).

SNELL TYPE J/II, black ash , good condition with 17" Target HJ stands (lead-filled and spiked), £325 for both. Call Geoff, (Surbiton).
Tel: 081 390 9618 (eve).

PRIVATE

ALLISON 6 'speakers, £80; Apollo 24 inch 'speaker stands, £60; Audax tweeters TWO25MI 2 off, £18. Tel: 0827 261082

AUDIO ALCHEMY DDE vI.0 & separate power one PSU, three year warranty, £269 (479 new); Musical Fidelity A100, mint accept £239 ono; Linn Axis cartndge, suspended chassis, Sondek-like performance, mint £249 (599). Te: 081 245 0970.

VOYD VALDI + Voyd arm + Goldning 1040. mahogany as new cost £1200, sell for £399; Helius Anus tonearm. £99; Audio Technica OC7, £75; Audio Innovations Series 500, £499. Tel: 0302 371464.

LINN SONDEK LP12 (Valhalla), Ittok arm, Linn K9 cartndge vgc £435; also Tno KR-2090L receiver, £25; Audiomaster MLs2 'speakers, £45. St. Albans

Tel: 0727853600 (eve).

QED DIGIT CONVERTED for two power supplies, plus two Positron power supplies. Telephone weekends only.

Tel: 08068 339

MUSICAL FIDELITY A 100, £150; Pioneer A400 £150; Kenwood KT2010l digital tuner, £60. Wanted: I Quad I power amp, I Quad 303 power-amp. Call Steve. Tel: 0902 870101.

MUSICAL FIDELITY P270 Mk2 with P3B pre-amp; Earthquake + pre-amp with 5 inputs including moving coil/ magnet. excellent condition no scratches, £900. Tel: 091 4174603 (eve).

DUE TO UPGRADING of HFW transmission line 'speaker kit drive units. Pair of Mordaunt-Short MSB200 8" drive units with I" metal dome tweeters and 2.2µf polypropylene coupling capacitors, £65.
Tel: 081 697 6371.

AUDIO INNOVATIONS Second audio amps, £1200; Goodsell Williamson amps, £450; Mendian 263 DAC, £325; Naim 12 pre-amp, plus battery supply, £100; Tresham 75w power amp, £250. Tel: 0392 57202.

AUDIO ALCHEMY DDE VI Dac with audioquest video Z interconnect, as new both boxed, £260. Milton Keynes. Tel: 0908 211691

PROAC RESPONSE THREE loudspeakers (beautiful yew finish) £2000 only; one 8-foot pair of XLO type 5 Reference 'speaker cables (£980 retail) only £450 for the very best; Audio Synthesis Passion passive pre-amp (Vishay version), £300; London (Decca) Jubilee cartndge (little used), £400 ono. All must go Tel: 0403 733055 (answerphone)

LINN LP12, £200, Zeta arm £200; Audio Technica 0C7, £150; Gale GS401A 'speakers incl stands, £220; JVC KD-65 cassette deck £60; Technics ST7300 tuner, £60. call Steve. Tel: 0268 883 178 (day), 0268 758395 EPOS ESTI + foundation designer stands, detailed and revealing combined with punchy bass, will complement most systems, two years old, boxed, excellent condition, £450, won't split. Worcs. Tel: 0905 778174.

STEREO LEAK TROUGHLINE, £125; mono Troughline, modern external decoder, £145; six inch bass/midrange dnver Mission £10 wanted for collection, any wom broken cartndges all ono. Tel: 0209 219483.

AUDIOLAB 8000A amplifier, six months old, mint condition, £325 or part exchange for LFD amplifier Spendor BCI monitors, £100. Northampton, evenings/weekend. Tel: 0604 495181.

AUDIOLAB 8000A MK2 ane week old, two-year guarantee, receipt, boxed, £375 ono. Tel: 081 346 8166 (day).

LINN SYSTEM LP12 (rosewood), Lingo, Ekos, K18s, Kaim, LK280, Kabers (walnut), cable, stands, table, remote, complete £3000. Also Kan I (rosewood) available Call Steve. Tel: 0539 721304 (day), 0539 730625

LINN LP12, plus Ittok, £395; Sony PCM-FI plus video, £450; PX quality headphones or CD transport or sell Wadia DAC, buyer collects. Tel: 0386 446756

GARRARD 401 3009 II, new plinth, mint £249; TD124/II RB300 solid teak plinth. superb, £275; Troughline III mono pristine, £130; Arcam twos improved, £150, plus other items. Call Paul. Tel: 0895 446713.

VOYD VALDI RB250 + Goldring 1040, mint, £560 ono; Audio Innovations series 500 tnode coupled, just re-vaived with Sovteks, 2 years-old, mint, £520, £1000 for the pair, Tel: 0323 841472.

AUDIO INNOVATIONS enes 1000 (passive) silver-wired pre-amp. £165 ono; Leak Troughline mono valve tuner, re-aligned with v d Hul signal leads & phonos, £95 ono. Tel: 0423 712126 (after 7pm and weekends.

| F LE Tallec t/table-7 stone beast!; Aragon 2004 100wpc (by Krell designer); Quad 520f Prof (19" rack) power amp; Linn Kans B&O 6000 Rec'r, all vgc; Wavter ARC pre/power, Hybrid spk. Tel: 0533 511815.

NAIM CDI very little use, boxed complete with remote control leads etc. As new, £1000. Tel: 081 248 2938

CAMBRIDGE CD2 boxed with remote control, £225; Linn Basik plus arm, K9 cartridge and Linn armboard, £45; Target 3-shelf equipment stand, £30; Target wall shelf, £15. Tel: 0943 818752.

ARCAM DELTA 2 'speakers, £200' Mission DAD5 CD player, £150; Celestion DL3 II 'speakers with stands, £75; Marantz CD41 CD player,£100. Call Chrs. (Southampton). 0703 328573.

REVOX B77, 7.5/15 ips, excellent condition, £650; Tannoy Reds 12"d/cs in Lockwood cabs, £499, pair ono; Scully 8-track I inch tape recorder, ex Decca, £450 + 20 tapes; Quad 405, offers, (Northants). Tel: 0933 58304 after 6pm.

DPA LITTLE BIT DAC, cost effective upgrade for CD players with co-ax or optical digital input. Highly reviewed superb sound can demo, £190 boxed. Call Alan (Worcs) evenings. Tel: 0386 793319.

UKD CALLAS 'speakers mint condition, boxed, cost £700, sell £490; Arcam 70.3 CD player, cost £650, sell for £390; Arcam amp A60, £130. Call Dave. Tel: 0978 860 332.

300B/211/845 output transformer, outstanding tape wound core design (made in Germany), pott 16X21X12cm, "holographic sound" Contact: R Thoress, Reiman Str. 20, D - 52070 Aachen, Germany.

KEF R102 'speakers with Kube, £180; Castle Clyde 'speakers, £80; Castle Tower equipment rack, £55; Rotel tape deck. £95, all excellent condition. Camberley after 6.00pm. Tel: 0252 870861.

FOR SALE: EXPOSURE dual regulated VII pre-amp, boxed, mint condition, £150 no offers. Tel: 0242 522169

KEF 105/3 rosewood as new £1395 ono, may p/x; Denon DCD 3300 flagship CD, £1200 only, £495. Tel: 0225 480990.

ROKSAN ROK DP1 transport. excellent condition, boxed £680; Naim pre-amp (new) £420 Hi-Cap power supply (old), £320. Tel: 0524 381389.

MICHELL SYNCRO tumtable, Rega RB300 arm, Audio Technica AT-0C5 cartndge, 18 months old very little use, excellent condition boxed, full instructions + extras, £350 (Milton Keynes) Tel: 0908 696869.

CELESTION SL700, bi-wired, dedicated stands, £500 ono; Mendian component amp mc, tape, fm, CD, Aux, £150; part-wom 0C9 £75. Tel: 0273 598952

AUDIO RESEARCH CLASSIC 60 power-amp, £1100, less than one third of new price, Avon area. Tel:0454 418997.

STEREO DECODERS module only £12.50 or complete boxed selfpowered unit ready to use, £48.50. Works well with Troughline, Quad, Chapman, Anatic etc, all new & tested. Tel: 0736 798393.

NAIM CDI CD PLAYER mi condition, boxed, leads £970; Foundation Classic 'speaker stands, £50; equipment rack Apollo 4-tier, £40, Celestion One 'speakers, £40. Tel: 0742 846088. ROGERS LS3/5A + pro Audio Active sub-woofer, £550; Audio type K 'speakers, £210; Equinox pre-amp, cost £1800, sell £600; Pro-ac studio 3s, £600. Tel: 0977 643629.

LINN LP12, ROSEWOOD, Ittok P77 33rpm adaptor in maker's box with manuals. One careful owner from new plus wall shelf, £950' Naim 42.5, £150 both ovno (Leicester). Tel 0533 892420.

SME 3009 Improved tone arm with Shure M97ED cartndge and stylus. 0892 532226.

ARCAM ALPHA 5 33 months warranty, £350; Sonic/ Violet IM, £45, 2XDNM TCC75, £25 P/P, 2X3 Chord Flatline twin, £80. Call Philip after 6.00pm. 071 4034656.

LINN HI-FI FOR SALE, Majik-I preintegrated amp with mc phono input, £465; LK100 power amp £425, both 6 months, old, perfect (Stafford). 0785 715650.

LINN SARA 9 'speakers, rosewood excellent condition with stands, £375 Tel: 0623 759264 after 6.00pm.

SUGDEN C51/P51/R21 amps + tuner, £150; KEF dnve units T27/B110/B139. £75. all as new, never been used, still boxed. Tel: 0484 854147.

GARRARD 401 turntable, Ortofon VMS30 Mkll cartridge, Decca International arm, £150 or will split. All new unused in onginal boxes. Call Richard (Herts). Tel: 0763 244744.

LEAK STEREO 20 complete. 320; Akai GX77 reel/reel, £220; pair Wharfedale Airdales, £275; pair of Goodmans Axiom 400s, £60. Offers or part exchange any for top quality 10.5 reel/ reel, twin cassette and semi automatic Tel: 0392 860182.

PAIR OF LINN Isobank 'speakers with stands walnut finish, £940; pair of Naim 135 amps plus 32 Hi-Cap pre-amp £1790, al excellent condition (Bucks). Tel: 0494 837358.

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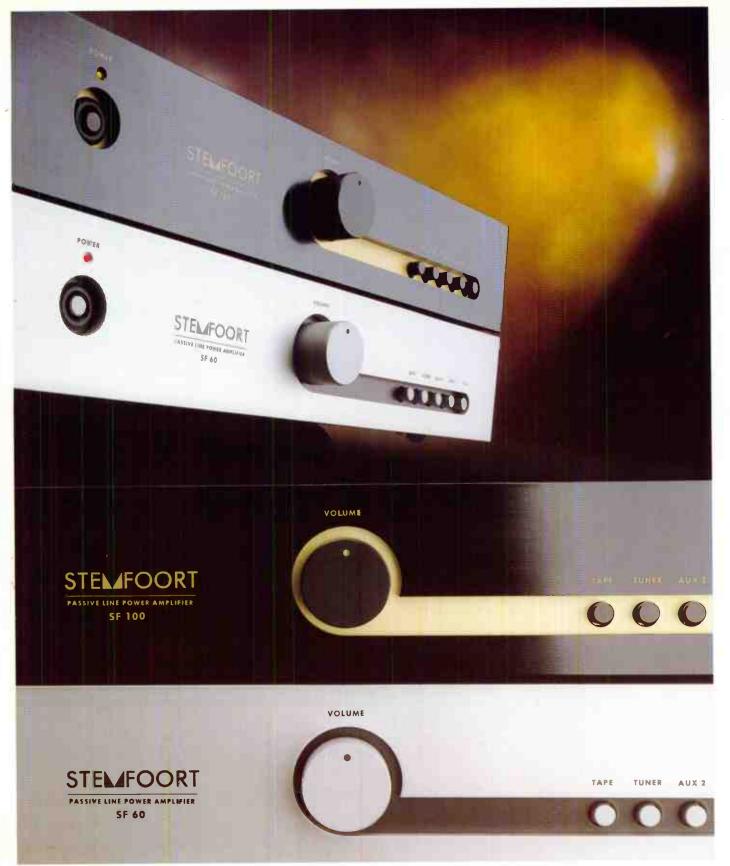
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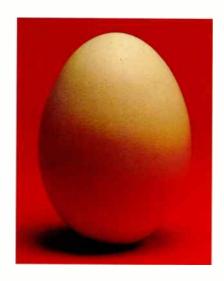


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