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SME



Even flat records are slightly warped. A true if somewhat cynical statement! Sometimes the degree of warp can challenge even the best cartridge and pick-up causing extraneous noise, distorted stereo imaging and speed variations as fore and aft stylus modifies groove velocity. Fortunately these problems can be dramatically improved by this new record clamp originally designed for the SME Model 30 turntable described by Germany's Audio Magazine as 'the best turntable of all time'. Working on the reflex principle, the clamp deflects the record, smoothing out much of the warp and ensuring the largest possible contact with the platter.

Suitable for all non-detachable record spindles from 10 to 17mm length.

Available from leading audio stockists. Further information from:
SME LIMITED • STEYNING • SUSSEX • BN44 3GY

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DIY SUPPLEMENT

This month's DIY Supplement is better than ever before, and it's still FREE.

Articles include:

Part 2 of the 3-way DIY loudspeaker design, this month we finish off the bass bins and give useful tuning tips.

Part 1 of a very special 300B triode valve amplifier which uses no feedback around the output stage. This design is brand new, not a re-hash of a vintage design and offers superb transparency and detail.

Origin Live have just launched a kit turntable based upon their £900 Oasis. We build and listen to the Ultra kit.

Our Mullard 5-20 circuit has proved extremely popular, however we have learnt a few tricks since the original. We are now able to offer a new design with similar properties using Russian Military Spec valves and on a convenient stereo chassis.

And much, much more!

MUSIC

A Guide to the Latest Summer Sounds.

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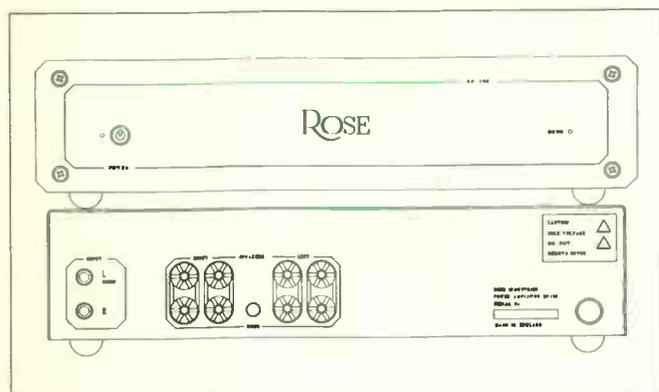


coupled with low mass, helping to provide a faster dynamic response. Each 600 series model has been styled by Kenneth Grange to ensure that their looks match their high performance. With this careful attention to detail each model in the range represents the ultimate in contemporary acoustic design.

The 600 series is at your local B&W dealer now. So call in for a demonstration, because once you've heard them, there's really nothing left to say.

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LOUDSPEAKERS
THE 600 SERIES

For a brochure contact: B&W Loudspeakers (UK Sales) Ltd, Marlborough Road, Lancing, West Sussex BN15 8TR Telephone: (0903) 750750 Fax: (0903) 750694



ROSE WITH SIX DOZEN WATTS

Rose Industries have just launched their RP-190 stereo power amplifier which claims to produce over seventy watts of continuous power into an eight ohm load. This affordable amplifier retails at £495 and can be easily converted into a monoblock with ninety five watts continuous output. It uses transistorised circuits, but its design embraces only the absolute minimum use of feedback for a valve life fluidity to match their RV-23S pre-amp.

Rose Industries Limited, P.O.Box 13, Abingdon, Oxon. OX14 4XE.
Tel: 0235 847023.

ADDING TO THEIR MAXIM

Goodmans Loudspeakers Limited (GLL) are now developing two loudspeakers which will partner their new Maxim. The Mezzo and the Magnum are planned for launch in August. Both feature a nineteen millimetre aluminium dome tweeter and reflex loaded bass/mid range unit. They should partner a wide range of amplifiers, due to an impedance of around six ohms and a sensitivity of over 88dB.

Goodmans Loudspeakers Ltd, 3 Ridgeway, Havant, Hants. PO9 1JS.
Tel: 0705 492777.

SEVEN SIXES TIMES TWO



Tannoy have re-launched an improved Sixes range: christening them the Sixes II. They all feature fully anodised aluminium dome tweeters and the use of oxygen free copper (OFC) in the internal wiring. Seven models make up the complete range; the junior entry level 'speaker is the £140 two-way 603 II, while the three-way 615 II tops the range at £750.

Tannoy Ltd, Rosehall Industrial Estate, Coatbridge, Strathclyde. ML5 4TF. Tel: 0236 420199.

trade winds
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Hi-Fi World brings you all the latest
news from the hi-fi industry

trade winds



NAIMING CEREMONY

Naim Audio, the Salisbury based specialist hi-fi manufacturer, have just announced a number of new products. The first is the £500 Nait 3 integrated amplifier. It offers up-rated power output and good flexibility, being supplied with either moving coil or moving magnet phono inputs, or alternatively as a line level only amplifier. It can also be used as a separate pre-amplifier, which is handy for those future upgrades.

Naim have also announced replacements for the NAC 62 pre-amplifier and NAP 90 power amplifier: the £405 NAC92 and the £396 NAP 90/3. This amplifier combination claims to offer lower noise and greater stability, plus updated styling.

There is also an addition to Naim's acclaimed range of tuners: the NAT03 which retails at just under £500. The '03 has circuitry based upon other NAT models and Naim claim that "the sophisticated power supply and toroidal transformer ensure that its sound quality is unmatched by other tuners in its price range."

Naim Audio Ltd. Southampton Road, Salisbury. SP1 2LN. Tel: 0722 332266.

KESWICK DEVELOP SUB-WOOFERS

Keswick Audio Research (KAR) are currently developing a subwoofer to partner their Figaro miniature monitor. It can be tuned using a multi-position switch. This not only allows better matching for different acoustics but also allows the bass to be modified to suit an individual's taste. The Alto, as it is called, will also be KAR's first product to use in-house custom designed drive units. KAR also hope to use their own drive units on all future models. The Alto is planned for launch at the Penta hi-fi show and base model price is expected to be around £1200 a pair.

Keswick Audio Research, Unit C, Glasshoughton Industries Centre, Glasshoughton, Castleford. West Yorks. WF10 4QH. Tel: 0977 603836.

TEAC BOXING CLEVER



The replacement for the P500 CD transport, the P700, is now available from TEAC and it features VRDS (Vibration-free Disc-clamping System) technology. Other upgrades also include a high density chassis and BMC (Bulk Moulded Compound) base. The P-700 will retail for £899 and the matching DAC, the D-700, uses four twenty-bit DAC's and an eight-times oversampling digital filter. It retails for £599.

TEAC U.K. Ltd. 5 Marlin House, The Croxley Centre, Watford, Herts. WD1 8YA. Tel: 0923 819630.

SPEAKING NOUGHTS AND ONES



Meridian Audio have developed a new pair of digital 'speakers, the DSP5000s which retail for £2,950 in black, or for £3,070 in rosewood. They are equipped to handle sampling rates between 32 and 48kHz and use eighteen bit Delta Sigma converters with twin phase lock-loops. Each driver is also equipped with a seventy watt power amplifier that they claim produces a sound pressure level of more than 108dB.

Meridian Audio Ltd, 14 Clifton Road, Huntingdon, Cambs. PE18 7EJ. Tel: 0480 52144.

MID RANGE UPGRADE

Well its not a G.I, an SE or even a Turbo - instead Denon have given their new upgraded PMA-350 the II suffix. The PMA-350 II has improvements that consist of a new main circuit board and it also caters for all tastes by including a switched tone control and a phono stage. This amplifier is also fully compatible with bi-wiring applications and costs a competitive £219.99.

Hayden Laboratories, Chiltern Hill, Chalfont St. Peter, Gerrards Cross, Bucks. SL9 9UG. Tel: 0753 888447.



REFLEX TRANSMISSION LINES

TDL Electronics have introduced a range of more affordable loudspeakers which are based on the transmission line principle. Entitled 'Reflex Transmission Lines', there are four models which vary from a small bookshelf design up to a floorstanding unit. Prices for the new range are between £99.95 and £399.95.

TDL Electronics. P.O. Box98, High Wycombe, Bucks. HP12 3AB. Tel: 0494 441191.



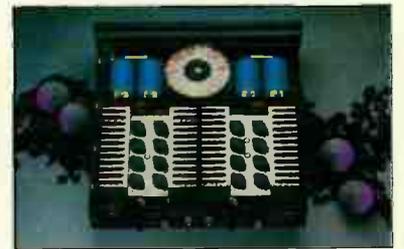
HOME GROWN HARMANS

Harman Audio have just released their first U.K. designed and built loudspeakers to bear the Harman Kardon badge. The new 'LS' range is made up of three models which all use an Audax soft dome tweeter and either paper or glass-fibre bass/mid range units. Prices of the models range between £169 and £299. Harman Audio have also relocated to the new address listed below.

Harman Audio, Unit 2, Borehamwood Industrial park, Rowley Lane, Borehamwood, Herts. WD6 5PZ. Tel: 081 207 4572.

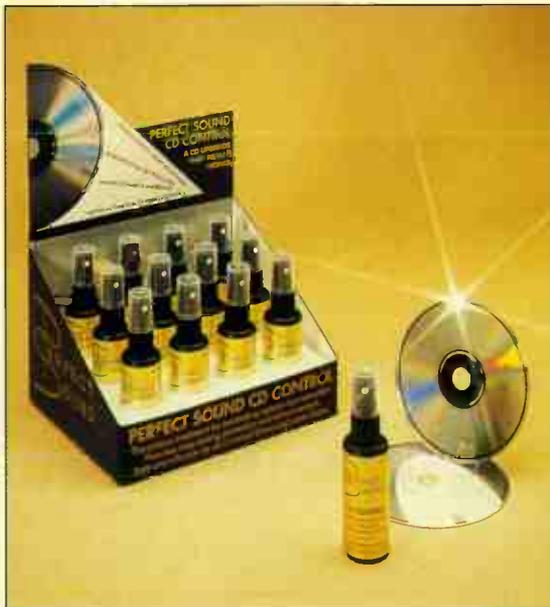
POWERFUL AVI AMPLIFIER

AVI have just launched their series 2000 power amplifier. Weighing over fifty pounds, this hefty amp costs £1399, but boasts a mighty power output of 250 watts per channel into eight ohms. The design uses bi-polar output devices and claims to offer high open-loop linearity and minimal distortion.



A V International Ltd. Unit F3C3, Bath Road Trading Estate, Stroud, Glous. GL5 3QF. Tel: 0329 231773.

STOP PRESS



DOLBY SURROUND ON THE BOX

The BBC have started to broadcast in Dolby Surround. The first production, a documentary on the Battle of the Atlantic, was broadcast at the end of May. This allowed the multi channel information to be relayed to those with Dolby Pro Logic equipment, adding further refinement to stereo TV broadcasts. Further broadcasts are set to follow in the near future.

GIVE YOUR CDS A TREAT

Golding products have developed a specialist treatment for CDs which claims to fully clean the disc and to also reduce refractions off the disc's surface. The product, called 'Perfect Sound CD Control' costs £14.99 for a tube of treatment solution.

Golding products Ltd, 8 Greyfriars Road, Bury St. Edmunds, Suffolk. IP32 7DX. Tel: 0284 701101.

MONOPOLIES AND MERGERS COMMISSION ACT ON CD PRICING.

Following a request by Sir Bryan Carsberg, Director General of the Office of Fair Trading, the Monopolies and Mergers Commission (MMC) has started their investigation into the supply of recorded music in the U.K. The MMC inquiry is headed by Graeme Odgers, a former managing director of British Telecom. The MMC is due to report their findings to the Secretary of State for Trade and Industry on 31st March 1994.

- **Alderley Edge** Cheshire Aston Audio 4 West Street SK9 7ES Tel 0625 582704
- **Amersham** Bucks Dejac Hi-Fi 21 The Broadway HP7 0HL Tel 0494 431290
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- **Birmingham** Five Ways High Fidelity 12 Islington Row Edgbaston B15 1LD Tel 021 455 0667
- **Birmingham** Griffin Audio 94 Bristol Street B5 7AH Tel 021 692 1359
- **Bishops Stortford** Herts The Audio File 27A & 40 Hockerhill Street CM23 2DW Tel 0279 506576
- **Brentwood** Essex Brentwood Music Centre 2 Ingrave Road CM15 8AT Tel 0277 221210
- **Bury St Edmunds** Suffolk Bury Audio 47 Churchgate Street IP33 1RG Tel 0284 724337
- **Chichester** Sussex Chichester High Fidelity 7 St Pancras PO19 1SJ Tel 0243 776402
- **Christchurch** Dorset H.A.T.V. 131 Barrack Road BH23 2AR Tel 0202 473901
- **Croydon** Surrey Spalding Electrical Ltd 352/354 Lower Addiscombe Road CR0 7AF Tel 081 654 1231
- **Edgware** Middx Musical Images Ltd 173 Station Road HA8 7JX Tel 081 952 5535
- **Exeter** Devon Howards (Exeter) Ltd 90/91 Sidwell Street Sidwell Street Roundabout EX4 6PH Tel 0392 58518
- **Grimsby** Humberside Manders Hi-Fi Ltd 2/4 Edward Street DN32 9HJ Tel 0472 351391
- **Guildford** Surrey PJ Hi-Fi 3 Bridge Street GU1 4RY Tel 0483 504801
- **Halifax** Yorks Tape Recorder Centre 3/5 King Cross Street HX1 2SH Tel 0422 366832
- **Hounslow** Middx Musical Images Ltd 45 High Street TW3 1RH Tel 081 569 5802
- **Huddersfield** W Yorks Huddersfield Hi-Fi Centre, 1/4 Cross Church Street HD1 2PT Tel 0484 544668
- **Ipswich** Suffolk Eastern Audio 41 Bramford Road IP1 2PR Tel 0473 217217
- **Leeds** Yorks Audio Projects Ltd 46 Headingley Lane LS6 1DP Tel 0532 304565
- **London N7** Bartletts Hi-Fi 175/177 Holloway Road N7 8LX Tel 071 607 2296 **N8** The Studio 133 Tottenham Lane N8 9BJ Tel 081 340 7775
- **NW6** Studio 99 Ltd 79/81 Fairfax Road Swiss Cottage NW6 4DY Tel 071 624 8855
- **W1** KJ Leisuresound 26 New Cavendish Street W1M 7LH Tel 071 486 8263 **W1** Hi-Fi Experience plc 227 Tottenham Court Road W1P 0HS Tel 071 580 3535 **WC2** Covent Garden Records 84 Charing Cross Road WC2H 0JA Tel 071 379 7635
- **Norwich** Norfolk Martins Electronic Centre 85/87 Ber Street NR1 3EY Tel 0602 627010
- **Nottingham** Notts John Kirk 70 Chilwell Street Beeston NG9 1FQ Tel 0602 252986
- **Oxford** Oxfordshire Horns 6 South Parade Summertown OX2 7JR Tel 0865 511241
- **Oxford** Oxfordshire Westwood & Mason (Oxford) Ltd 46 George Street OX1 2AN Tel 0865 247783
- **Penrith** Cumbria Lakeland Home Music Fair Place Watermillock CA11 0LR Tel 0768 486235
- **Portsmouth** Hants Jeffries Hi-Fi 29 London Road PO2 0BH Tel 0705 663604
- **Preston** Lancs Norman Audio 131 Friargate PR1 2EE Tel 0772 53057
- **Reading** Berks Reading Hi-Fi Centre Ltd., 4 Queens Walk, Broad Street Mall, RG1 7QF Tel 0734 585463
- **Sevenoaks** Kent Sevenoaks Hi-Fi Centre 111 London Road TN13 1BA Tel 0732 459556
- **Somertown** Somerset Watts Radio 1 West Street TA11 7PS Tel 0458 72440
- **Tamworth** Staffs E & NF French 52 Dordon Road, Dordon Tamworth B78 1QN Tel 0827 892252
- **East Twickenham** Middx Riverside Hi-Fi 422 Richmond Road TW1 2EB Tel 081 892 7613
- **Rugby** Warwickshire Sounds Expensive 12 Regent Street CV21 2QF Tel 0788 540772
- **Sheffield** S Yorks Sound with Style 284 Glossop Road S10 2HS Tel 0742 737893
- **Worthing** Sussex Bowers & Wilkins Ltd 1 Beckett Building Littlehampton Road BN13 1QA Tel 0903 64141
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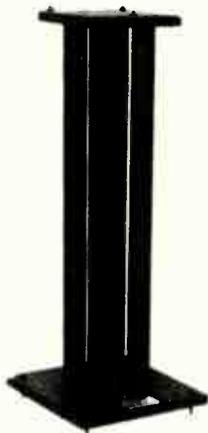
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HiFi Bargains

Model	Type	Condition	Was	Now
Arcam Black Box III	DAC	Ex Dem	£300	£199
Audiolab 8000	DAC	Brand New	£700	£560
Creek 4040S2	Amplifier	Ex Dem	£230	£160
Denon 480R	Amplifier	Ex Dem	£220	£179
Linn LK1	Pre Amp	S/Hand		£300
Meridian 203 DAC7	DAC	Ex Dem	£560	£350
Exposure XV	Amplifier	Ex Dem	£650	£420
Quad 606	Power Amp	Ex Dem	£680	£500
Cyrus PSX	Power Supply	Ex Dem	£300	£250
Cyrus	Tuner	Ex Dem	£300	£250
Cyrus Two	Amplifier	Ex Dem	£380	£289
Tannoy 611	Speakers	Ex Dem	£420	£299
Tannoy 609	Speaker+Stand	Ex Dem	£370	£279
Tannoy 605	Speaker+Stand	Ex Dem	£255	£179
Denon PMA350	Amplifier	Ex Dem	£200	£150
Denon DRW650	Twin Cassette	Ex Dem	£220	£179
Heybrook HB1.3	Speakers	Ex Dem	£260	£229
JPW Sonata Plus	Speakers	Ex Dem	£135	£99
Rotel 980BX	Amplifier	Ex Dem	£400	£319
Denon D100X	Mini System	Ex Dem	£770	£599
MicroMega Leader	CD Player	Ex Dem	£850	£650
MicroMega Micro	DAC	Ex Dem	£300	£225
Deltec Little Bit	DAC	Ex Dem	£400	£300
QED Digit	DAC	Ex Dem	£139	£90
DELTA 170.3	CD	Ex Dem	£700	£499
Black Box 5	DAC	Ex Dem	£300	£239
DELTA 70.3	CD	Ex Dem	£700	£489



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0702 612116

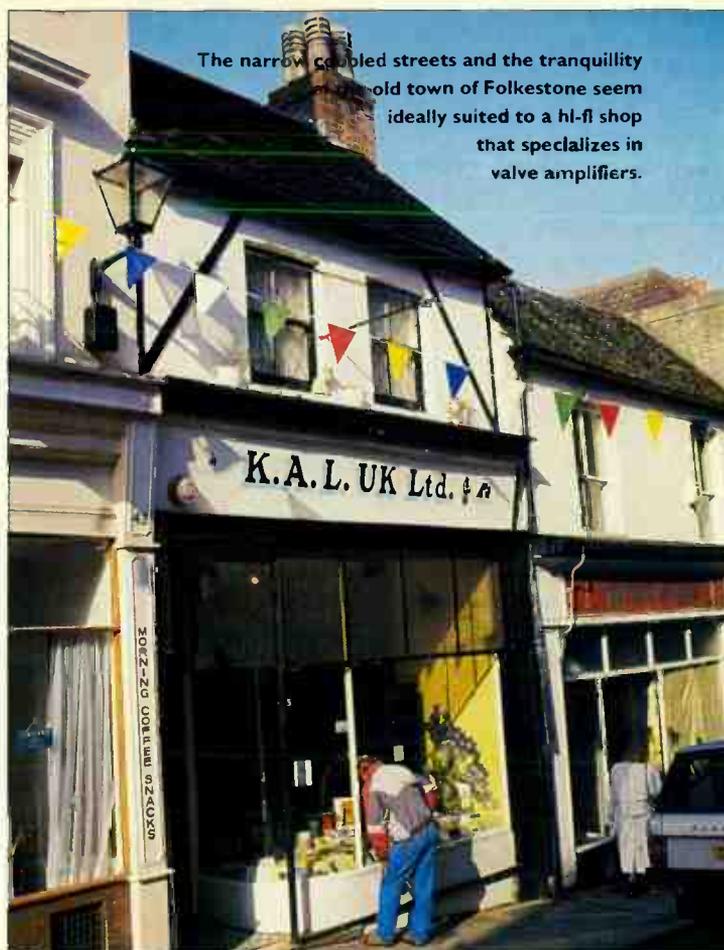
A big hole in a cliff face, lots of international flags and acres of new railway sidings greeted us, but we ended up trundling down a steep cobbled street just one-vehicle wide and lined with Ye Olde Worlde shops leaning this way and that. Those are the contrasting sights of Folkestone, where the old lives on in quiet tranquillity, in stark contrast to the intrusively new bursting forth from the ground just a few miles away - the Channel Tunnel.

There could hardly have been greater contrasts; beside the road on the way in sits a giant boring machine, the machine that finally - after many attempts over hundreds of years - managed to drill a tunnel under the English Channel. All around it, painfully so, are massive machines altering the landscape, but our preoccupation wasn't with the mayhem of the new, nor with the ugly scars it was producing, but with gentler and more readily appreciated technologies down within Folkestone's old town. There lay olde worlde valves, from as far back as 1919, courtesy of Friedrich Kammerzelt. He has bravely started a hi-fi shop on Britain's South Coast, whilst continuing to live and run a parallel business in Hockenheim, South West Germany.

Bravely? Britain's South East shore line once had popular holiday resorts and busy ports. It's attractions faded when people found it was cheaper and easier to take a 747 to the Costa Brava than struggle down a tiny road to be greeted by uncertain weather and dowdy resorts where the only certainty were the restaurants with Formica table tops and a menu dominated by tinned peas. These days commerce from the port thunders through in the form of heavy trucks, whose only natural habitat is the motorway. So whilst the Channel Tunnel joins forces with the M20 and the ferry to bring Folkestone into prominence, down in the old high street, which once bustled with trade, shops now stand grimly empty.

Friedrich is unperturbed by this. His shop has been renovated and sits like a little time capsule, built in another time when doorways were barely six foot high and stairways were a tight squeeze for a cat. In spite of this, accompanied by a lot of grunting and manoeuvring, we managed to haul the KAL 211 amplifier - heavy for two men to lift - up a flight of stairs to a demo room. Since Friedrich had been enthusiastic and dedicated enough to drive all the way from Germany with it in the first place, we thought it only reasonable to journey down to deepest Folkstone to return it, and take a look at Friedrich's new shop.

A dedicated valve amplifier lover and audiophile, Friedrich insists that Britain appreciates the valve amplifier better than



The narrow cobbled streets and the tranquillity of the old town of Folkestone seem ideally suited to a hi-fi shop that specializes in valve amplifiers.

Valves & Vinyl at KAL U.K.

most places in Europe, an observation I've encountered before. Perhaps it's because Britain's electronics industry was at its strongest, turning out TVs, hi-fi, record players and radiograms when the valve was king. An empathy for the thermionic valve remains. Transistors are soul less little things in comparison; they're suited to mass manufacture, to stack systems, to commodity market status where advertising and marketing, rather than product performance, determine sales.

That's not the world of Friedrich or Kammerzelt Audio Labs, in the The Old High Street, Folkstone. They stock specialist British hi-fi, his own valve amplifiers and loudspeakers and a range of high quality cables and connectors brought in from Germany - plus the giant KAL 211 valve amplifier featured on the front cover of our June '93 issue. If you want to see or hear this unique amplifier, take a trip to the South Coast. Ignore the hole in the cliff face and the grandiose civil engineering project; it's about time too after hundreds of years of failure! Down in the Old Town, Folkestone has something to be really proud about ●

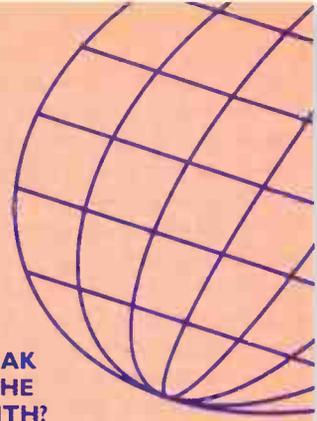
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Valves and vinyl find favour with Friedrich; here a Linn LP12 with modified amplifiers from conrad-johnson and Papworth feed KAL's own loudspeakers.



World



DAT NOT DCC

Let's hope Richard Brice is wrong in his interesting prognosis for DCC (recorded message left in the March issue on page 45).

DCC still leaves much to be desired. The DCC format was indeed bold - the general trend in digital storage and retrieval towards more data and higher resolution was very cunningly reversed (making DCC almost useless for any other application) and the result is unfortunately distinctly audible.

The format has the other drawback of exceptional lethargy. Rewinding a 90 minute DCC tape after 45 minutes of playback takes two and a half minutes (my DAT deck will rewind 45 minutes of tape in 16 seconds), reminding one of some of the early cassette decks of the 1970s (today's budget analogue decks are faster).

As prices for DAT equipment continue to fall and the drawbacks (or rather lack of advantages) of DCC become more apparent, DAT could well experience a come-back.

A rather poor replacement for the cassette, DCC may quite possibly fool some of the people all of the time, but let's hope that at least the more discerning listeners will give the new

generation of DAT decks the auditioning they deserve - it's well worth the search!

**Douglas Shaw
Portsmouth,
Hants.**

P. S. Anyone considering an upgrade to their CD-Player to take advantage of the better D/A Converters now available should buy one of the new generation of DAT Decks. Using the digital input of the DAT deck one can make use of its internal DA Converter. To do this just press the record button. When no cassette is inserted the cassette transport remains stationary thus avoiding unnecessary wear and tear.

DCC should not be discounted quite so easily; their appeal certainly seems to have persuaded some people. Consider the music lover who has large number of pre-recorded and home recorded analogue cassettes and a collection of valuable vinyl that he wishes to convert to tape to avoid wear. DCC is an ideal medium for this customer. It will play back all analogue tapes and provide a reasonably cheap, high quality digital recording from vinyl.

DAT on the other hand will not allow older analogue tapes to be replayed. It may offer higher

quality recordings, but from my experience with DAT, recording from an analogue source could prove an unwieldy task for the average music listener.

I agree with you that it is worth auditioning the latest generation of DAT players which offer a level of performance close to that of the best CD players. They do forward-wind and re-wind tapes extremely quickly and recording from a digital source is a doddle, with all of the track information automatically supplied from the original. Each medium suits a different person's music requirements.

One final note, using the internal DAC of a DAT machine is not the wisest thing to do. For £300 or so an external DAC will in most cases out-perform the internal one and improve the performance of the DAT player CD player and any other digital source. **DB**

Yep! From experience I find the best way to improve the sound of DAT is to use an external convertor. **NK**

TWEAK OF THE MONTH!

Having read in Hi-Fi World and other magazines about the importance of rigid equipment stands, I recently built some loudspeaker stands out of heavy duty RSJs. I was concerned about a certain amount of "ringing", so I encased them in solid concrete.

Having been encouraged by the improvement in bass extension and control, I constructed equipment stands of similar material. There was a significant improvement, but this only seemed to highlight the reverberant nature of the listening room.

This was easily solved by several lorry-loads of Ready-Mix, totally filling the room from floor to ceiling. Before doing so the amplifier was set to an optimum volume level. Equally, after extensive reading of the Hi-Fi Press, a Mary Black CD was installed and set on "repeat". The entire equipment was then encased in the concrete. It is now connected to speakers, in the new listening room above, by National Grid cable, installed by a friendly blacksmith.

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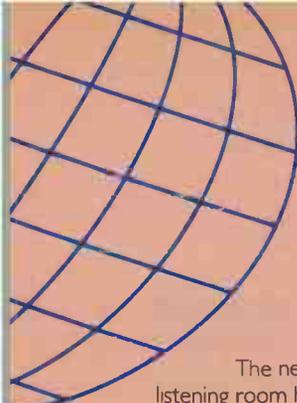
Letter of

I read with great interest that you intend to re-introduce the hobby element into your coverage of hi-fi. I very much approve of this trend. For too long now, things have been getting too serious. Half the fun in 'The Good Old Days' was the tweaking and bodging an' stuff to achieve a tiny increase (or not) in fidelity. Those of us who still build our own speakers, turntables etc. are, I trust, not a dying breed.

I spent a fascinating day with Tim de Paravicini whilst

he made a decoder (he didn't have any completed ones in stock) and tuned up my Troughline (now run on a proper aerial, you'll be pleased to know). The guy is obviously a genius, he could rebuild a Leak in his sleep. We had to pop to his home for his stereo generator and he drives the same way I do: sideways everywhere in a BMW. The people on the industrial estate looked up in horror at the shrieking tyres until they saw who it was and seemed to say "Oh, it's only Tim".

Send your letters to: Hi-Fi World Letters Page,



writes

The new listening room has been converted into an anechoic chamber - the listener being seated on a metal chair, bolted to the floor, with metal spikes supporting his buttocks and head. The next stage will be to convert the roof-area into hom loudspeakers - watch this space.....

Revd. Stephen Hudson, Littlehampton, West Sussex.

I fear that you may have gone a little over-the-top with tweaks to your system, but please keep us informed of your progress, if the concrete allows. **DB**

CD BOYCOTT

A few years ago, having decided to change the front-end my system to a single source (namely a CD) I was left with almost 200 vinyl records and nothing, once my old record deck went kaput, to play them on. In the end, I gave the albums away to a local long-stay hospital and whilst I am delighted that someone benefited from my decision to move over to CD, I set about replacing my record collection,

holding something of a grudge against the record companies.

Here was the marketing man's dream: a consumer willing, having been sold a product once, to go out and buy it again (albeit in a different format) at a grossly inflated price. It's time these people were alerted to the fact that without the consumer there would be no record industry. It is time, also, that the consumer stood his ground and delivered a short sharp slap in the face of the record companies' contemptuous arrogance.

Plan One. If W. H. Smith's are serious about their crusade to slash CD prices below £10.00, ask them to put their money where their mouth is. Let's have a 'fair-price CD week'. All chart CDs should be reduced to £9.99 for a period of seven days. The BPI and the record industry could then be presented with a set of figures demonstrating the increase in CD sales at participating retail outlets, compared with sales figures from non-participating outlets. Publicity would be important, and this is where Hi-Fi World, and indeed all other hi-fi magazines, can help. Jointly, the hi-fi journalists could publicise such a campaign. Given the current topicality of this

subject, TV coverage is sure to be attracted, thus the wider public would be alerted to the 'fair-price CD' campaign.

Plan Two. If W. H. Smith's are unwilling to get involved in such a project, we take the matter into our own hands. Together with the hi-fi magazines (whose involvement would again attract TV coverage) we'll have a 'no way we'll pay' campaign. For one week we refuse to buy CDs. It's as simple as that. Anyone caught buying a CD would be sentenced to life imprisonment in a cell with continually piped Max Bygraves records.

Plan Three. Ignore the aforementioned and anticipate the further demise of the entire record industry in favour of Nintendo.

Bryan Palmer Bakewell Derbyshire.

It looks as if the House of Commons' National Heritage Committee have beaten you to it (see CD pricing report in this issue). At last something is being done about the high price of CDs. Their 'Plan 1' has been to suggest that a price cut of at least £2 is required. That would bring full price CDs down from £14.99 to £12.99, which whilst not quite as low as you suggest or consumers would like, is at least a step in the right direction.

You are right about music buyers being a marketing man's dream, but how long will this continue? At some point, in the very near future, if record companies continue along the path they are currently following and if DCC and MD continue to offer lower quality than CD at a similarly high price the consumer is going to lose interest. Perhaps vinyl will then be the medium to go with and you will be kicking yourself for selling out. **DB**

I still enjoy buying music and notice that Our Price, the music retailing part of W.H. Smiths, has an interesting promotional scheme in its shops where new releases with promise get a short description

of their content, something I've found useful in being steered toward the Lemon Trees 'Open Book' album for example (think Beatles style harmonies and a strongly melodic content also reminiscent of them - superb!). More to the point though, they are now putting up old classic albums priced at £9.99 maximum. Last Saturday I noticed this included The Doors and The Sex Pistols which are worth every penny. I've asked Our Price to keep us informed about this, since they seem to have a positive outlook. **NK**

FINDING EXCALIBUR

I have been purchasing your fine "Hi-Fi World" audio magazine off the news stand here in the United States and love it. I plan to subscribe, but don't know what the costs would be in U.S. dollars. Inform me in your response.

I write this letter in hopes that you will print it in your "Letters" column. While working in West Germany for the Army, I travelled to good ole England to buy a turntable and finally decided on Max Townshend's "Elite Rock" turntable. This machine required a "silicon viscous damping fluid" in the turntable bearing and tonearm. Upon my return to the United States, I shipped the turntable sans fluid. To make a long story short, that fluid got lost in the mail, so I need to know where I can purchase more of this fluid, or where I can find Mr. Max Townshend these days, since I would also like to get my turntable and Excalibur tonearm upgraded if possible.

Robert Williams, Baltimore, Maryland, U.S.A.

Max Townshend has been a dedicated player in the UK hi-fi business for over a decade and his products have always been backed up by good customer service. Townshend Audio can be contacted at: Tims Boatyard, Tims Way, Staines, Middlesex TW18 3JY. Tel: 0784-455866

The Month

Great bloke, I really enjoyed the day. We played old records and it was just like old times. Thanks Tim. Your decoder is worth every penny.

Gordon Steadman, Bury St. Edmunds, Suffolk.

Anyone who's got into a car with Tim has a tale to tell. And most people don't have the courage to repeat the experience. In my case Tim got carried away explaining how he'd modified the

injectors of his diesel Fiesta and switched off the engine at 70m.p.h. to demonstrate how much performance had been improved. The car nearly stood on its nose! I was terrified by the prospect of a forty ton truck rolling straight over the top of us. Going around Huntingdon roundabouts on the door handles was mild entertainment in comparison. On a recent trip to a transformer manufacturer I carefully ushered Tim into my car. Once is enough! **NK**

64 Castellain Road, Maida Vale, London W9 1EX.

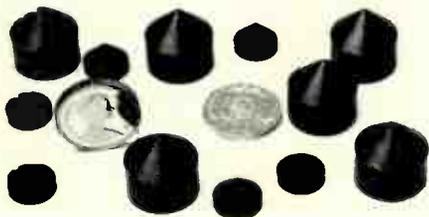
Continued on page 39...

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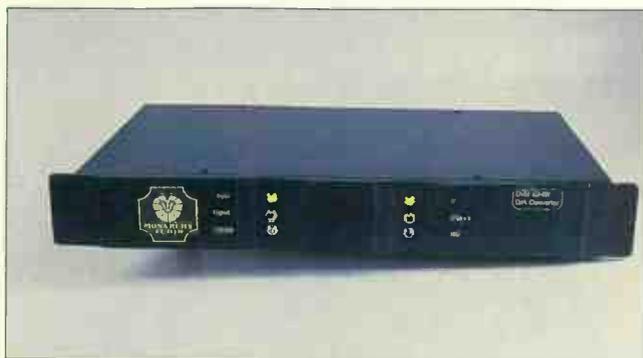
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Paul Cervantes
The Audio Observatory
November 1992

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The Inner Ear Report
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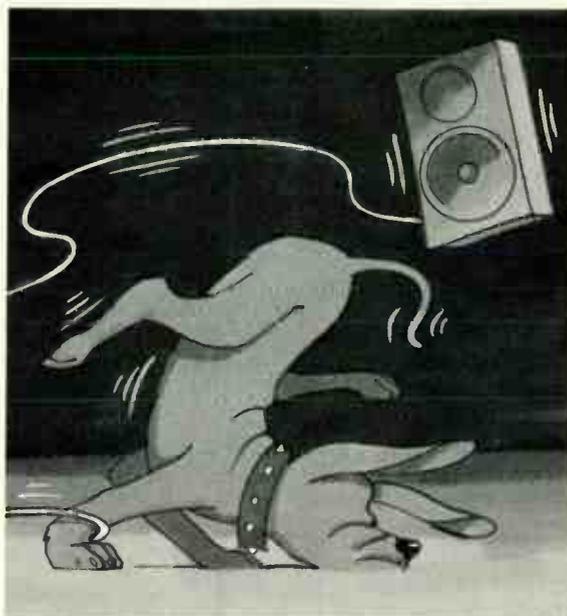
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One of our favourite budget loudspeakers, the Goodmans Maxim, has just been updated. It took us by surprise because of all Britain's loudspeakers, this one is least in need of improvement, but improve it they have. Why? Was there a problem? Yes, but not with the Maxim. Britain's oldest loudspeaker company has just metamorphosed from a trading group selling 'speakers alongside microwaves, back to its core business of loudspeakers alone. The Maxim has been re-launched as the first model of a new range.

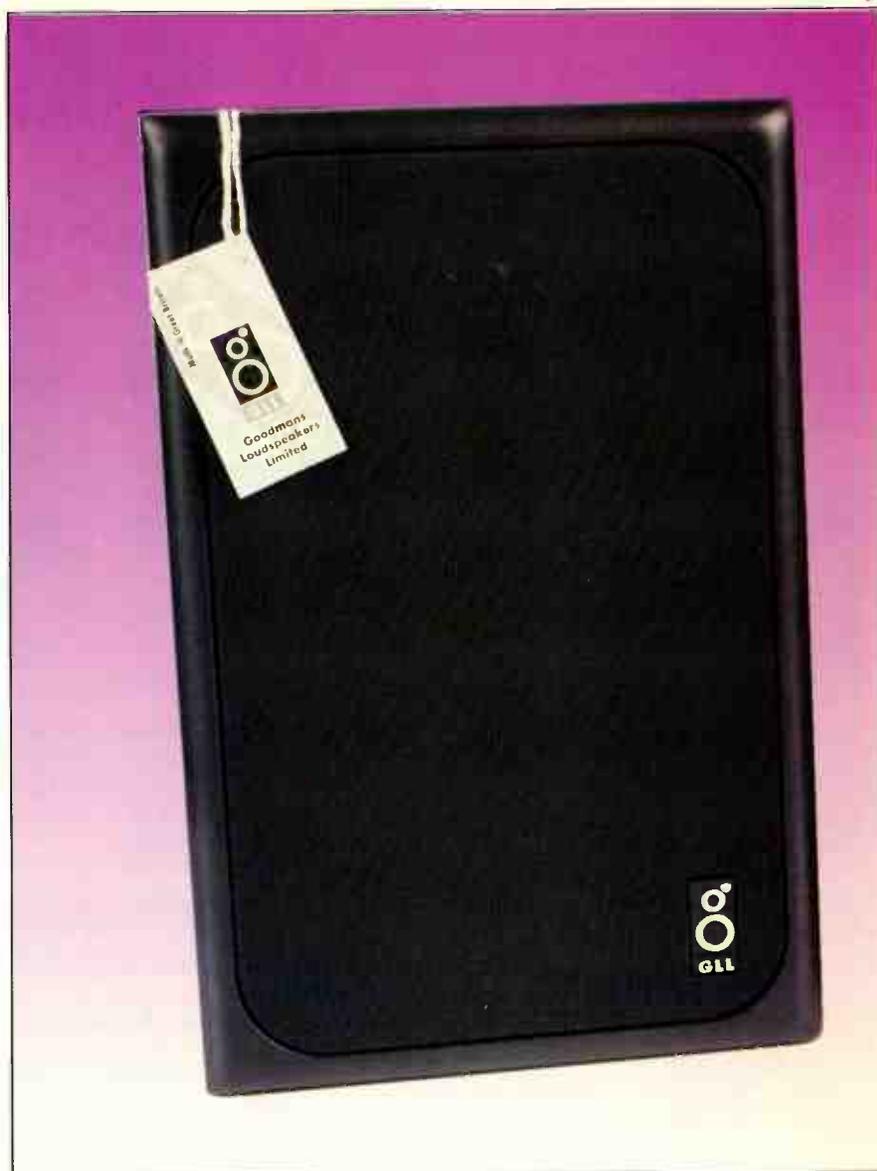
I got the impression, talking to Goodmans, that the outgoing Maxim 3 we liked so much, was submerged by being sold with rack systems imported from the East. This prevented it from receiving recognition as a high quality budget miniature in its own right. I have also noticed in the recent past that whilst current Goodmans loudspeakers displayed the same sort of exceptional value they have always done (my memory goes back to the Magister, Mezzo and - especially - the Magnum K of the Seventies), their visibility in the marketplace was poor. We tried to get review samples, but were deflected; they weren't really being marketed as stand-alone items.

Independence for the Maxim

Now the importers of microwaves and rack systems have departed, going independent as Goodmans Industries. Staying within the T.G.I. Group (Tannoy Goodmans International, who include Mordaunt Short) are Goodmans Loudspeakers Ltd, or GLL. They're no small manufacturer. Goodmans have always mass produced on a large scale. Their Havant (Portsmouth) factory has drive unit production lines upstairs and cabinet lines plus warehousing downstairs. These days, mass production applies mostly to in-car drivers, a business they share with Elac in Wales. But real hi-fi is going to be given more prominence once again.

The Maxim has always been a balanced but lively sounding little loudspeaker. The first one was designed around twenty-five years ago by Laurie Fincham (see my column this month) before he went to KEF. The second one, Maxim 2, was fast and lively, but it had a treble sting. The third, Maxim 3, was launched last year and became an instant favourite with us. It managed to combine smoothness with liveliness; it was an accurate speaker, yet an entertaining one. At around £120 that seemed almost too much to expect.

Goodmans have comprehensive test facilities and their chief engineer, Geoff Hill, also happens to be a



Maximising

Our favourite loudspeaker has just been relaunched.

proper dyed-in-the-wool hi-fi enthusiast, which is always a good sign. There's more to hi-fi than simply meeting conventional engineering criteria, such as flat frequency response, low distortion and what have you. The final assessment has to be made by listening tests, a point at which every engineer ought to be able to surrender the certainties of research to the uncertainties of listening. Being an astute and seasoned listener sharpens the perceptions and strengthens the decisions. The best hi-fi engineers are good listeners; it's an art, not a job.

The new speaker is just called Maxim. And it isn't radically different

from Maxim 3, so much as a careful development. A small degree of mid-range emphasis has been removed, giving an even flatter frequency response than before. Bass has been extended downward a little by retuning and the electrolytic capacitor in the crossover has been replaced by a film capacitor more suited to high frequency work. This is a tweak we recommended for the Maxim 3 in the December 1992 issue.

I haven't been through any description of the speaker yet, because there isn't so much to describe. The size is 270mm high, 170mm wide and 208mm deep, weight 7lbs. There's small



Quality

Noel Keywood looks for the changes.

polypropylene coned bass/mid-range unit and an aluminium dome tweeter with ferrofluid cooling and damping. The cabinet is covered with a synthetic black ash veneer and it has a port at the rear. That's it! You don't get a lot of woodwork or metalwork at this price; to work well a good budget speaker must be elegantly engineered from a few simple elements.

Goodmans recommend the Maxim is used with amplifiers rated from 20watts up to 100watts. The speaker should be used close to a rear wall in order to enhance low bass; Goodmans recommend 10-20cms. We wouldn't disagree; the

rear firing port needs some rear clearance, but used a foot or two in front of a wall, on stands, I found low bass was in short supply. The speaker should be used on rigid stands; it is of such high quality that it deserves them.

Our polypropylene capacitor tweak for the Maxim 3 made a big difference, but we felt that treble could become a little sharp at times. Goodmans concurred. Their view was that electrolytics might smooth over the treble, but this was no bad thing with coarse sounding budget amplifiers. The new Maxim lacks this defence, making it more revealing at high frequencies. I was surprised at

just how good its tweeter is listening to Peter Hammil's 'Primo on the Parapet', from the Noise album. Starting with slow deliberation, the spinet-like plucked guitar strings are well delineated, their threat fully conveyed. As Hammil moves the track upward in intensity, bringing in other instruments and raising the pace, clarity was so well maintained that amongst the swelling instrumentation a delicately struck triangle was easy to discern; positioned exactly between the speakers, it rang delicately in the background. Fine, low level resolution like this isn't a common property in budget loudspeakers. The Maxim has a good tweeter, inexpensive but effective, and free of nasties.

More Bass!

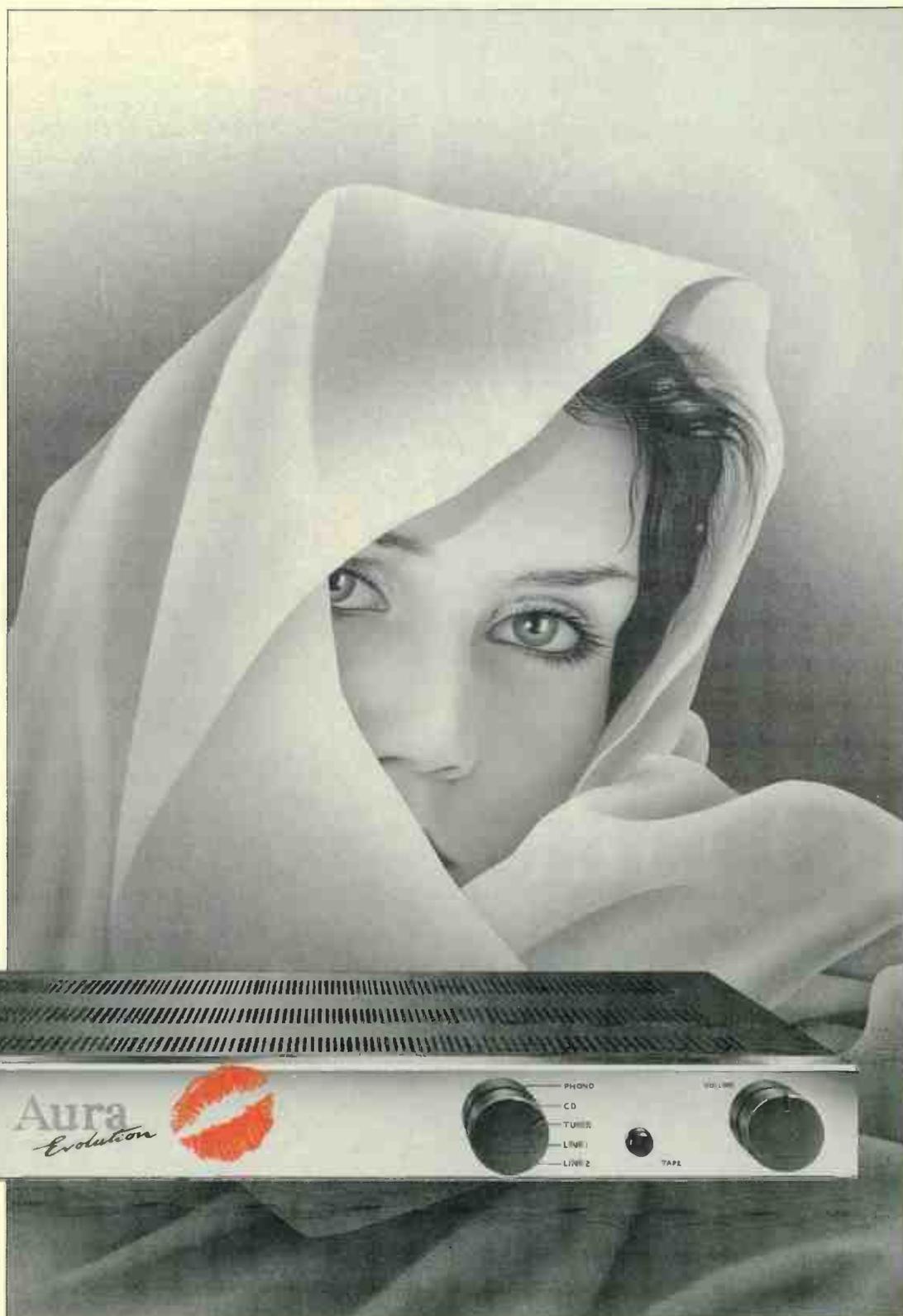
There was a discernible changeover in character from the polypropylene bass/mid-range unit to this tweeter, partly due to a small dip in the crossover region and to their differing natures - plastic and metal. Properties I hadn't noticed before were a small amount of box boom behind vocals - emphasising and overhanging the natural resonance in male vocals in particular. I wondered whether the deeper bass was gained by lessening damping and so making return-energy a little more obvious, since I don't find this phenomenon in the Maxim 3 - and we did a lot of listening and experimenting with it. It was when I disconnected our own 300B no-feedback triode valve amplifier - a very specialised beast - and connected up an Audiolab 8000C/P combination, which serve to represent good solid-state amplification, that this condition started to resolve itself. Often - but not always - the Audiolab sounds tight in the bass. In this case the 300B was tighter and deeper, especially when the Maxims were pulled away from the rear wall. With the Audiolab, which is far more representative of the sort of amplifier the Maxim will see in everyday use, the bass became softer and larger. Goodmans have loosened it to get more downward extension and in this they have succeeded, at the expense of bass quality and natural balance on vocals, especially deep male vocals. It was Scott Walker's rich tones on 'No Regrets' that gave me most regret - he really set the new Maxim humming down at low frequencies. We had our own modified Maxim 3s to hand for comparison and the differences became clear upon changing over. The old ones had less deep bass, but more control and certainly better overall balance. We clearly preferred the original balance.

There was a just-discernible but not disconcerting change of perspectives in contrast to the old Maxim,



Kiss my Aura, Dora

Frank Zappa, '74



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vocalists moving back on the sound stage slightly, the warmth of the lower mid-range becoming a little more apparent. This added some body and smoothness to the sound, but the Maxim was always a smooth and even sounding speaker, obviously free of peaks and dips and unnatural distorting emphasises, so it has just become a little smoother and easier.

After our own speaker, which has a dedicated high performance mid-

“it paints up clear stereo images between the speakers and sounds beautifully cohesive in its delivery”

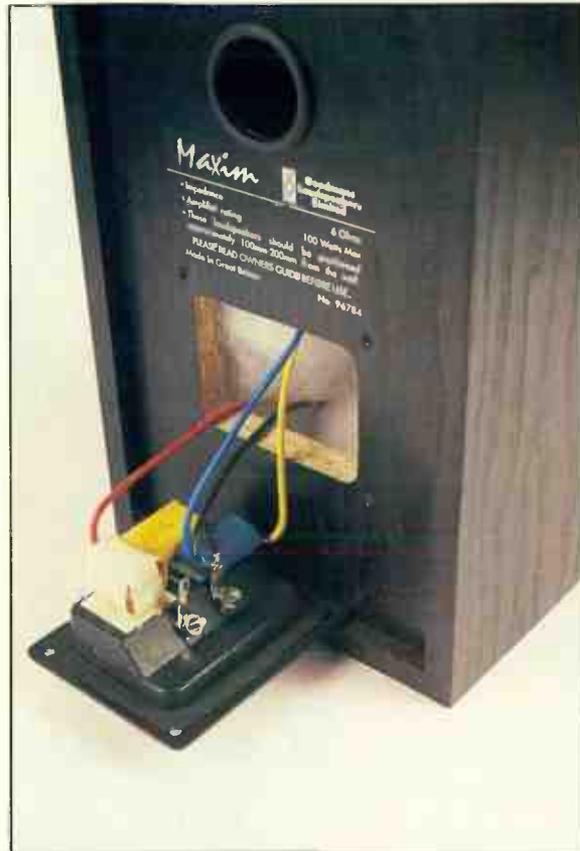
range unit that is brutally revealing, the new Maxim had a certain easiness, almost a casual air to its sound. It has become a little less challenging to listen to; vocalists have a smooth fullness to their voices that I found a little warming in effect, but then I am using monitor standard criteria here, on a speaker that costs £119.95.

Small loudspeakers can and do

give fast bass, but their upper bass is composed of harmonics and weak on fundamentals. As often as not, strong bass doubling occurs which alters timbre, transferring energy out of fundamentals and pushing it into the harmonics. The new Maxim gives deep bass, but its small drive unit struggles manfully to do this and there's little note differentiation. Deep bass of good quality just does not come from a small drive unit in a small box and no amount of conjuring will tease it out. Goodmans could well reconsider this matter.

In spite of my reservations about the new balance of the Maxim at low frequencies, and the boom that results, it's still an exceptional budget loudspeaker. In being critical, I've forgotten to mention that it paints up clear stereo images between the speakers and

sounds beautifully cohesive in its delivery; this is the benefit of being a small 'point source' loudspeaker. As budget loudspeakers go, the new Maxims continue to offer superb results, well above their price league. They remain one of Britain's best budget loudspeakers ●



◀ Note the new blue and yellow capacitors that give a much more detailed treble than the electrolytics used in the Maxim 3s.

MEASURED PERFORMANCE

The Maxims are back, not that they ever left, but this time they are aimed at the audiophile market rather than at discount, high-street chain stores. The tweeter has changed colour and they are now badged as GLL Maxims, standing for Goodmans Loudspeakers Ltd. What hasn't changed however, is their remarkably flat frequency response. The new Maxims do have a little more bass than the old '3s so they should be able to deliver some real clout.

Through the vital midrange region the Maxims are extremely flat, the tweeter integrating very smoothly with the bass/mid driver. There is a small dip between 6-8kHz where the ear is most sensitive. This ensures that any distortions such as ringing that occur within this region will be restrained rather than emphasised. Even with this taken into account the frequency response stays within 2dB limits from 125Hz up to 16kHz and is almost ruler flat for the majority of the time. This means the

Maxims will sound neutral, smooth and coherent.

Their sensitivity remains unchanged at 85dB for a nominal 1 watt input, which is about average. The new Maxim doesn't present such an easy load to an amplifier as the Maxim 3, the overall impedance being 5Ω lower, at 7Ω overall, than the original. This means that the new Maxim will demand more power from the amplifier, especially where the impedance curve dips below 5Ω. This makes it a fairly heavy load to drive, considering it will be used with budget amplifiers. However, most modern solid-state amplifiers will be more than able to provide the necessary current required for full power.

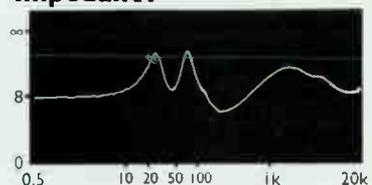
Goodmans Loudspeakers Ltd claim to have launched the new Maxim as a serious audiophile loudspeaker. In measurement terms there was little they could do to improve upon the Maxim 3, but the addition of higher quality capacitors and a little more bass extension should beef up the Maxim still further and keep the competition on its toes. **DB**

Frequency Response



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Impedance



Overall impedance of the new Maxim is lower than that of the '3s.

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HUDDERSFIELD HI FI	0484 544668
HULL	
SUPERFI	0482 24051
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SUPERFI	0532 449075
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LEICESTER HI FI	0533 539753
LIVERPOOL	
BEAVER RADIO	051 709 9898
LONDON	
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COVENT GARDEN RECORDS	071 379 7635
HI FI EXPERIENCE	071 580 3535
HI SPEK	081 349 1166
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B AND B HI FI	0628 73420
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PRACTICAL HI FI	061 839 8864
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LINTONE AUDIO	091 232 3994
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TOMORROWS STUDIOS	0925 601354
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NORWICH	
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NOTTINGHAM	
NOTTINGHAM HI FI	0602 786919
OXFORD	
AUDIO CONSULTANTS	0865 790879
PRESTON	
NORMAN AUDIO	0772 53057
PRACTICAL HI FI	0772 883958
READING	
B AND B HI FI	0734 583730
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SEVENOAKS HI FI	0732 459555
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DCC on the double



DCC is gathering pace with the arrival of Philips' second recorder, the DCC 600 and the continuing success of Marantz's DD-82. Jonathan Jordan investigates their worth.

Less than nine months ago, Philips launched their first Digital Compact Cassette recorder, the DCC 900. It became the standard bearer for this evolutionary cassette system, albeit a lone one. Now extra troops are gathering behind the flag. Such examples are the newly designed Philips DCC 600 and the two eighteen-bit recorders produced by Philips' Japanese subsidiary, Marantz.

The Marantz DD-82 and the technically similar DD-92 are distinguished by being eighteen-bit recorders, the main differences between them being appearance and the use of better output circuitry on the '92. The recorder on test, the '82, retails at £649.90 and is, I feel, more visually attractive than the original Philips recorder. It is not, however, any smaller, its height alone making it difficult to slide into the most generous slot offered by my Target equipment rack.

The connections to the DD-82 are comprehensive: it has optical and coaxial inputs and outputs, along with gold plated analogue connections. In addition to the fixed line output, there is a variable output which gives remote control volume.

Philips DCC 600 seems to have heeded the criticisms levelled at its older brother, being significantly smaller and lighter than both the DCC 900 and the DD-82. Its price is also more competitive, although £499.99 is still higher than most quality cassette decks.

"Digital tape formats are surprisingly complex to use"

Philips' model comes complete with digital and analogue coaxial inputs, but no optical connectors. This makes its use with newer Japanese CD players limited due to their use of optical outputs only. A full function remote control is also provided which gives welcome 'armchair' operation.

Digital tape formats are surprisingly complex to use. All of them require some familiarisation before tapes can be properly compiled so that the tracks are sequentially numbered and

an unbroken time code runs through the length of the tape. Both the DD-82 and DCC 600 instruction manuals help with this, but they cannot magically eliminate the innate complexity of many of the functions. It takes concentration to learn how to use these machines if every function and format the recorders can offer is fully understood; this is a problem with DAT (Digital Audio Tape) too.

Although the main functions involving playback of pre-recorded cassettes can be mastered in a matter of seconds, the more complex recording functions require several practice runs before they become familiar. For simplicity, the track numbering facility can be ignored and recordings made in similar fashion to a normal tape deck, but this will result in slower track access times.

The Philips DCC 900 (reviewed in the September 1992 issue) introduced a range of features provided by DCC. Text information gives details of the pre-recorded software; album title, the artist's name and track titles can be scrolled across the display during playback.

Then there are various inaudible markers that can be recorded onto

tape to give instructions and allow fast track access. One of them is a reverse marker. When making a recording there is invariably a blank space left at the end of one side of the cassette. As the last track finishes, a reverse marker is used to auto reverse the tape and start the second side. This provides continuous music replay, without gaps.

Track access speed of the DCC 600 and the DD-82, although satisfactory, is similar to that of conventional cassette and nowhere near the high access speeds of CD or DAT players.

Once the functions have been understood, recording with DCC is a straight-forward process. From a digital source like CD, the rigmarole



Marantz's DD-82 boasts 18 bit resolution for recordings from analogue sources.

of setting levels is removed, and even when recording from an analogue source the Marantz provides 'over' indicators that provide an easy way of accurately setting record level. The 'append' feature searches a tape for the end of the last recording. After a new recording has been made, 'Re-number' allows the tracks to be sequentially identified and marked so that direct track access and the time facilities (track time, time remaining etc) work properly.

A novel technique introduced by DCC - one that isn't entirely popular amongst purists - is the use of data compression. It removes information that is deemed unimportant to the human ear. The PASC (Precision Adaptive Sub-band Coding) system, as it is called, reduces the amount of digital data that has to be recorded so the code can fit onto an inexpensive cassette. A digital compact cassette can only store about a quarter of the digital information contained on a CD, for example, so complex processes involving psycho-acoustical theory have been developed to enable this reduction of the data to be achieved, and remain undetected by the human ear.

MARANTZ DD-82

In conjunction with Philips' engineers, Marantz have produced what they term "a further enhancement to DCC" in the DD-82. Analogue signals are digitised to eighteen-bit resolution we are told, before being recorded digitally. Most Digital Audio applications use sixteen-bit code (CD and DAT for example). The use of more bits results in more information (262,144 discrete levels compared to 65,536 for sixteen bit) being passed to the PASC data compressors. Since the purpose of PASC is to reduce this digital data so that it can fit onto ordinary cassette tape, throwing four times as much information at it seems like a curious thing to do.

I asked Marantz and Philips how this apparent contradiction was resolved, but no-one could provide a satisfactory explanation. Was the eighteen-bit word simply truncated? Did PASC have to throw a lot more information away? Does the ADC operate at eighteen bits internally but output a sixteen-bit code?

The explanations offered by Marantz left me confused, as apparently the system can accommodate 24 bit resolution! The final judgement I made was that either the eighteen-bit description is a misleading numbers trick or that the PASC system is ultimately more powerful than I initially anticipated.

Analogue Recording

Using the recorder's comprehensive recording features, I soon managed to compile seventy minutes of various types of music which were all direct copies from analogue sources. One of my first selections was 'Va Pensiero' from Verdi's Nabucco. This was reproduced with a surprising degree of warmth and mid-range clarity and I was particularly impressed by the way the Marantz managed to track the choral transients - it showed only slight strain in the upper mid-range. 'Don't Stand so Close to Me' by The Police also managed to sound suitably well proportioned and the image quality was very good, the clarity of Stewart Copland's drum kit and Sting's bass and vocals projected forwards.

The standard metaphors and expressions used to describe the sound of mediocre CD players - clinical, sterile, coarse, harsh, thin and lacking in warmth - could not be applied to this recorder's reproduction of analogue recordings. The DD-82 managed to move away from the aura of digital sound and reproduce recordings with a sound I can only describe as 'analogue'. The recorder could not quite match the clarity and precision of the originals, but only slight losses in the bass, treble focus

and transient attack of the midband served as noticeable discrepancies between the originals and the recordings.

This did not detract, however, from the pleasure of compiling my own selection of Mozart, Mussorgsky, Pink Floyd, Rachmaninov, Fleetwood Mac, David Gray, Bryan Ferry and Verdi all on one cassette.

Digital Recording

It seems that the eighteen-bit system successfully allows theory to become practice when making recordings from an analogue source. Unfortunately, direct digital transfers from CD did not match the quality of the analogue recordings. Zakiya Hooker's track 'Mean, Mean World', which she performed with her father, John Lee, had the two sets of vocals well balanced, but the guitars sounded vague and ill-defined. Likewise, the drums lost their knife edged attack and the cymbals and high hat seemed to blend into a dull "tis-tis" sound. The bass response was gutsy and powerful, the definition however, was very lazy and the timing of the notes seemed to drift slightly, causing some loss of impact.

Rachmaninov's Piano Concertos were acceptable with the piano unaccompanied, but as the orchestra entered the general character changed and it felt like a set of cushions were being pressed over my ears. The recorder did not return to the harshness of early sixteen-bit CD recorders, instead it seemed to produce a muddy, muffled and swirling sound that was smooth but simply unrefined. Billy Joel's title track from 'An Innocent Man' was relaxed, smooth and easy to listen to, but little additions like the clicking of fingers were cruelly neglected. The user-created digital recordings were not unpleasant, but instead the atmosphere and charisma of the music had been by-passed.

The soundstage seemed to reduce dramatically with digital transfers; instruments were confined to a limited area. The vision of a whole orchestra or band standing on a podium in my listening room flashed through my mind. It was almost as if the music was reduced to a fraction of its former self, like a river inhibited by a huge electronic dam which held back the majority of the music and only allowed a trickle to pass through.

DCC Playback

These problems were not apparent with pre-recorded software. My ever increasing selection of DCC albums seemed to have a very pleasant air to them. The DD-82 in particular gave an ambient rendition of Sting's new album: 'Ten Summoner's Tales'. The musical performance had panache; the Marantz managed to exhibit an

individual musical character and expression that distanced it from the Philips machine.

Interestingly enough, digital recordings prepared on the DCC 600 were also reproduced with a glowing fluidity on the Marantz. It seemed ironic that tracks recorded on the Philips recorder were not only played back with more musicality on the Marantz than on the Philips, but also sounded better than the recordings made on the DD-82. This suggests two things; firstly the Philips DCC 600 makes better digital recordings than the Marantz DD-82, and secondly that the Marantz has better output circuitry.

Analogue Playback

The DD-82 also received my approval for playback of analogue cassettes. It has Dolby B and C noise reduction and managed to perform well with all tapes. Pre-recorded tapes sounded clean and high quality recordings I prepared on a Nakamichi DR-1 were enthusiastically reproduced. Understandably, playback was not in the same league as the DR-1, but apart from a slight loss of treble definition and an emptiness in the lower registers, the Marantz performed beautifully. It was good to see that the Marantz had been designed with attention to analogue playback.

PHILIPS DCC 600

Philips, as the inventors of DCC, are understandably keen to produce a machine that promotes all the features of this medium. The first model produced, the DCC 900, was designed to match the 900 range of separates, but the design of the '600 suggests that it is aimed to blend with a component system.

The DCC 600 is also easy to use - more so than the DD-82 - as its logic functions are slightly better explained in the instruction manual. Philips' engineers also proved that their control circuitry was error free: the DCC 600 never malfunctioned whereas the DD-82 wound backwards and forwards searching for markers on a couple of occasions. Upgraded motors are also found on the DCC 600; it managed to rewind a cassette several seconds quicker than its rival. Slow winding was a problem with the original '900.

Analogue Recording

The first few analogue recordings that I made on the DCC 600 were notably different from the Marantz - the Philips gave a very heavy and powerful tint to the music. The low frequency content was boosted, with each note of the bass guitar intruding readily and lingering for longer than on the original recordings.

This powerful bass was not particularly exact; I found it could bleach out detail in the mid-range. A recording of Grace Jones' 'Pars' from the Warm Leatherette album had so much gusto and power in the bass that the vocals were overpowered, being lost under the heavy instrumentation. Not only did the bass suffer with analogue recordings, but the treble was also subject to mild truncations. The percussion was moderately close to the original vinyl recording, but a small loss of delicacy indicated that similarities between the recording and original were not being totally preserved.

The Philips DCC 600 showed no weaknesses in other areas - the soundstage was always maintained and the image only rarely suffered with more complicated orchestral pieces. Despite the minor inaccuracies, the Philips was pleasant to listen to; it has a definite level of musical competence built in.

Digital Recording

The DCC-600 turned in more inspiring results when it was given the chance to make digital recordings or transfers. Playback of these recordings was far more favourable and faithful to the originals. Problems like boomy bass did not strike me initially, but close inspection showed that it still existed, albeit to a smaller degree. The most enlightening feature of these digital recordings, compared to the Marantz, was that the arena of sound had not been shrunk to a holographic miniature of the original. I found the '600 was totally competent at making digital recordings - only with heavy classical pieces like Mahler's Symphony No 3 did it give me cause for concern. In these instances it seemed that the music was starved of nutrition and that the orchestra was not performing in total harmony.

Contemporary music, in particular Rock, gave the Philips a chance to shine: some early Dire Straits tracks seemed well proportioned with the beat happily blasting away, ample in rhythm and amplitude.

DCC Playback

With pre-recorded DCCs it was easy to sit back and enjoy the '600; its reproduction was relaxing and subtle. Only when I consciously pricked up my ears did I notice some imprecision.

A direct comparison with the Marantz showed that the recorder could be a little lacking in warmth and texture - especially when the music was rooted in the upper mid to high frequency ranges. Although the refinement of the Marantz with analogue cassettes was not matched by the '600, its overall performance impressed me.

Analogue Playback

Like the DD-82, the DCC 600 is equipped with Dolby B and C noise reduction and this function operated well with good quality cassettes. Provided that the tape was not stiff or badly spooled, the search facilities gave no cause for concern and the access of tracks worked well every time.

The faults that exist in the Philips recorder are probably partly attributable to the analogue output circuitry. The recurrent problem of poor definition in the bass and thinness in the upper mid was also detectable with analogue cassette.

CONCLUSION

The DD-82 has a long list of attributes: it offers a serious alternative to Digital Audio Tape for recording from analogue sources. There remains, however, one role that extinguishes any fire that may glow in the heart of this recorder. The DD-82 does not produce good digital copies. In theory, this should be the simplest and most effective form of recording music, but the Marantz DD-82 just couldn't give suitable resolution to these recordings. It is the one area where the Philips DCC 600 is clearly in a different category.

Perhaps it is because the PASC system has been optimised for eighteen-bit digital code - at the expense of sixteen-bit code.

The Philips DCC 600 offers a steadier performance. Its presentation with digital recordings was more accurate and musical than those



The new Philips DCC 600 is the smallest and neatest looking recorder.

offered by the Marantz, but in other areas it lacked warmth and detail. This new model undercuts the Marantz significantly in price; it's compact and visually more acceptable than the DD-82. Although the DCC 600 does not excel in any specific area, it does well overall. It can definitely be considered as a good ambassador for the new technology ●

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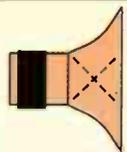
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DCC MEASURED PERFORMANCE

MEASURED PERFORMANCE

The PASC data removal system has to be tested with a music-like signal if any sensible correlation with real life performance and sound quality is to be made. After trying all available options I've settled on using pink noise, commonly used to represent music during loudspeaker testing; it sounds like strong hiss with a roaring quality to it.

The first generation player from Philips, the DCC900, possessed some peculiarities due to PASC. There's an internal bandwidth threshold within the system set at around 14kHz. Whilst high level signals are faithfully recorded right up to 20kHz, low level ones are not. Bandwidth contracts to 14kHz maximum at -30dB below full record level, for example. I checked this with Philips' chief engineer in Holland and he confirmed that my findings were correct and representative of the PASC system's true performance. The ear cannot easily hear up above 14kHz at low signal levels he told me, and what the ear cannot hear, PASC removes - permanently. That's why the word 'data compression' when applied to PASC is misleading, it's a data removal system, albeit a very sophisticated one operating on digital information.

Because a pink noise test signal must be used, third-octave analysis has to be applied, resulting in the uneven looking, block-contoured frequency response analysis seen in this report. At high recording levels (around -10dB) both the Marantz and Philips reached 20kHz; at low levels (-30dB down) both made it no higher than 14kHz. So although the data removal strategy of PASC can be constantly re-tuned for best results, Philips haven't seen fit to do this yet.

There was a difference in the distortion patterns produced by each machine. Philips' DCC 600 had higher distortion (0.04%) with harmonics lower down in the audio band; the Marantz had lower distortion (0.03%) but with a wider spread of harmonics. The analyses (-30dB signal level) clearly show these differences between the recorders. I suspect they use different convertor chips or digital filters. Distortion on the Philips DCC 600 would be a little more audible, but both match Compact Disc performance pretty closely. Each can resolve down to -90dB - right down to the noise floor.

DCC suffers more from noise than CD, but at around -90dB it's low enough to be inaudible. Both recorders were much the same in this respect. Both also gave around 2Volts output - the Philips CD standard.

I noticed that Philips have improved the motors within their transport. It has quicker fast winding and it's quieter too. I found the DCC 600 easier and more

gratifying to use than either the DCC 900 I reviewed in the September 1992 issue, or the Marantz, which also has a confusingly complex front panel. Otherwise, both these

recorders are much alike in measured performance, similar to the DCC 900 and perfectly adequate in every parameter. **NK**



Both have coaxial digital and analogue sockets, but only the Marantz has optical.

TEST RESULTS

MARANTZ DD-82

Frequency response 2Hz-21kHz

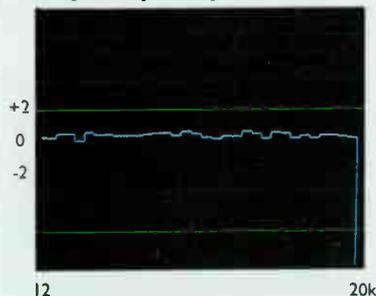
Distortion %		
-6dB	0.005	0.006
-30dB	0.025	0.03
-60dB	0.8	0.9
-90	7	8

Separation dB	left	right
1kHz	75	74

Noise -90dB

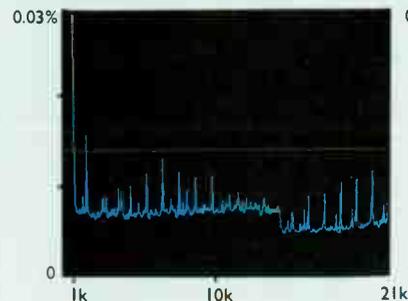
Output 2.2V

Frequency Response



At high level both the Philips and the Marantz reach 20kHz.

Distortion



PHILIPS DCC 600

Frequency response 2Hz-21kHz

Distortion %		
-6dB	0.006	0.006
-30dB	0.045	0.04
-60dB	1	1.1
-90	8	8

Separation dB	left	right
1kHz	73	74

Noise -91dB

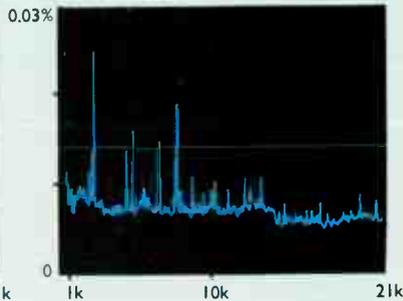
Output 2V

Frequency Response



At low level where PASC starts working, high frequency information is discarded.

Distortion



The step in the noise floor is the frequency where PASC starts to take effect.



A Graceful Statement

**Rotel's high end Michi amplifiers certainly look the part,
but Eric Braithwaite asks whether they have finesse.**

You can guarantee that any Far Eastern hi-fi with piano-laquered end-cheeks is a 'statement'. Rotel's Michi range - RHQ-10 disc stage, RHA-10 line-level pre-amp and RHB-10 power amplifier, all have high-gloss side cheeks of ripe cherry red. Along with a satin finish to the fascias and metalwork best described as

'gunmetal gold' in colour, Rotel are certainly making a highish-end statement; it's also a highish figure on a bank statement, too, adding up to three and a half grand.

While, in sonic terms, the division is perfectly even-handed, with the Michi components extremely well-balanced, no individual outshining another, all perfectly complementary, the monetary spoils are not quite as perfectly divided as Caesar's Gaul. The power amplifier, a massive and

weighty affair, surely calculated to appeal to the Krell-conscious with large heatsinks behind the cheeks, will set the purchaser back £1,550 for its two hundred watts. Suitcase-like, it has a spare set of feet so it can be

"any pain in the cheque-signing hand will certainly be soothed by the build quality"

stood on end - a neat touch. Partner it with the pre-amp and the bank manager will either smile or grimace at the price tag of £975. If you are the old-fashioned sort, like me, with groaning shelves of vinyl, the disc stage adds another £975.

While this is not entirely stratospheric, any pain in the cheque-signing hand will certainly be soothed by the build quality. The casework is exemplary, all input and output sockets (even the tonearm earthing

post on the disc stage) are gold-plated. They are even protected by rubber caps when not in use - handy if you are not bi-amping from the pre's spare pair of outputs - and the sizeable speaker binding posts on the power amplifier have transparent plastic covers, so a carelessly-dropped screwdriver won't short the inputs. Protection is

provided: when the power amplifier is switched on, a small red LED glows briefly above the red-illuminated switch to indicate it is muting to avoid switch-on thumps. The pre-amplifier is normally in standby mode; it also mutes as it's switched on, the power indicator changing from green to red. A neat touch is a red light which shows the position of the volume control: elegant and self-effacing.

Bells and whistles are there none. The fascia of the RHA-10 is sparse

enough to qualify for a minimalist composers gathering. Balance is provided by the solid dual-concentric volume control; a record-out selector switches between the sources and allows for tape-dubbing between the two decks, for which there are contiguous input and output sockets. A separate knob removes the output circuitry from the signal path for recording. Finally, the five inputs can be chosen by a rotary selection knob. Chosen, that is, by number - from one to five.

Equality

If there is sometimes an anomaly in pre-amplifiers it is that one input sounds better than another: with the Rotel, all are equal sensitivity, all equal sonically. The only thing to watch is the output-level of the disc amplifier, though, like the cartridge loading, transferable plugs can be moved around to change it. I found enough flexibility to cope with my da Capo moving-coil; only the odd ones out might phase it.

For all its beefy aspect, the Michi's forte is melody rather than machismo. It provides a spacious panorama of precise imagery and rock-solid instruments that alone justifies its price. It was endlessly fascinating hearing a tiny tinkle of a tambourine, pan-potted in three stages across The Who's 'Underture' from Tommy, or identifying a creaky stool at the end of a Melissa Etheridge track. The same was true of orchestral recordings, violins, violas, clarinets and oboes, cellos and double-basses all clearly distinguishable in tonality and presence.

Rotel have come up with a supremely graceful system. Guitars are fluid and liquid, vocals and choral works almost ethereal, the BBC's Liszt 'Via Crucis' positively inspiring. Sometimes the elegance is a little too well-laundersed: the Doors 'Riders of the Storm' being more of a Surrey Sunday canter than a wild gallop, but the weather was wonderful. I played a few tracks of storms, from the Alan Parsons Project and the beginning of Peter Gabriel's 'Sledgehammer' before I realised real rain was also coming in through the window.

Discstage and pre-amplifier have a particularly spiritual airiness which dulled the edge of Spiritualised's grunge guitar, made the opening chords of U2's Joshua Tree sound somehow almost an Introit to a church service and slackened the growing tension of the beginning of Solti's Rheingold. I was in a Romantic mood at the time; the Rotel's perfect tonal colour and delicate shading made perfect listening through one complete performance after another. I kept coming back to the more abstract pieces, intellect asking for more and more. Yet - and it's

attributable more to the pre-amplifier than the power amplifier - I found myself craving a little more excitement, a little more fingemil-biting exhilaration.

Yet, so often, this comes with other aberrations in tow: a hard treble or a forced bass. Rotel have avoided both extremes and produced

a sound of total neutrality with a smooth satin sheen like the equipment's exterior. 'Toujours la politesse' is the Michi's motto; if you value detail above dynamics and delicacy more than drummers wearing Doc Martens, this threesome could not be more ideal ●

MEASURED PERFORMANCE

The Michi power amplifier is enormously heavy, much of the weight lying in the steel of the mains transformer. The reason lies in its current capacity; a high output of 220watts is delivered into eight ohms and this nearly doubles into four ohms, giving the power amplifier real grunt. It will easily drive any load and from my experience of such amplifiers, their huge power supplies usually give them solid bass and the ability to go endlessly loud, providing the speakers can boogie with equal ability. Giant Tannoy's or such like are usually needed to absorb the output of a machine like this.

The large-area external heatsinks run quite warm even at idle so this unit is likely biased into Class A mode up to modest output. At low and high levels and at high frequencies there was little distortion, so as likely as not the Michi relies heavily on feedback to linearise its output. I measured no more than 0.008% distortion, this level being a worst case figure for high power delivery at high frequencies - always an arduous task.

All inputs have a wide bandwidth of 8Hz-72kHz. There's enough downward extension to complement Compact Disc, but the upper limit is on the high side. With high power amplifiers in particular I have some reservations about providing a lot of gain above 20kHz because of the unwanted outputs in this region both from tuners and CD.

Noise was low at -94dB, especially since the inputs are very sensitive at 150mV for full output.

The disc stage, which I measured independently, is an all-discrete design - there isn't a silicon chip in sight. Rotel have used paralleled input transistors to reduce noise, scores of voltage regulators to isolate stages, a large mains supply with screened toroidal transformer to eliminate any likelihood of hum and funny little manual bridging links to change load and gain to suit moving magnet (MM) or moving coil (MC) cartridges. Input capacitance, which measured 220pF can't be changed. Loading for MC measured 100ohms and that for MM 47kohms. The unit has enormous gain, possessing an unusually high input sensitivity of 0.45mV for MM and 0.06mV for MC, both about four times more sensitive than usual when combined with the other Michi components. The output would swing 22volts rms before overload, equivalent to 70mV and 8.5mV input overload levels for MM and MC respectively,

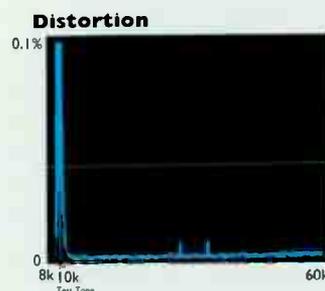
both satisfactory figures.

There was no measurable distortion (less than 0.005%) even with noise stripped away by using synchronous time averaging in the measurement process. Noise (equivalent input noise) was very low with MM and adequately low with MC; hiss will not be audible from this unit, nor hum. Both MM and MC have the same 14Hz-83kHz bandwidth. Absence of warp filtering, which at this price level should be a switchable option, means that LP users with heavy arms and/or compliant MM cartridges need to watch out for cone flap, which could well be a problem.

The Michi measured well in every area, but whilst scores of facilities are not necessary, one or two crucial ones might not have gone amiss - especially a warp filter to curtail the MM stage's bass extension if necessary. **NK**

TEST RESULTS

Power	220watts
CD/tuner/aux.	
Frequency response	8Hz-72kHz
Separation	70dB
Noise	-94dB
Distortion	0.006%
Sensitivity	150mV
dc offset	13/14mV
Disc MM	
Frequency response	14Hz-83kHz
Separation	77dB
Noise	-82.5dB
Distortion	0.005%
Sensitivity	0.45mV
Overload	70mV
Disc MC	
Frequency response	14Hz-83kHz
Separation	75dB
Noise	-75dB
Distortion	0.005%
Sensitivity	0.06mV
Overload	8.5mV



Minimal distortion most likely caused by high levels of negative feedback



American Monarch

The Monarchy Model 22A CD convertor has travelled from the shores of America.

Dominic Baker sees whether it was worth the trip.

Digital to analogue convertors that stand out from the crowd are few and far between at the moment, so to widen our search we have looked towards the shores of America, courtesy of Wollaton Audio, the importers of Monarchy Audio. The £995 Monarchy Model 22A digital to analogue convertor, or £1095 if you opt for the balanced version as we did, has a number of useful features built in, the most obvious being the 0-180 phase reversal switch on the front panel. A flick of this switch has the same effect as reversing the loudspeaker wires, which is the same as changing the absolute phase. This is useful because on some recordings a notable difference can be heard between one phase and another, suggesting the phase of the recording has been muddled somewhere along the line. It takes very little effort to provide this facility and it does have some practical use.

Two rather more important facilities that the Model 22A has are the inclusion of balanced XLR outputs and an internal shorting plug on the circuit board that can be removed to

double the output voltage. Monarchy claim the output voltage of the 22A in standard configuration to be 3V, so removing the shorting plug will bring the output level up to 6V. This does not mean that your system will go any louder with the 22A, but it does give a passive pre-amp the extra headroom that is often needed to directly drive a power amplifier to full volume. This is something that I hope we will see more of in Britain in future, due to the increasing number of first rate passive pre-amplifiers available.

Balanced operation is used mainly in the professional Public Address business where long cable runs with minimum noise are required. However, it has its advantages within a high quality domestic system as well. A truly balanced output rejects common mode interference, so a glitch picked up by the audio interconnecting cable, caused by interference from nearby mains cables for example, is cancelled out and the signal passed on undisturbed.

Audio Synthesis have just revealed their Pro Passion passive pre-amp which, with its balanced inputs and output could take full advantage of

the Model 22A's 'hi' output facility and balanced XLR outputs. Unfortunately, one was not available in time for this review, but if it is anything like as good as the standard Passion it would be well worth an audition with the Monarchy DAC.

Wiring up the Monarchy Model 22A between a Micromega transport and DPA Digital's new 200S pre/power amplifiers I found that something was missing. The Model 22A has no power switch, so I presume it is intended that the DAC is left on at all times to keep the circuits at their optimum. There are connectors for both coaxial digital and optical inputs, switched on the front panel. I quickly found the optical input preferable with the Model 22A. In my system coaxial sounded a little too hard and aggressive. The optical gave a smoother, warmer balance, but certainly not a dull one.

In fact even with the optical input this DAC could certainly not be described as soft hearted, it has a fast, lean, dry presentation that reveals the inadequacies of recordings and the coldness of a studio atmosphere. It is the kind of sound that doesn't

instantly impress, and requires careful listening before any subjective judgement can be made. This could well stand against it in the context of a demonstration, where its competitors, say Micromega's Duo Pro and Pink's Da Capo, would likely sound a little more beguiling to the ear.

The Monarchy is, however, worth further inspection. It doesn't have quite the same rich texture as the Da Capo, or the open, analytical presentation of the Duo Pro, but sits more or less in the middle. It is possibly the least noticeable DAC, nothing about it stands out, it has very little character of its own. What it does do, is reveal. The 22A doesn't cast up a soundstage larger than life, it doesn't kick you in the stomach with bass, it doesn't roll off the treble for a smoother sound. If it isn't there, it won't produce it and if it is, however unpleasant, the Monarchy will tell you about it.

A lot of modern releases these days, certainly in the world of rock and pop, can tend to sound a little thin and devoid of texture or warmth.

This is why the Crystal digital convertor chip scores with its big, soft and rich balance, which partly explains its popularity with manufacturers. The Monarchy doesn't use Crystal though, instead it uses two Burr Brown PCM63 20-bit DAC chips per channel in a complementary arrangement which is said to produce an extremely linear output. The result is a DAC that won't smooth over the rough edges of a recording: it delivers those edges hard and without disguise. For example, on P. J. Harvey's new album, *Rid of Me*, that vigorous, raw metal guitar work can really pierce the ears - great stuff if you're preparing to go out to a gig, but when you've just got in from work?

One area where caution is needed when considering the Monarchy 22A is in the treble. It is not overbright or harsh in a balanced system, but should there be a resonant ring in that metal dome tweeter, or a little distortion in that monstrous transistor amplifier you are using, it will find it, and when it does your ears will certainly know. In a balanced system

the treble is fast, delicate and well focused, sharing a common leanness and unexaggerated quality with the mid and bass.

Monarchy audio have proved to be a good find. For those who feel the Da Capo is a little rich and the Micromega Duo Pro too analytical, there is the Model 22A. And if you are a fan of passive pre-amplifiers and balanced interconnects, the 22A is one of the few DACs that will take full advantage of this kind of set up.

My summary has to be a little harsh though; I would prefer to have either the Duo Pro's breath taking clarity and space, or the depth of expression of Da Capo, than to give up both for a compromise. Harsh? Yes, because this view appears to reject the notion of balance in favour of speciality. Like many though, I enjoy being surprised by exceptional talents, even when they are confined to a narrow area, rather than to be given a polished all round performance that fails to be exceptional. But that's my view; others may prefer this new convertor's balance ●

MEASURED PERFORMANCE

Monarchy Audio are fairly new to us. Their products carry a hefty price tag and the promise of rugged American engineering; the Model 22A DAC appears to be serious stuff. Rather than opting for a Philips or Crystal chip and using a cheap output device they have decided to go for Burr Brown PCM63 DAC chips and a discrete transistor output stage. There are two 20-bit DACs per channel running in differential mode which is said to produce a very linear output; it cancels common-mode distortion. In addition the digital and analogue stages of the circuit are supplied by separate power supplies, so a serious attempt has been made to produce a high quality DAC.

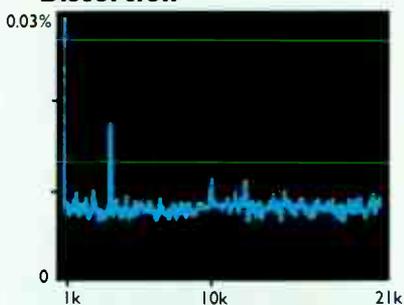
The model 22's frequency response was very flat up until around 5kHz where the treble starts to lift. The degree of this lift, unfortunately depends upon which channel you are listening to. The right channel of our sample had more high frequency lift than the left channel, which suggests that Monarchy are suffering a problem with component tolerancing. We test a lot of convertors every year and have never come across this problem before.

The distortion figures were acceptable, but the Monarchy is not the best in its class, with harmonic distortion levels two or three times that of its better rivals. Surprisingly, it is not the most linear of convertors either, considering Monarchy's claims for the co-linear circuit configuration they use. However, with noise stripped away the Monarchy 22A turned in one of the lowest distortion figures we have recently measured with a -90dB

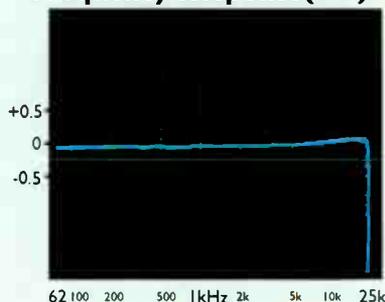
dithered signal, the 3.3% measured value is about as low as you could expect.

The output Monarchy claim to be 3V and it is possible to double this by removing an internal shorting link to help when using a passive pre-amplifier. The output of this DAC was high at 2.54V, but not quite as high a Monarchy claim. Dynamic range was a little limited, but apart from this the Model 22A measured competently in all other areas. Apart from a small problem with component tolerancing, which I suspect is causing the channel imbalance, Monarchy Audio have designed a competently engineered DAC, if not an exceptional one. **DB**

Distortion



Frequency Response(left)

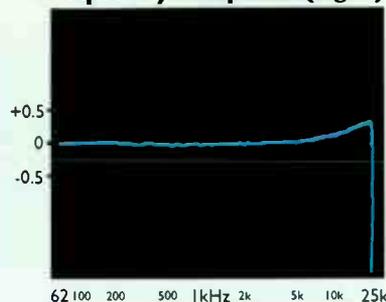


COMPACT DISC TEST RESULTS

Frequency response	4Hz-21.3kHz	
Distortion %	-6dB	0.003 0.003
	-30dB	0.017 0.009
	-60dB	0.76 0.69
	-90	33.1 30.6
	-90dB dithered	3.5 3.3
Separation dB	left	right
	1kHz	117 116
	20kHz	96 99
Noise		-96dB
	with emphasis	-97dB
Dynamic range	102dB	
Output	2.54V	

Acceptable distortion, but could be better.

Frequency Response(right)



The difference in treble lift between the two channels is probably due to component tolerance.



Sparkling Ruby

Malcolm Steward finds JPW's Ruby Loudspeakers a real gem.

It wasn't so long ago that metal dome tweeters were a novelty. Recently, however, they've become commonplace. A cynic might even suggest that they're virtually fashion accessories and that a speaker isn't desirable if it doesn't have one.

At the risk of seeming anachronistic, I have to say that I am not greatly impressed by most speakers that use them. I still find that the sound of good fabric or plastic dome tweeters falls more naturally and comfortably on the ear. However, I recognise that the better metal domes have attractive qualities - speed and detail resolution being foremost among them.

Two problems in particular afflict the metal-tweetered speakers that I don't enjoy: one is the subjective difference between the time domain response of the metal dome tweeter and that of the paper or plastic bass-mid-range driver with which it co-exists; the other is the conspicuous nature of the treble produced by many such tweeters. One of the few exceptions is the Epos ES1 I, whose timing coherence and tonal naturalness are exemplary when the speaker is partnered with appropriate amplification and source components.

It might seem like a massive oversimplification of the complexities of speaker design, but it seems logical to me that if you're using a metal-dome tweeter it might be best to use a bass-mid-range

driver fashioned from similar materials. This ought to remove some of the disparities between the units and so provide a better chance of attaining a sound that is consistent across the speaker's bandwidth. Manufacturers such as Acoustic Energy and Monitor Audio have already adopted this approach successfully, as has America's Boston Acoustics for its new Lynnfield 300L and 500L high-end models.

A new entrant into the full-metal-driver scene is Britain's JPW, a company best known for outstandingly well built budget speakers such as the Minim and Sonata. Where the price of most all-alloy diaphragm designs is comfortably removed from the budget sector, the JPW Ruby I manages to scrape in under £500 in black,

"they have a forthright, demonstrative sound"

oak, mahogany or walnut veneers. If you must have Santos rosewood there's a £60 premium. I'm not especially keen on rosewood and would be quite happy living with the oak-veneered review samples, which were exquisitely finished and looked superb.

The Ruby Is are compact, reflex-ported bookshelf speakers that JPW recommend for use in a "limited listening environment". If that mid-Atlantic verbiage means a small room then the company

will doubtless be surprised that they provided satisfactory - i.e., realistic - listening levels in a my listening environment, which is in no way limited. I always play music while I'm working and on those occasions I sit more than twenty-five feet away from the speakers.

The company supplies a four-pillar, welded stand, the £129 HSI, for the Ruby I. I didn't have a pair of these to hand and so used the speakers on Slate Audio stands instead. I find that these elegant but expensive supports have minimal inherent character and provide an exceptionally neutral support. This gives speakers that are suitably clean in the mid-range an unrivalled opportunity to disappear. Experimenting with different couplings between the speakers and stands showed

that Black-Tak was preferable to cones, spikes or Slate Audio's standard metal domes. With the speaker attached by four small

peas of Black-Tak its sound shook off a slightly intrusive edge that robbed it of a degree of naturalness and warmth with heavily processed rock tracks, Matt Johnson's Dusk being one of the discs that benefited most. However, if you favour speakers whose presentation is gentle or reserved I'd still suggest that you give the Ruby Is a miss; they have a forthright, demonstrative sound that's definitely on the ascetic, sharply etched side of cuddly, easy-going and warm.

I drove them with Naim amplification - a NAC52 pre-amplifier and NAP250 power amplifier - with my Naim CDS CD player and battery-powered, Pink Triangle-modified Linn Sondek LP12 with Naim ARO tone-arm and Audio Note lo llv and Linn Troika cartridges. Loudspeaker cabling was Naim NAC A5 and everything bar the speakers was supported by Mana Acoustics' Reference tables. This set-up complemented their scrupulous, overtly dynamic character and resulted in a sound that positively hi-jacked your attention. Even at low playback levels, you couldn't ignore the music; these could never be background music speakers.

They appreciated a longer running-in period than the five hours recommended by the manufacturer. Straight out of the box they sounded rather steely and unsubtle; as time passed their sound eased considerably.

They retained their markedly fast transient response but where music had previously been dominated by leading edge information, the remaining part of note envelopes started to come into view. After a day or two's playing-in, the sound of an acoustic guitar, for example, achieved a much improved sense of completeness; following the attack of plectrum on string, the build-up of the note as the string's vibration set the instrument resonating emerged, and the release and decay of the note envelope were more readily revealed.

The ability to portray a note's envelope in its entirety is crucial to a speaker as fast as the Ruby 1, which also has

limited bass extension. Using Black-Tak to couple the speaker to its stand proved worthwhile in this respect. The JPW's low end is fast and taut, with no overhang or bloom to fatten and enhance notes. When the speaker was cold and spike-mounted, bass guitar sounded too percussive and dry. Two days into the listening, with the speaker Black-Taked, bass guitar displayed more weight, timbre and authority. From that point onward, the Rubys started to vanish and allow the music to dominate.

What proved especially enjoyable about them, after fine-tuning their installation, was their sensitivity to

made any more obvious if the speakers had waved a red flag every time the drummer changed gear. And despite their curtailed low end extension, the Ruby 1s still managed to paint a thoroughly convincing picture of Philly Joe's kit, even when he was playing with the vigour that earned him his reputation as a tough drummer.

This track also showed another quality that the better metal dome treble units exhibit. When Jones played cymbal patterns - delicate or otherwise - the Ruby 1s followed every stick or brush stroke, tracking its dynamics accurately and revealing the slightest change in tonal colour with alacrity.

Essentially, these speakers struck me as being more music than presentation oriented, and I'll never argue against that design approach. Their presentation is nonetheless clear, clean and devoid of

intrusive colourations, but they do have a wee bit of character that won't suit all listeners tastes. While I appreciated their insight and zeal I sometimes felt a yearning for a more forgiving sound, one with a little more warmth and body. My personal feeling, as someone who has long since stopped using small speakers, and who listens at high playback levels, is that they'd benefit from a more substantial low end to balance their impressive mid-range punch and speed, which rather emphasises their bass dryness. If, however, you're better attuned to small speaker performance, listening to the Ruby 1s could prove a very enlightening and musically rewarding experience ●

"the JPW's low end is fast and taut, with no overhang or bloom to fatten and enhance notes"

rhythmic and timing nuances. They went beyond the point of simply playing in time, revealing small but significant details that highlighted the way musicians interacted during performances. With recordings such as Art Pepper's 1957 album, Art Pepper Meets the Rhythm Section, they clearly demonstrated what was so special about the union between Pepper and the band, in particular bass player, Paul Chambers and drummer, Philly Joe Jones. Even a so-so speaker tells you that this band was cooking, but the Ruby 1s tell you how and why in explicit, graphic terms. The rhythmic switches in Jones' hard but beautifully measured drumming on 'Tin Tin Deo' couldn't have been

TEST RESULTS

One of the problems of using a metal dome tweeter is its matching to a bass/mid driver. The material of the cone or dome is responsible for a lot of the character of a loudspeaker. If a metal dome is used with a paper or plastic bass/mid driver, the change of character between the two materials will be audible, a phenomenon often perceived as poor integration.

To match a metal dome tweeter a bass/mid driver should use a similar cone material. This is exactly what JPW have done with the Ruby 1. I would therefore expect them to sound cohesive and the transition from the tweeter to the bass/mid driver through the crossover region to be clean.

The frequency response plot shows that the Rubys have a reasonably well engineered response. The two drivers are smoothly integrated with no significant response dip or peak. Treble is rolled off by a few dB from 16kHz upwards which is no bad thing, helping lessen any sharpness present in digital sources. There is a dip in the lower mid/upper bass between 200-500Hz which may make them sound a little hollow or lacking in punch, but

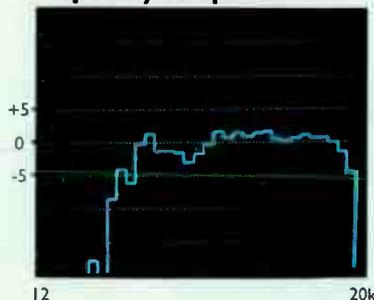
bass rises again to reach 80Hz (-6dB) in free space which will be further extended under room conditions.

The Rubys are of average sensitivity, producing 85dB sound pressure level at 1m for a 2.83V (1w nominal) input. Although this will encourage volume winding the Rubys should have good power handling; any heat generated whilst they are being driven is dissipated across the area of the metal cone. Overall impedance measured was a normal 10Ω which appears to

indicate that the Rubys will not drain too much current from the amplifier. However, the impedance curve shows that impedance does in fact dip down as low as 5Ω in places, and at these points more current will be demanded.

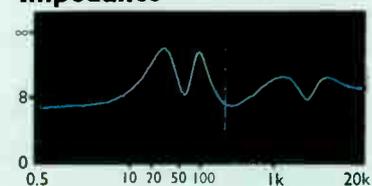
The curve itself is reasonably flat, so the Rubys should not be too reactive a load. I would suggest that solid state amplifiers of around 50 watts or so should be more than capable of driving these speakers to very respectable levels. DB

Frequency Response



The Rubys are very smooth across the mid-band.

Impedance



High overall impedance, but the curve dips down as low as 5Ω in places.



The House of Commons says:

CDS *ARE* TOO EXPENSIVE

The National Heritage Committee, after a thorough investigation into the pricing of CDs, has concluded that the price must fall by at least £2. Jonathan Jordan investigates both sides of the argument.

"This committee believes that such a reduction -£2- is the minimum that is required". That was the conclusion of the National Heritage Select Committee in its report on CD pricing. After lengthy hearings by an all-party group of MPs who formed the committee, the cost of a CD has finally been judged as excessive. Following publication of this damning report the Monopolies and Mergers Commission (MMC) are now poised to investigate in

full, the operation of the record companies.

The Select Committee held three hearings at the House of Commons during April 1993 at which evidence was given by independent and major record companies, retailers, the Consumers' Association and by the artists themselves. Over thirty witnesses offered oral evidence to the committee and there were over sixty submissions of written evidence. The committee also

visited the United States to observe their pricing policy.

Summarising, the committee noted that links between the retailers and record companies were strong. The report stated that "While the Committee found no evidence of formal or overt collusion, it considers that the major record companies and the retailers are effectively cartels, and indeed partly interlocking cartels". The committee also added that the music industry was "an

industry in which there is no serious price competition between the recording companies and there is no serious price competition between the major retailers".

Further evidence supplied by the Consumers Association suggested that import restrictions, condoned by Copyright legislation, removed an important element of competition that might help keep prices down. The Committee recommended that "the Department of Trade and Industry re-examine current legislation on copyright with particular reference to its anti-competitive effects in the recorded music industry".

These damning findings have caused earthquakes of panic within the record industry. Reactions to this judgement range from shocked disbelief to confidence that an MMC investigation will clear up the matter justly, once and for all. Record companies are blaming the retailers, the retailers are blaming the record companies and both are blaming the Select Committee for increasing consumer resistance to the purchase of CDs.

I called several major record companies in the wake of the report, but none of them were prepared to comment officially. A senior industry spokesman who wished to remain anonymous did tell me that "only a professional investigation, such as an MMC investigation, can offer an unblinkered view of the whole situation and that we (a major record company) feel that only such an investigation can silence the growing consumer dissatisfaction on what is a fair pricing practice".

A spokesman for the British Phonographic Industry (BPI) echoed this view. "Although the MMC investigation would be a drain of resources, it will at least be a level playing field on which to present our case". He added that if a £2 cut was enforced it would probably decimate the independent, or 'indy' sector of the market.

The major labels continue to claim that the price is already low and that comparisons to the U.S. market and

possible investigations into copyright are irrelevant and could prove damaging to the industry. The BPI for example, provided me with audited figures from 1990 which claimed that little more than 4% profit was being made. I also got the impression that the record companies thought the Committee's report was amateur and biased.

An A&R man for a large record label suggested that any price reduction may cause the bigger record companies to limit their investment to major acts like

"if a £2 cut was enforced it would probably decimate the independent, or 'indy' sector of the market"

David Bowie, Elton John, Tina Turner and Sting, artists guaranteed to make money - termed 'bankers' by the industry. The fear is that the already limited investment into new acts will be reduced to a minimum.

The big record companies already feel that they have had their arguments ignored and many smaller companies are concerned about the risk of being placed in

the same boat. Although the committee heard evidence from smaller labels, they are concerned that any forced cut in the price of a CD could destroy their business.

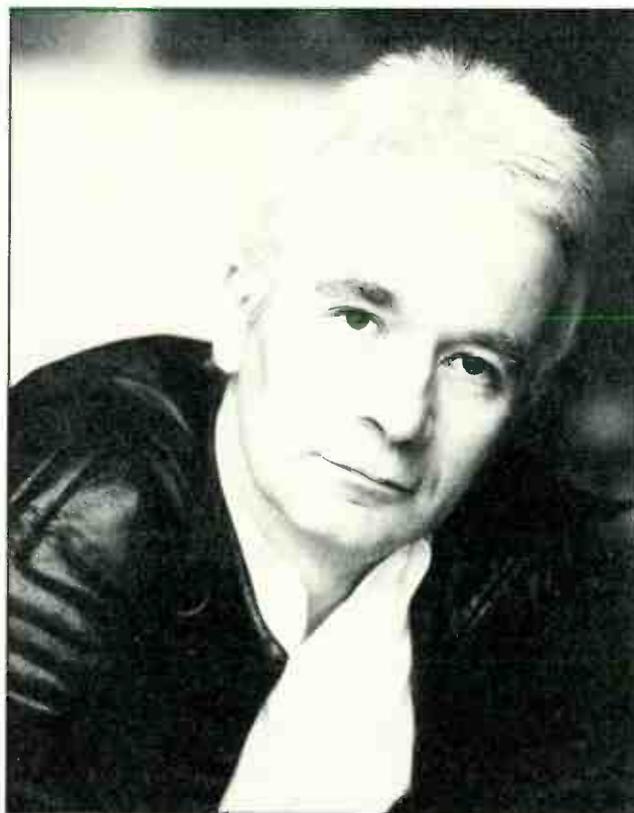
Hywel Davies, the managing director of a small specialist classical label, ASV, told us that "although our new release CDs retail for around £13, we also sell a wide range of older recordings for between £4.50 and £5". Mr Davies felt the high cost of a new release was perfectly justified as a small production run of between two and three thousand would be required and the high initial cost of making the recording had to be recouped. "The budget range", he said, "represent excellent value - but equally it is fair that new, limited recordings should carry a premium." He added that full price CDs made very little, if any profit and that the budget lines kept his company ticking over as they sold in higher volumes and the recording costs of these older titles had already been recouped. But the new material was essential to his business, because concentrating solely on the budget lines would be like running a sale all year round.

Paddy Prendegast of Grapevine records, another independent, was aggrieved at being tarred with the same brush as the majors and he told us that he thought the Select Committee judgement was "a joke". His retort to their findings was that the major record companies must have

presented their facts very badly for the suggestion of any cut - let alone a two pound cut - to be made. It could not be tolerated by companies such as his own.

He claimed that after the cost of manufacture, distribution, royalties and copyright are subtracted from the dealer price, their remaining cut was around £3, which had to cover marketing, A&R and recording costs.

According to Mr Prendegast, retailers have a better deal as they can make around £4 to £5 profit from a full price CD with little or no risk. He told us he took more risks and could barely break even. He said that "the big retailers are



Ed Bicknell, the Manager of Dire Straits

"The flurries of bad publicity dogging CD are acting as a deterrent to music purchases"

earning more at the moment for the simple reason that they do not need the record companies - they have other forms of income such as books and computer games - but the small record companies desperately need them". He also raised the view that "when people start talking manufacturing costs they should take a long look at Sega CD games - the manufacturing costs are identical but they cost a good deal more than a CD".

So where does the industry stand now? Much of it is dominated by the majors: 54% of UK retail record stores are under the control of three companies and 75% of record production is dominated by five companies. But there are still numerous small operations claiming their future business will be ruined by this judgement. If companies like EMI, who manufacture, produce, distribute and sell their products through their own HMV chain with maximum efficiency claim to make little profit, the independents must make even less, but still manage to survive.

The big companies claim that they work efficiently, but in spite of this and economies scale they still do not undercut the independents.

For their part, independent labels claim they have in the past significantly reduced dealer prices, but these reductions have not been passed on to the public.

Not all, however, feel that the record industry is as unbalanced as it has been painted: Roger Webb, the owner of Bristol Classical Discs, an independent retailer, told us that the classical selection on offer now is better than it has ever been. He sells his full price CDs for £12.99, which undercuts major retailers such as W H Smith. He feels that this is a fair balance for new recordings, but stresses that budget lines are available that offer different performances of the same titles for significantly less. He also felt that if CD dealer prices were cut, it would initially be good news for his customers as prices could be

cut to around £10, but his specialist repertoire of rare recordings could suffer due to the margins of the independents being slashed.

The Heritage Committee only reached their conclusions after hearing evidence from all parties. Ed Bicknell for example, the

of around 10,000, and even less for larger production runs, but record companies are quite happy to quote £1.50 as the cost".

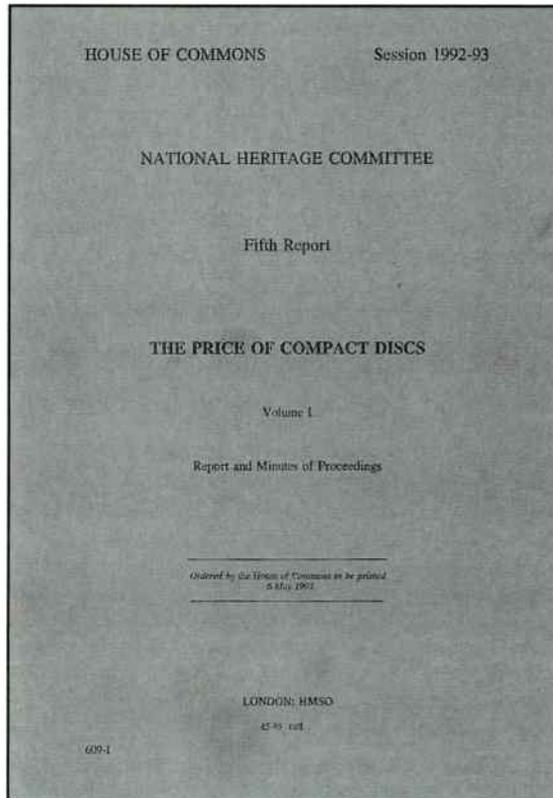
The other gripe Ed Bicknell raised was that the quoted artists royalty figure is often too high. "In 1990 the B.P.I. quoted around £1.50 as the average royalty, but in reality the average was about half this". He felt that by publishing such misleading figures, the record companies lose credibility when trying to justify their case.

Although a damning conclusion and stringent recommendations have been set out by the Select Committee, it has not really softened any attitudes in the music industry; retailers and record labels are claiming that any forced cut will bring about disastrous effects. Yet it remains a fact that on average fifteen discs per player are purchased in the U.S. compared to just under eight in the U.K; the British consumer is obviously unhappy about the price.

The flurries of bad publicity dogging CD are acting as a deterrent to music purchases. The retailers and major record companies, through greed, lack of judgement or perhaps arrogance have inadvertently produced one of the most negative public relations coups ever. Until they reasonably explain why their prices are justified, or alternatively reduce them by a suitable margin, CD sales are unlikely to pick up. The current decline in music sales must be tackled, because until it is, neither the record companies, the retailers, the performers or ultimately consumers will be either happy or prosperous ●

The National Heritage Committee fifth report on The Price of Compact Discs is available for £5.95 from:

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manager of Dire Straits, gave evidence to explain the musicians view of this situation. When I spoke to him for this report he claimed that in giving evidence he wanted to clarify certain misconceptions about the contribution an artist makes towards the cost of a CD.

Record companies are keen to give cost breakdowns but "the figures quoted are often nonsense". According to Mr. Bicknell the only factors contributing to the price of a CD that are fixed are VAT at 17.5% and the mechanical copyright at 8.52%. The rest, he claims, varies according to individual agreements and most figures that relate to who gets what are speculative. He added "artists never have and never will set the price of records, and each quoted margin is so vague that it is difficult to establish the truth. For example, manufacture of a CD, including jewel case and an eight page colour booklet can drop below fifty pence for a run

...continued from page 17

We have passed your request on to him directly, so you should have received a reply by the time this reaches print. If any of our many U.S. readers have any difficulty with parts, addresses or supply of U.K. products, we'll generally be able to help. If possible, send a fax with a U.S. fax return number. **NK**

WHAT'S IN A VALVE?

To be a proud owner of a valve-amplifier can be a double-edged pleasure. The auditive and visual excitement is, in my case, often accompanied by the gnawing thought: "It could sound even better with new valves!", which leads me to the following questions: In which connection stand valve brands with valve production plants? The number of brands is enormous, but who is still producing valves and in which countries? What does, for example, Made in USA (really) stand for? Which electrical parameters can be measured on a valve, which of these are relevant for its tonal quality and to which parameters do companies refer when they are stating that their valves are selected and matched? Why do companies not name the results of their measurements on the packaging?

Are the tonal differences between valves of different brands as great as one might suggest when comparing their prices? Which of the most common types are interchangeable and what tonal difference does it make to exchange, for example, an EL34 against a 6CA7, 6L6 or a KT77? What does it mean when it says "improved version" or "new design" etc. in connection with certain types? Do you know a case where valves of the same name/type can look different from each other (I ask on the background of personal experience)?

The experts I have talked to are blaming each other for rip-off and told me to buy only their products, but when five people tell you so at least four must be wrong. I think it would be interesting to compare valves of the same type but from different companies, especially since a new set of valves, in my case for example, can cost me up to 20% of its retail price! Maybe you can do such a test in your magazine? Many thanks for your efforts.

Markus J. Lier,
Bochum,
F.R. of Germany.

I think you've asked a few pertinent questions here. Valves are subject to a lot of flim-flam from their various suppliers and we're finding end-users are pretty critical of their properties. Here are a few snippets I've been picking up for my own purposes. I don't guarantee their accuracy (for example I believe there are no valve manufacturers in the U.K., but this isn't certain).

By common consent, Russian valves are said to be the best of those currently in manufacture. We know many amplifier manufacturers who swear by them, saying they are the most consistent, have the best performance and the longest life, but supply can be a problem. Every time there's a space shot, there's a shortage!

Legendary manufacturers are British Mullard and G.E.C., and in the U.S. Westinghouse and General Electric. These are the valves the Japanese buy at almost any price, when a batch appears that is. Typically, when an old enthusiast pops his clogs a potting shed full of rarities will come onto the market. Last month you may have seen a picture we ran of a packing crate full of U.S. Signal Corps 211s (VT-4C) abandoned war stock from 1940, found in a scrapyard, either in France or Greece, according to which version of the tale you heard.

We'll probably be testing valves in the end - things are going that way. I think we may well get a few valve hints and tips in soon. Just watch this space, as they say. **N.K.**

There are plenty of partly true rumours going around the valve market. When something says Made in the U.S.A. this refers to new valves which are old stock, made in America in the 1950s and released by the American military after twenty-five years.

When a valve is said to be matched, it means that the anode current and current gain of the two valves are similar, usually within 10% of each

other.

Selected versions are those with an acceptably high voltage gain and current gain.

Generally, if you pay more for a valve there will be a noticeable sound difference. However, it may not be worth spending many hundreds of pounds on super quality valves for a low quality amplifier.

Valves of the same name/type can have different appearances. Most valve producers changed the construction several times during the 1950s-60s and 70s, and indeed still do so today. This is partly dependent upon parts available and partly due to improvements brought about by field trials and commercial pressures.

There is nobody manufacturing audio valves in the U.K., although certain huge industrial and transmitter valves are still manufactured to special order.

We feel that Russian valves offer very good quality at a reasonable price. They seem to have very low microphony and long life. Mullard West European manufacture are probably best of all, but they are rarely available. Of the 211, Billington

SPEEDY PIONEER

If the Pioneer A-400 was a car, it would be a Mazda MX-5. Both were ecstatically received by the press some two and a half years ago (Jimmy Hughes called the A-400 the bargain of the decade and others awarded it their highest accolades), both also were not highly innovative or technologically advanced but used traditional methods of design and engineering. However, since the beginning of the decade there have been a lot of new products, and even new formats, which has led to both the A-400 and MX-5 being somewhat forgotten. Is this deservedly so in the case of the A-400?

Well, when used in conjunction with other similarly priced budget equipment you could be forgiven for wondering what all the fuss is about. It sounds like just another bright but gusty Japanese integrated. What the A-400 needs is speakers of the Ruark Swordsman's or Jamo Concert II's calibre at the very least. A Pioneer PD-S801 or Marantz CD52SEII would be the minimum required for the front end.



The Russian 5881 valve is a high quality equivalent of the 6L6

Export Ltd should have one hundred VT4C military versions arriving arriving some time in August.

Martin Billington,
Billington Export Ltd,
Billingham,
Sussex.

The Pioneer A-400 is highly critical of its partnering equipment. When used with a Cambridge CDM-3 and DAC 3, Manticore Mantra RB250 and Audio Technica OC-5, along with Celestion SL600 loudspeakers it really shone.

The phono stage is better than many have stated. On vinyl I found its sound was natural, expressive and smooth with

...continued from page 39

good depth, considering price. There was a slight smearing in the upper midrange which could make vocalists such as Mary

The A-400 is indeed a very good amplifier when used in the right context. Sadly, all too often products are overhyped and find their way into systems

disposable income in thirty seconds? Closer to reality? - I don't go to many concerts. 'Better than transistors, closed boxes, transmission lines etc?' - I don't know. The difference is a

genuinely alternative presentation which I would humbly suggest your readers try before perhaps continuing along their present path. For myself it is the easy-breathing, tactile sense of life in the music which makes the presentation downright sensual. Forty hours of listening and I still haven't bothered to move the speakers from where I first

penny. I cannot stress too much the importance of finding a good hi-fi dealer, one that is happy to let you listen to horns, transmission lines, electrostatics etc and can assess what you are after and point you in the right direction. I wish you many happy hours of listening with your new system. **DB**

GARRARD BEARING

I was surprised to read, in your article on the Garrard 401, that there is a modification to the main bearing as recommended by Martin Bastin. If I understand the editorial correctly, it implies that this modification is necessary to eliminate rumble. If this is the case it is misleading; in fact the main bearing is the least likely cause of rumble in the 301 and 401.

In my long experience with both of these motor units the cause of rumble is the intermediate wheel or the motor. Replacing the intermediate wheel will usually eliminate 90% of the problem, the remaining 10% can usually be attributed to incorrect mounting of the motor unit. In my view, the only way to completely eradicate rumble and feedback is to use a solid, heavy plinth, preferably made from dense non-resonant material such as slate or marble.

I would strongly recommend that no modification is made to the bearing. In fact, this bearing is so good that you need only



Has the Pioneer A400 been forgotten?

Black sound nasal and 'cuppy'. However this is probably as much to do with the Rega tonearm I was using as the amp itself. The lowest bass notes also lacked a little. But again this can be put down to the 82dB sensitivity of the SL600 speakers. Use of a more sensitive speaker, such as Snell, alleviates this.

On the CD input, the A-400 showed-off the qualities of the 16X16 Cambridge magnificently. The midrange was punchy and vibrant, whilst the slightly coarse treble of the CD player wasn't emphasised to an annoying degree. The soundstage had huge width, but lacked a little depth in comparison with vinyl (again a criticism of the CD player in its day). The treble became creamy smooth when the latest AMC CD player was used, but it lacked a little of the Cambridge's kick in the midrange, yet on both CD and vinyl it was difficult to analyse the performance as it was so musical and involving.

The Pioneer is still a force to be reckoned with, and in my opinion still the best amplifier at its £300 price point (£279.95), provided that its ancillaries are carefully selected. The only problem that Pioneer and Mazda now face is that the task of replacing either will be daunting, and their replacements will probably not have the same 'rightness' as the originals.

**Mr D. Todd
Scarborough
Lancs**

that are beyond them. It is here where problems arise. I have seen the A-400 partnered with thousands of pounds worth of source and loudspeakers which from my experience would sound terrible. The A-400 has a slightly plummy bass and a gusty midrange and treble which is ideally suited for budget or small size loudspeakers. When partnered with larger, exotic floorstanders which produce real low bass, the A-400 will sound sloppy and bloated. This is not the fault of the amplifier, but a fault of misguidance.

I'm glad to see that you have recognised the limitations of the A-400 as well as its qualities. **DB.**

A CONVERT TO VALVES AND HORNS

On odd occasions I audition equipment but no matter what the price it has always been 'more of the same'. Better, yes, but never enough to move me further up the 'Broke, but I've got great sounds' axis than a good budget system. Then I walked into Impulse horns wired to valves and a passive pot. Ever spent a year's

dumped them. A sure sign of satisfaction.

Thanks to Definitive Audio Cornwall. Like most enthusiasts, an evangelist, but if you have found some answers, so what. **(Name and address withheld)**

Different sounds suit different



Our own, carefully restored Garrard 401.

people. Some prefer the hard fast and dynamic sound of transistors and box loudspeakers, some the sound of electrostatics, some, like you, the sound of horns and valves. It can often take a long time to find the sound that you are after, but once you do the enjoyment is worth every

replace the thrust pad once every few years and ensure that the spindle is well oiled. Anyone who owns a Garrard would be well advised to leave well alone and concentrate on finding the correct plinth, as this will be of greatest benefit.

**Peter Soper,
Slate Audio.**

After more than 25,000 606 power amplifiers, Quad's pressure die-casting tool wore out. What hasn't eroded is demand for the £675 140W powerhouse, so the Huntingdon company has taken the opportunity to improve the insides as well as the outside.

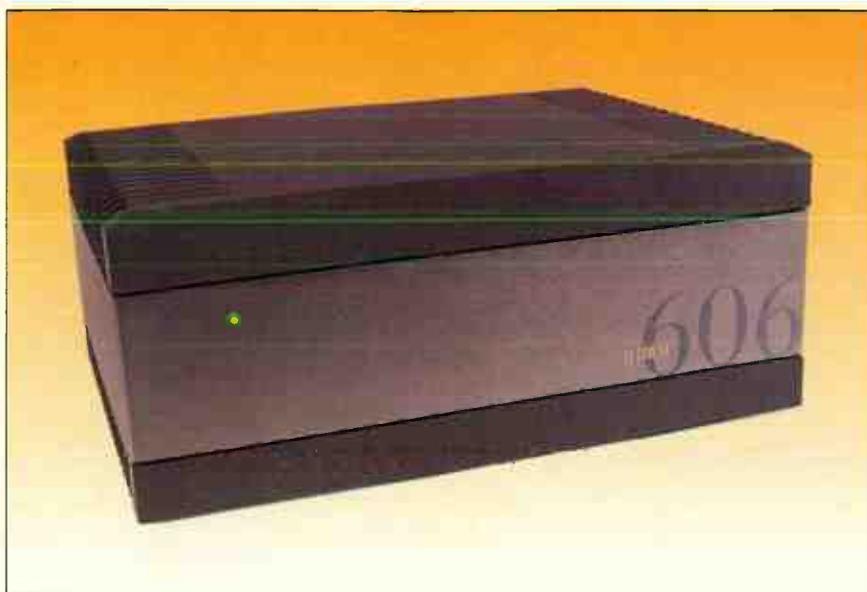
Anyone else would have called it the 'Mark II' or devised a flashy logo plastering 'Special Ultra Edition' or some such, but soap powder advertising antics are not Quad's style. At least not on the discreet bodywork of their amplifiers; their actual advertising is a different matter altogether.

Externally, the only way of recognising that a Huntingdon Aladdin has been rubbing his magic lamp over the 606 is the new heatsink casting which now has the chamfered edge look that matches the remote-control 66 pre-amplifier, 66FM tuner and 67 CD player for which the 606 is the power partner. Otherwise, nothing has changed except the quality of the finish; memory may be playing tricks, but the dark grey Nextel does look smoother and more even than on the latter-day square-ended versions.

The rear panel hasn't altered, alas. Yes, recessing it so that none of the connection sockets project is a good idea. No, those binding-posts are not, because it's still fiddly to poke even my elegant fingers around them to make bare-wire speaker connections. The hell with it, I used two sets of slim Ortofon speaker cable wired to one pair of banana plugs to bi-wire speakers with - so can you.

What has been done internally is fairly simple: the original C-core transformer has been replaced by a 500VA toroidal. The other change has been to the power supply: the four reservoir capacitors have been upgraded. This doesn't seem much; but one effect is that Quad reckoned the new 606 has had its bass extended a little further: the bass quality and its relatively early roll-off were always of doubtful merit in the original. In terms of quality, there has indeed been a slight but noticeable change for the better here, with the bass line on REM's Automatic for the People more coherent, firmer and bigger.

The 'new' 606 certainly appears to be beefier, sharing the more forward projection that's been developed in the 66FM tuner, pre-amp and 67 CD player. The revised power amp has an extra string of guts, a little more muscular



Quad 606 Update

Eric Braithwaite listens to Quad's revised 606 power amplifier

development in the torso. Imaging is tighter, too, and the stage broader; driving ESL-63s I always preferred the 306, finding the 606's fuzzier edges of individual instruments and singers detracting from its superb tonal clarity in the mid-range. It's especially good - then and now - on vocals and acoustic instruments, vide Elvis Costello's Juliet Letters, which through lesser equipment sounds more of a pastiche.

Acoustics in general come over well; listening to Martin Best's Nimbus recording of Riquier, he was truthfully well back in Nimbus's reverberant and hollow-sounding hall, and so were some of his players. There's a great bass drum thwack at the beginning of that CD which should shock you out of your seat, but it wasn't really sharp and quick enough. At a similar price, I've heard an LFD Powerstage do it with more spine-chilling attack. On the other hand, the 606 has a warmer, less analytical, but less clinical style.

Quad's older 606 had more of an affinity with BBC-type loudspeaker

designs, I've often felt. Mark Two really scored with a pair of Harbeth HL-P3s, which are pathetically inefficient and horribly hungry for current. Listening to the Mauceri/EMI recording of Showboat again reminded me what a superb theatrical recording it is, the 606 now imaging precisely, reproducing the life, characterisations and ambience perfectly.

The tighter the input, the tighter the 606 becomes; switching to a very clean Micromega Duo CD.2/Duo Pro combination as source produced a very clear, and reasonably transparent sound, though with some lack of true, fine discrimination between orchestral sections. Only one warning: it's designed with Quad's own pre-amps in mind. Others, like the Argo I used, have a higher output which will blow your socks off before the volume control even approaches 9 o'clock.

New, improved - even ecologically friendly, because Quad use non-toxic paint - the 606 now washes that bit whiter, to be better value. At £5 a watt (or fifty a kilo) it's a bargain●

MEASURED PERFORMANCE

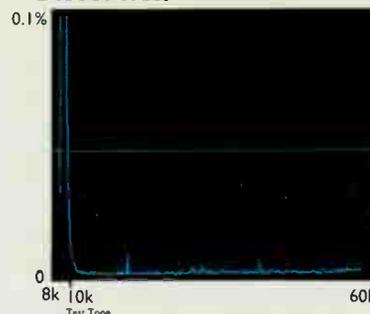
The new Quad 606 measures very much as it did before. There is a little distortion at low levels but certainly not enough to worry about. It still produces masses of power, 128watts, for its size and price, the power nearly doubling into 4Ω, showing excellent power supply regulation. But Quad have continued to use current limiting which limits output into 2Ω loads.

In all other areas the new 606 measures very competently. It should be able to drive any loudspeaker except those dipping below 3Ω.

AMPLIFIER TEST RESULTS

Power	128watts
CD/tuner/aux.	
Frequency response	8Hz-37kHz
Separation	87dB
Noise	-98dB
Distortion 1kHz	0.004%
Sensitivity	480mV
dc offset	0.3mV

Distortion



A small amount of distortion.

Chances are, you won't have heard of Laurie Fincham, yet you may be listening to him now. You'd join a lot of others - in fact anyone who had ever bought or listened to a KEF loudspeaker (not to mention Goodmans). You see, Laurie Fincham joined KEF, as chief engineer 25 years ago and was quickly made Technical Director. He has designed, or has overseen the design of all their loudspeakers. He helped build up KEF in conjunction with its founder Raymond Cooke, he's written influential research papers about loudspeakers, lectured around the world and has all but become Mr Loudspeaker (UK) Ltd. So I was more than a little surprised to learn that now, after all these years, Laurie is off to the U.S. of A. To be precise, he's joining Infinity Loudspeakers in California.

Laurie's departure brings to an end a phase in British loudspeaker manufacturing. For me it possesses a certain symbolism. KEF are credited with helping popularise the small, quality loudspeaker in the U.K., but they have always been advocates of research-based development, spending disproportionately large sums in this area. Some may argue that in fact they concentrated a little too much on theory and as a result suffered commercially.

KEF into the world-respected name it is today. Whilst other companies may have put almost as much into research, few have been so energetic for so long in demonstrating and sharing its benefits. The names Cooke and Fincham have already become imprinted into the history of the audio industry as great contributors to the art of loudspeaker design, people who researched sensibly to move loudspeaker design firmly ahead.

In retrospect, there was in the early Seventies a sudden surge in the research applied to U.K. speakers. The three big names behind this were KEF, Wharfedale and B&W, all of whom moved enthusiastically into laser interferometry, delayed resonance testing and the use of heavy computing power. This brought a degree of measurement and analysis to loudspeaker research not seen or surpassed anywhere around the world. KEF installed an impressive Hewlett Packard Fast Fourier Transform analyser that took up a whole room, filling it with steel cabinets, hooded monitor screens and huge spinning tape reels. It looked like part of NASA's space research programme.

It put KEF at the forefront of loudspeaker research and Laurie Fincham helped cement this image by



Reflections from Noel Keywood kaleidoscope

loudspeaker research, held at quite some expense and effort at a Park Lane hotel in Central London. Those lectures were packed; no-one became 'ill' or had more pressing engagements. The KEF lecture was a high point, made that way not so much by the generosity of the event, but by its worthy nature and informational content.

Whilst sometimes becoming a little exasperated by some journalist's refusal to completely acquiesce to their way of seeing things (understandable when you're dealing with the stubbornly critical like - er - myself!), KEF did everything possible to try and raise the general level of awareness and discussion about loudspeaker technology in Britain. It took two strong, single-minded and determined people to do this; Laurie Fincham was one of them.

So Laurie's departure is a symbolic end to an era. Yes, loudspeakers are more heavily researched than ever in Britain, but he was instrumental in ensuring that this should be so. Laurie set standards and

pursued them unflinchingly. I knew I could always 'phone him to get any question I had about loudspeakers answered intelligently, and he was willing to debate topics vigorously in a way that many at the top of their profession are not.

This has had a valuable long term influence - one I'm well acquainted with. Roundly berated for being equipped with no more than an "Avo with a bent needle" (Raymond Cooke, circa 1978!), KEF have cajoled technical reviewers such as myself into doing better. I've felt obliged to reach a high

standard of competency before being able to justly review a KEF loudspeaker. But in this KEF have been helpful. Now we use a Fast Fourier Transform (FFT) analyser to measure loudspeakers, plus a very accurate B&K measuring microphone, and KEF have in the past verified the accuracy of our measurements and have given us every assistance - as they still do. Our kit loudspeaker has a ruler flat frequency response, because that's the standard that has been set, indirectly, by KEF. I'm still amazed that imported loudspeakers commonly have wild measured characteristics, but then they come from KEF-free zones. I accede to the need for a good measured performance being prerequisite to achieving a high standard of sound quality. Laurie Fincham has helped to explain why this is important and how it can be achieved.

So goodbye Laurie Fincham! KEF's 'opening phase', one that has lasted twenty odd years, fuelled by your efforts, has now ended. Many of us have listened to your loudspeakers - and to your lectures as well. I think we're all wiser and better off for it ●



Laurie Fincham (left) discussing panel resonance during one of those memorable yearly lectures by KEF.

But let's look at the other side of the coin for a moment.

Raymond Cooke and Laurie Fincham were two single-minded and determined engineers who believed unswervingly in producing a well researched, quality product. That's the basis on which they built

lecturing widely and producing learned Audio Engineering Society papers. These in effect passed on what KEF had learned to others and, if there is one feature of the company that has set them apart, it has been this attitude. I'll always remember their yearly lectures on

If I told you I had an idea for an upgrade which would revitalise your entire record and CD collection, would you be interested? If I told you that this upgrade would alert you to previously hidden subtle shades of orchestral colour and detail so that you would notice small string figurations and nuances of woodwind writing which you had previously missed, might you be prepared to dig deep into your pockets to buy it? Furthermore, if I told you that my suggested upgrade can be bought gradually - a few pounds at a time, would you believe me? Well I believe there is such an upgrade. It works just as well with a top-end, Class A, triode-valve, mortgage-busting system as with a more modest set-up. It's called 'following the musical score'. Already I sense your questions and protestations!

Conductors read scores and that requires a knowledge of harmony, rhythm and counterpoint and orchestration as well as the history of music. Following a score is much easier. Anyone can do it with little more than a memory of secondary-school music. Following a score only requires being a spectator, not a sportsman. For instance, I can follow and enjoy a game of world-class cricket but I couldn't play in it - I couldn't even commentate on it, but it's not a closed book to me. So



the graph by a system of clefs which denote over which pitches the five lines and spaces range but the basic idea is simple. Things are also slightly obscured by the fact that music editors insist on denoting each of the instruments by their Italian names. Figure 1 shows a page from Bela Bartok's Concerto for Orchestra which I've marked-up to remove some of the obscurity. I hope this will help get you started.

The excerpt is from the third movement Elegia. The

recorded message

Left by Richard Brice

"That's not for the likes of me, that's for the likes of a Mackerras, a Solti, a Levine"

I hear you say. No, that's not true. There's a world of difference between following a score and reading a score.

it is with following an orchestral score. Sure, you'll need to know a few of the rules, but you can pick those up as you go along and there are plenty of good, popular

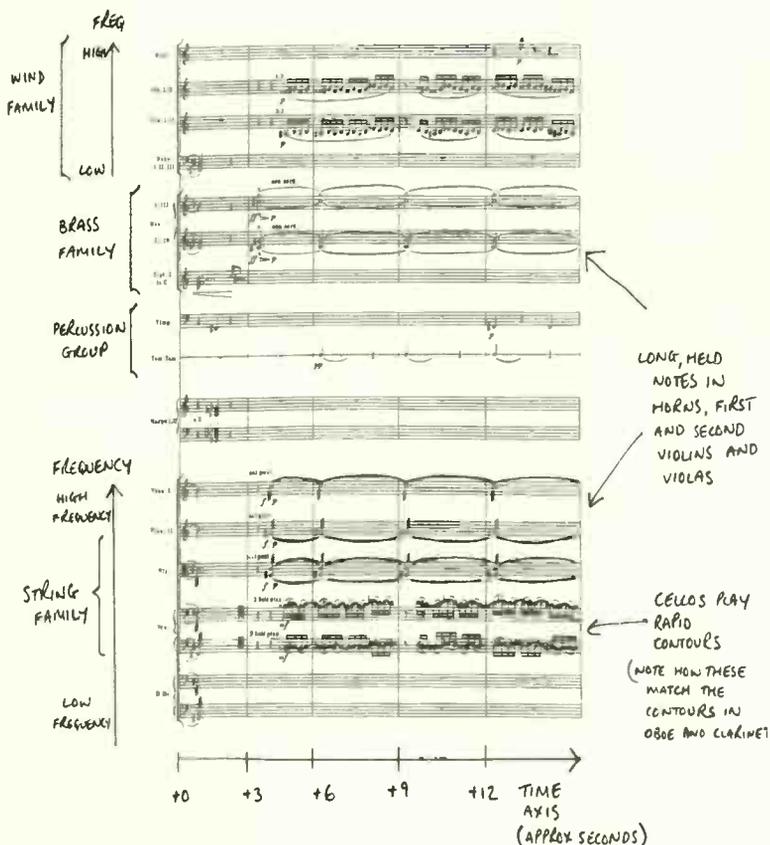
books on basic music theory.

In fact, anyone who can understand a graph can understand enough to follow written music. For all its funny squiggles and Italian terms, music is a straightforward, graphic description of frequency against time. Time is on the X-axis (horizontal), and is regularly divided into convenient units called bars. Following good mathematical convention, time flows from the left-hand side of the page to the right-hand side of the page. Frequency - on the Y axis (vertical) - is similarly divided into specific pitches denoted by five lines and the gaps between the lines.

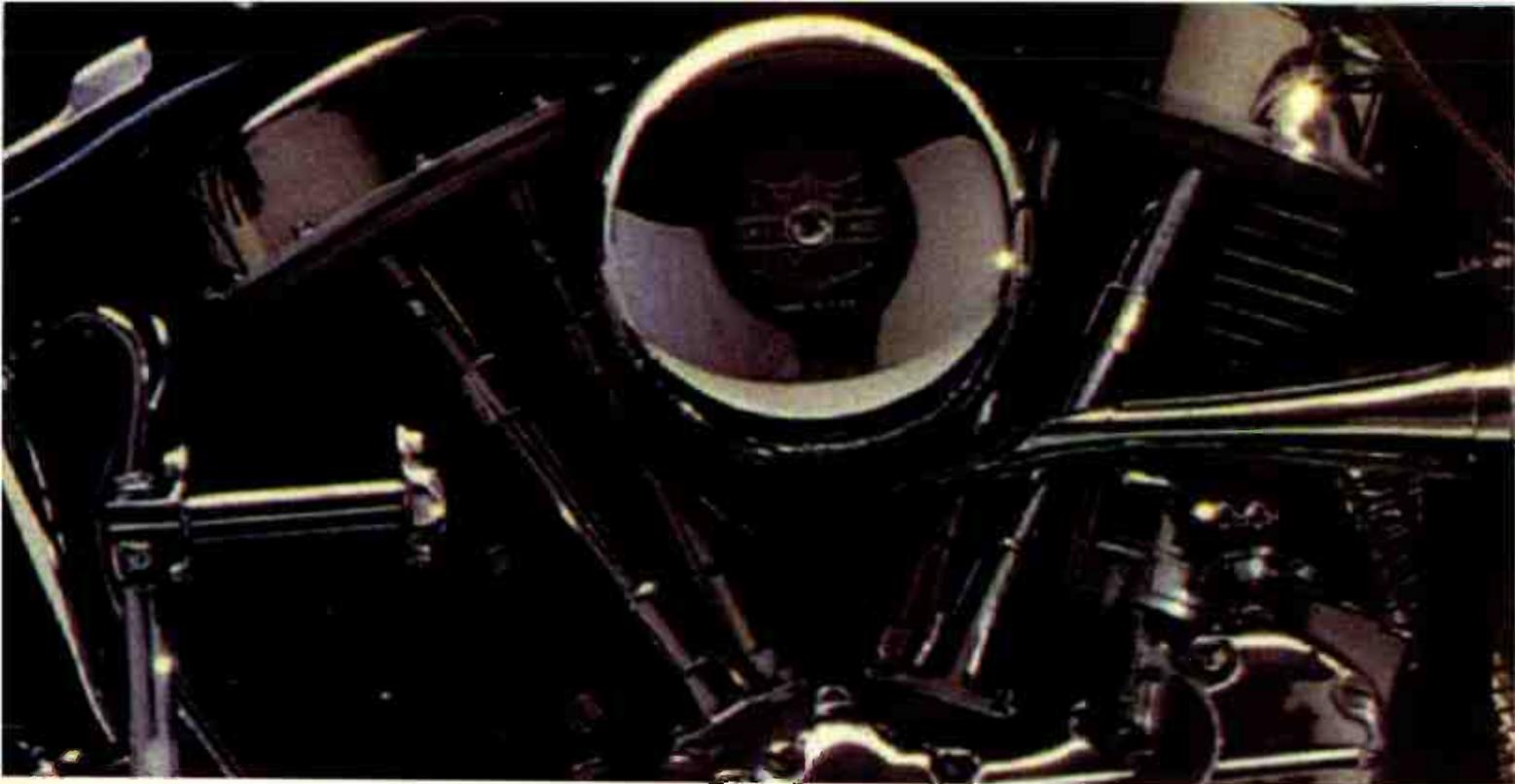
movement is mostly in 3/4, or waltz, time and is marked "Andante, non troppo" which means at a moderate pace. A few things to look out for are the instruction by the violin and viola parts to play "sul pont". This is short for sul ponticello which means to bow the string near the bridge. This sets the string into a complex motion with lots of high, odd harmonics. It produces a thin, metallic sound. (Sul ponticello is the no-feedback pentode sound of string playing!). Also notice how the horns are told to play "con sord", meaning with mutes. This produces a soft, distant bell-like quality. Do you really think you could have heard all that without looking at the score?

"OK, so how do I get hold of orchestral scores?"

I'm very lucky, I grew up in a musical home with a sister who became a music teacher so we always had music about the place. But it isn't difficult to get hold of. Most good music shops have a good selection of the Eulenburg Miniature Scores and/or the Hawkes Pocket Scores. They're not exactly cheap - the pocket score of a



Because piccolos play very high notes and double-basses play very low notes its necessary to slightly complicate



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big symphony will cost about £10 - but these editions represent the best value. And there's a cheaper option still. My upgrade is available on a free home-trial basis because most public libraries have a selection of scores. So, if you want to dabble, that's the best place to start.

"Doesn't all this score-following distract from the act of listening?"

I believe the answer is no, not unless you have exceptional powers of auditory concentration. Psychologists know humans receive 80 percent of our sensory input from our eyes - that doesn't leave much for the ears alone. Add to that worries of the office, fatigue, next-door's television and upgrade-it-is and I'm sure you'll know how easy it is for the mind to wander when listening to the hi-fi. Following a score helps concentrate the mind on listening.

"All this sounds like so much musical snobbery"

I'm not being a snob. There is, of course, a very good place for music as an aid to woolgathering. It's nonsense to suggest as some superior people do that not a single note should pass you by without the full force of your mind being brought to bear on it. Music is so rich an artform, and so important to our lives, because it fulfils such a myriad of roles. It functions as both a pleasant anodyne and as a stimulant - an opiate and an amphetamine. Perhaps (you play your games and I'll play mine) even as an aphrodisiac. But then you don't always have to follow the score, only do it on those occasions when you want to concentrate on the music.

"So, how and where do I start?"

Buy or borrow the score of one of your favourite CDs. Start by simply following the contours of the melody with the contours of the notes on the page. The golden rule always is to remember what you're doing is for enjoyment. Nothing kills enthusiasm like a sense of failure. If you get lost - and you will get lost - don't worry about it. Go on a few pages and pick it up when the music catches you up. Failing that, skip the CD player back! Above all, don't get disheartened; like anything that's worth achieving, score-following is worth a little work and disappointment. I've written in these pages before about the perils and rewards of home-built hi-fi. By comparison, the perils of disappointment of a few skirmishes with printed music pale into insignificance. By comparison, the rewards may be much greater! ●

A woman walks into a police station and says "my car is missing". The officer on duty quips "that'll be your spark plugs probably, madam". This old chestnut sprang to mind recently when I visited my local hi-fi dealer and commented on the sound of a large loudspeaker. The bass seemed a little heavy and when commenting thus, was told "we can carry it to the car for you".

Don't start fretting. This isn't going to be an all-out anti sexist column this month. I just want to open a few minds to the matter of unfair treatment to 'wimmin' customers rather than those closely linked to the industry.

Hi-fi is to be enjoyed by all and should be aimed at males and females alike. As is the case with budget and sometimes mid-range hi-fi, a little more could be done by this industry to encourage the female population to appreciate and indeed start raving about upper-midrange-verging-on-the-esoteric equipment.

O.K., so most of my friends wouldn't know what a valve was, even if I said "Hello Shaz, this is a valve". But that isn't necessarily their fault or the industry's. When someone, like myself, shows a fairly high level of interest and technical knowledge regarding hi-fi equipment, they shouldn't be made to feel like an oddity or, worse, be misconstrued and poked fun at.

This is a generalisation but not an exaggeration. Whilst many manufacturers and distributors are fair and see everyone, regardless of their sex, as potential and serious customers, there are those that don't. I've taken to showing off just lately, wearing my Hi-Fi World T-Shirt and strutting along the Edgware Road like I know a thing or two (well enough to get by). It is amazing the reaction I get. Especially when I say I'm the new Editor (just kidding Noel!).

Not every woman owns a Hi-Fi World T-Shirt (Although they could...see our mail order on page 75). This doesn't really solve the overall problem anyway. So what is the solution?

Here's a short term one. I have compiled a short list of do's and don'ts for the more condescending manufacturers and distributors to take note of:

1. Don't say "Is it for your husband / boyfriend / brother when your female customer asks for information on a more esoteric level.
2. Don't blind them with a whole lot of technical jargon, as this can

Tongue in



TWEAK

By Caroline Knott

(You can 'phone her on 071 266 0969, but don't blame us if she makes you book an advertisement for the privilege!)

dissuade your customer, or more likely send them to sleep on the spot.

3. Do listen to your customer and what they have to say without flashing the all knowing smile which basically says "and what do you know anyway, lady?"

4. Don't talk down or use over simplistic terms like "The sound comes out of those. They're called speakers. You get two."

5. Do act courteously if a slip up is made. Pointing out the error to your colleagues in a shop full of customers, whilst roaring with hearty mirth will not put your customer at ease.

6. Finally, remember which sex have the better hearing anyway. Goodmans will back me up there.

Basically, you've got to watch out for anorak clad females. There are more than you think and although some women wouldn't know what to say when you ask them why they think their new speakers sound hollow, there are one or two who might just say "It strikes me that the crossover is responsible for an upper mid-range suck-out. What do you think?" ●

There is a part of this magazine that you have probably never read before, and if you haven't yet, you're unlikely to. It is the part that tells you not what a piece of hi-fi sounds like, or what finish it is offered in, but more importantly, whether it will work with your system. Because of the title we have given it, or what that title suggests that you will be inflicted with, it is overlooked by most readers. It seems as if it is an area that most of the British public, and a certain number of manufacturers, are scared of. Something inexplicable, imaginary or at least beyond the comprehension of any normal human being.

TEST RESULTS

Puzzled? Want to know more? So do we. That is why we choose to measure every piece of hi-fi that we review. For years now battles have raged about the significance of measured test results. One side claim that there is no link between a good sound and a particular set of measured results and believe that all that is necessary is a subjective analysis. The other side would respond "how can it possibly sound good if it doesn't have a flat frequency response and low distortion?" As is the case with most arguments, I believe the true answer lies somewhere in-between. An accurate subjective analysis can not be achieved without measurement, but measurement is not adequate on its own.

One very good example of this is the combination of a valve amplifier with a loudspeaker. A valve amplifier could very easily be dammed if the loudspeaker used with it was not selected specifically for its compatibility with valve amplifiers. The impedance curve of a loudspeaker describes what kind of load the 'speaker will present to an amplifier at a particular frequency. The lower the impedance at that given frequency, the more current is demanded from the amplifier. The output voltage of the amplifier falls to meet the current demand, affecting frequency response. For a loudspeaker to

work well with a valve amplifier, it needs to have a reasonably flat impedance curve that, ideally, should match the stated output impedance - usually four and eight ohms.

Whilst evaluating a valve amplifier recently, I slung a pair of loudspeakers into the system that had a big impedance dip in the treble. The system sounded terrible, the amplifier couldn't drive the loudspeakers at high frequencies and sounded dull and compressed as a result. In this case the subjective analysis would not have been favourable, but

by measuring the amplifier I knew that it had a flat frequency response and was not to blame for the dull sound. Changing the loudspeakers to ones with a flatter, higher impedance curve brought about a complete change, the conclusion being that it was one of the best amplifiers I had ever heard.

The Measured Performance section of a review is, amongst other things, about system matching and can point you in a direction that will give better sound quality and balance than blindly wiring one piece of hi-fi to another. No piece of hi-fi equipment is perfect; all items have a character to their sound, some more so than others. If you couple a CD player with treble lift and distortion to an amplifier also producing high frequency distortion and a loudspeaker using a metal dome tweeter having a raised response, the system will sound harsh and aggressive, to say the least. If each piece of equipment was reviewed separately in a soft, warm sounding system, all could quite easily come out with



upper treble, one will cancel out the other, the net result being a system with an accurate frequency balance.

Another reason why we choose to measure everything that we review is that the results can quickly tell us whether the designer knows what he is doing, or whether it was a fluke that his product sounded good. You may say that it doesn't matter that it was a fluke as long as the end result is satisfying. But, if he has made mistakes in one area, he could well have done so in others. For example, using under-rated components

Dominic Baker dB on the level

'rave' reviews. And it is quite possible that each component may be a class leader in a suitable system. But without the guidance offered by measured performance, you would not know this and could quite easily waste a great deal of money on a poorly matched system.

At the other end of the frequency scale imagine the combination of a Nakamichi cassette deck, Pioneer A400 amplifier and a pair of floorstanding KEF107s. All three products are excellent in their own right, but all are also renowned for their strong bass. The result would be a system that sounded bloated and lacked control in the bass.

As I mentioned earlier, no hi-fi is perfect. But, a near ideal balance can be achieved by carefully matching quality components. If you particularly like a CD player for its resolution of detail and tonal colour, but it has a raised treble making it a little bright, it isn't a problem. As long as the amplifier you choose does not exhibit excessive distortion and your loudspeaker has rolled off

which would compromise reliability, or consistency from one batch to another.

I hope that this has explained and justified the reasons why we measure equipment, and why you should read the results. It can be a little daunting to be confronted with technical talk, but we do try and keep explanations jargon free and provide understandable conclusions. If you don't understand anything, you can write in and ask and I will do my level best to explain in simple terms.

Many of the problems that you write in with when your system sounds too bright, too dull or lacking in other areas could have been avoided with careful selection based upon a combination of subjective analysis and measured performance. You can never know too much about something that you are about to spend your hard earned cash on. It is well worth trying to understand the results because a wider knowledge of the product and its likely reaction in your system could save you a lot of money in the long run ●

Have you ever wondered how hi-fi equipment emerges from the deep recesses of someone's mind, onto the drawing board, into production and then your home? Ever thought about the choices of sonic characteristics which are involved? There's not one item in the hi-fi chain untouched by the philosophies of those who design and market the products you own.

Which way forward

To my mind, one of the biggest conundrums in hi-fi is the rift between opposing philosophies. There are systems which offer a well-balanced, natural sound quality and those, on the other hand, which have excellent timing, sound dynamic and play 'tunes'. For example, it is quite feasible to produce a loudspeaker which bops along nicely when listening to rock music and yet sound horribly wrong when listening to anything recorded naturally, such as classical music.

Conversely, it is possible to design a loudspeaker which sounds very natural and well integrated, tonally correct, with excellent stereo imagery and depth, which is bland and uninteresting with all types of music. It would be a mistake, in my view, to label hi-fi either 'suitable for rock' or 'suitable for classical', but that is often what happens. Reproducing rhythm and emotion are just as important for classical as for music produced in a modern studio.

The designer of the first system outlined above may tell you that it doesn't matter if the sound it makes is tonally unnatural, because it's the tune which is vital. Considerations like naturalness, good stereo and a sense of space and depth are 'unimportant' to him. The designer of the second system may tell you that the designer of the first is talking absolute rubbish, doesn't know or understand what real music, with real instruments sounds like, that his is correct because it is tonally right - and that is all that matters.

So who is right? Who is

the guardian of the true and only way? Twenty or thirty odd years ago the second of the two philosophies was held to be correct with unshaken determination and belief. Anything else would have been heresy. Then in the mid 70s an alternative philosophy grew in strength, offering a new solution, a new 'answer'. Gradually the 'correctness' of this new philosophy, which exalts the playing of tunes and the tapping of feet, giving them greatest priority, took hold as the one true way and became firmly rooted.

But is the 'new' truth any



Speaking Out

Dave Berriman voices his opinion

more valid than the old? Does it hold all the answers. Has it brought perfection? The answer, of course, is that it has not, so much as introduced a new route to the same apparent goal. This 'new' philosophy is arguably now as firmly entrenched as the one before, and is strongest in its birthplace - the U.K.

My own, perhaps simplistic view, is that the ideal hi-fi system should satisfy all requirements simultaneously. It should offer a natural portrayal for lovers of classical and acoustic instruments, while having excellent rhythm, timing and dynamic shading - the sort of characteristics which allow the pulse and emotion to flow in all sorts of music.

To achieve all these aims in one package is difficult, but it is surely better than trying to perfect one aspect at the expense of all the others. I am not saying that hearing tunes or rhythms is not important: they are plainly vital, since without them music would lose all meaning. What I am saying is that surely there is more to music than these alone.

A recent experience demonstrated to me how a designer or marketing manager typically decides on the sound of the product he is to build or sell. With a

loudspeaker one can start with the same drive units and achieve opposite results, simply by adjusting the crossover. In a speaker I was working on, the simplest crossover you could possibly imagine gave the most dynamic, punchy sound, with a touch of crudeness and brightness thrown in. The speaker fairly 'leapt out' and was most impressive. Increasing crossover complexity slightly gave a much more natural sound balance in which subtle musical information became more audible, but at the expense of punch. A more complex network still, while sounding better on complex vocals, took away much of the drive and dynamics.

This was not a new discovery, and is something I have experienced many times before. In the commercial world, a choice has to be made. The middle option was the most musically informative and would seem to be the best overall compromise. It should surely be the one to choose, certainly for long-term enjoyment.

But wait: the shops like a punchy 'foot-tapping' sound to sell. The punchy sounding product is exciting, has fewer parts in it and is cheaper to make, and there's likely to be more profit too,

so why not choose this option?

That's the kind of decision which is probably being made by many manufacturers for 'marketing reasons'. Yet after the purchaser has been impressed in the shop and gets it home, what then? In truth he or she may not notice what's missing and when the next purchase is due, the same procedure will be gone through again and a sale made.

Alternatively, the buyer could simply tire of this impressive but inaccurate loudspeaker and listen less and less. Any loudspeaker with a natural balance,

perhaps slightly less sensitive, which does not leap out, is at a disadvantage in the shop. So the tendency towards immediacy and away from naturalness is bound to continue - at least at the bottom of the market.

Something even handed, which does not excel in one area but does all things pretty well may be the answer.

The danger is, that may be seen as neither one thing or the other, a kind of wishy-washy Lib Dem compromise and therefore a non-starter. Without wishing to shoot my argument in the metaphorical foot, I sense that this trend has already started, with divergent British sound philosophies creeping towards some kind of consensus. This is often less to do with fidelity and music than marketing.

Is this what people want? The danger of course, is that in trying to appeal to everyone, the product ends up bland and unappealing - rather like those modern cars which are as boring to look at, as they are to drive. I'm weary of impressive hi-fi, but don't want to be bored by it. I want my emotions to be stirred, but not my guts wrenched. I want my body to sway to the true sound of music - and I don't want it to cost a fortune. I hope others do too ●



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The Audio Synthesis Passion is a passive pre-amplifier designed for use between a line level source, such as a CD player, and a power amplifier. The advent of high output line level sources has made the use of passive attenuators a popular alternative to the active or powered pre-amplifier.

The passive pre-amp is basically an attenuator. The output of a CD player is high enough, when fed directly into a power amplifier to produce full power output. So the signal from the CD player needs no gain, only attenuation. The Passion achieves this via a 31 step switch which selects pairs of resistors that are used to divide the signal, giving 31 selectable output levels. The signal you listen to only goes through one pair of resistors and high quality bulk foil types are used for maximum quality.

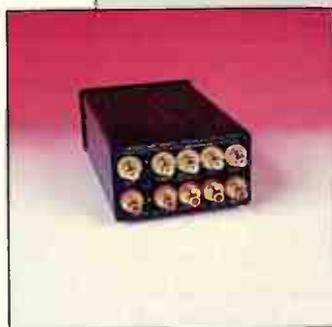
Two Forms

Audio Synthesis offer the Passion attenuator in two forms. Like all their products, it can be bought ready built or in kit form, offering a £145 saving over the completed version's £475 price tag. Also available is a kit version using standard gold plated phonos rather than costly WBTs; this is available for £275. The kit comes with everything required to complete the

Passion, apart from a soldering iron, and it offers a relatively simple project for the DIY audiophile to get to grips with.

The Passion uses high quality Vishay bulk foil resistors, silver cable, WBT input and output sockets and silver alloy switches, all of which adds up to a very high specification. The casework is very well finished and looks extremely smart with its high gloss black rounded front panel. The Passion has two controls on the fascia, one for the stepped attenuator volume control and one to select the inputs. It has three inputs, plus one labelled mute/direct. This corresponds to the tape output or direct input socket on the rear, into which the record leads of a cassette deck can be connected, or any source that you may wish to play at full output. With a cassette deck, or with nothing connected to these sockets, I found that selecting them served as a useful mute position.

The main disadvantage with passive attenuators is the resistor-capacitor filter they form with the output cable to the power amplifier. Every cable has a capacitance, normally quoted in picofarads per meter length of cable. This capacitance is in parallel with the input of the power amplifier, forming a filter



Pure Passion

The Audio Synthesis Passion pre-amplifier

takes simplicity to the limit.

Dominic Baker appreciates its purity.

with the resistance of the Passion which rolls off the treble response. Because of this, short cable lengths have to be used, say no more than 1m to be on the safe side, and the last few steps of the volume control should be avoided.

I tried the Passion with a large variety of power amplifiers. Cable used was a 3/4m length of DPA Digital's Black Slink which has a very low capacitance and the new 'First' graphite interconnect from van den Hul. Some care is required when using the Passion because some power amps may not be sensitive enough to get to full output from an un-amplified line level source. I am now a bit lost for what to say next. Having listened to the Passion

extensively I have come to the conclusion that if suitable precautions with cable and power amplifier matching are observed, then it has about as much influence on the sound as the cable you are using. It does tend to add a slight hardness to the sound, a metallic sort of quality, but this is so minor that it is hardly worth mentioning.

It simply adds no character of its own to the music even at positions close to full volume (the straight through position). With the short length of Black Slink or van den Hul I was using, the treble roll off was unnoticeable. It seems a lot of money to pay for something that has no sound, but after all, this is the ultimate aim of high fidelity! ●

The new Sony ST-S211 tuner has been tuned into the U.K. sound.

Dave Berriman uses British ears to assess Sony's claim.



SONY TUNE IN

No doubt spurred on by the success of companies such as Rotel and latterly Pioneer, who have adopted a policy of designing for the UK, Sony have been selecting key models for 'UK Sound' treatment. This involves either tweaking existing equipment, or designing specifically for U.K. ears. Quite why the rest of the world is not deemed worthy of special treatment is not clear, but we are apparently a notoriously finicky lot. Surprisingly, we like our hi-fi to sound, well, er, rather like music!

Sony's ST-211 is a true digital synthesiser tuner (not a normal tuner with a digital display) and thus offers very stable, accurate tuning. It falls into the 'tweaked for UK ears' category, with input from both Sony's British staff and European design engineers. (What they do to the tuner is not revealed.) Outwardly, it looks much like any other tuner, with a black, gently sculpted metal front panel, digital display, various buttons, and a rotary tuning control. The tuner's other main claim to fame is its station naming system. This is a kind of poor man's RDS, in which the user programs in the station's four-character identification, to be displayed in alpha-numeric form on the clear blue digital display.

The tuner covers FM and AM on medium and long wave, has 30 user-programmable presets and the usual auto/manual tuning and preset scanning (it hops from one preset station to the next).

When I received the tuner there were no instructions, so I had no idea of how to program station names into the memory. I had assumed it would be cumbersome - like programming a VCR for next Thursday week. The reality couldn't be more different. Once the station is tuned in and entered as a preset station, you simply push the character button, spin the tuning

knob (which doubles up its function) until the character is shown at the flashing cursor in the display, push the character button again and repeat for each character.

As with tuning, the rotary action enables very rapid selection, so the whole process can be completed very quickly. When the station identification is done,

MEASURED PERFORMANCE

Like most modern tuners, Sony's new ST-S211 has a ruler flat frequency response. However, as with CD players, tuners invariably display a basic sonic character determined by quite fine variations in response balance. In this case, the complete absence of treble lift and a slight roll down in output above 8kHz is likely to ensure the ST-S211 has a slightly mellow or even soft sound; I'd not expect it to sound hard or bright for example.

The basic response characteristic is good as current tuner technology goes, especially in light of the fact that a high rejection MPX filter rolls off output rapidly above 15kHz to notch out the 19kHz pilot tone, which could otherwise cause Dolby to mistrack when recording. Both pilot at 19kHz and sub-carrier at 38kHz were almost completely absent, so the ST-S211 has a clean output.

Distortion was a little higher on left and right channels than on sum and difference

signals, a slightly peculiar state of affairs. However, at 0.2% overall, comprising mainly second harmonic (shown in the analysis), I wouldn't expect distortion to colour or degrade sound quality. What was a little disturbing was this tuner's sensitivity to pilot tone phase. Channel separation and output level varied more than usual with even small changes in phase. This will make the tuner sensitive to factory set-up accuracy and to transmitted pilot tone phase.

Good sensitivity allowed hiss to reach a minimum of -70dB with just 0.6µV from the aerial. That's a relatively low signal level to give what is termed 'full quieting', allowing the tuner to give good results from an aerial with a few elements, unless very distant from a transmitter. Most modern tuners manage -72dB, so the ST-S211 isn't as quiet as many, but I know from experience that at -70dB hiss will barely be audible even during extended Radio 3 silences.

The standard IHF sensitivity figures, which give the signal needed for hissy reception

down. With this tuner you can whizz up and down the 'dial' to locate a station of known frequency very quickly. It's much more ergonomic than a pair of cold unyielding buttons. It will also auto-scan when switched to this mode - just a quick flick of the knob to left or right initiates station search. The knob turns smoothly and, like the black brushed metal front panel, has a nice solid feel to it.

"I enjoyed excellent low-noise interference-free reception"

So what about performance and sound quality? After locking on to and committing the strongest FM transmissions to the tuner's memory, listening commenced. Radio 3, all the way from Wrotham, some 63 miles distant and on a humble 4-element aerial illuminated all ten bars of the display (i.e. at least $320\mu\text{V}$) but as the test results on the signal-strength meter show, there was no way of me knowing how near the aerial signal was to the $600\mu\text{V}$ required for full quieting. Despite this unknown quantity, I enjoyed excellent low-noise interference-free reception of this BBC station and others which fully filled the display. A higher aerial signal may well have reduced noise a tad, but I wasn't aware of any, other than that of the programme source.

Tuning into weaker stations did provide noisier reception, as you'd expect, with those half-filling the display noticeably hissy, but those which almost made the top of the scale sounding quite acceptable. Sound quality when listening to classical music in FM stereo (BBC Radio3) was very good, with a sense of depth and space with clean highs, free of the bright edginess which is so often the hallmark of cheap tuners. Bass from this tuner is good,

firm and weighty. By comparison, a typical budget tuner sounded lifeless, flat and two dimensional with the kind of artificial clarity which comes with a sharp and bright treble.

Though not a great fan of medium wave, I conducted some listening on this waveband too, using the compact loop antenna provided.

This indicated quite a reasonable perform-

ance, a good sound balance (apart from the total lack of treble in the broadcasts) and little interference. Considering the limitations of A.M. reception I had nothing to complain about here.

Returning to the FM performance, I'm not saying the ST-S211 is in the very top class, but it is very good. I could (and did) listen to it for hours on end enjoying every minute, and had no urge to swap it for something better. When I commenced listening I had no idea of the Sony's cost. When analysing sound quality I had assumed a higher price, with the delights of proper rotary tuning and station identification thrown in as benefits. When I learned it was the bottom of the range and costs just £130, I was pleasantly surprised. All in all, a very good budget tuner, which can be highly recommended from sonic and ergonomic viewpoints. Pity about the signal-strength display, though, just make sure the signal at least fills up all the bars for a good noise performance ●



pressing MEMORY records this on a bit of silicon chip deep in the bowels of the tuner. It can then be switched to show either the tuned frequency, or station identification (e.g. BBC2, BBC3, etc.) automatically, provided it is selected by a station memory push-button. You may think it's a gimmick, but I can never remember which frequency is which station. With this system, once you've programmed the data in, it's obvious at a glance. You can switch the signal strength meter and other display areas off, to leave just the station name or frequency, and even dull the display to look more discrete.

The rotary tuning knob is also a delight. I loath those push buttons which make you wait while the tuner scans up or

(-50dB hiss level) were also good, if not exceptional. Selectivity was very high at 80dB overall, meaning powerful stations won't break through into weak ones even when they are close.

I was as disappointed as ever with the signal strength meter, since Japanese manufacturers use them to mislead, rather than inform. It has no less than ten segments, which gives it enormous resolution, yet Sony have squandered its potential to accurately display a wide range of signal strengths by engineering the maximum to be just $320\mu\text{V}$. This makes it unable to show when optimum performance (full quieting) is reached at $600\mu\text{V}$, nor when overload (10-50mV) is likely. Instead it gives the impression that enough signal is available when it is in truth too weak for best results, rather negating the hi-fi rationale.

Sony's new ST-S211 measures well. I was very disappointed that the signal strength indicator, as usual, was largely there for cosmetic purposes. Otherwise it offers a competent performance in all areas. **NK**

TUNER TEST RESULTS

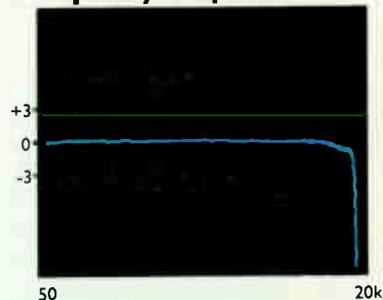
Frequency response	4Hz-13kHz
Stereo separation	40dB
Distortion (50% mod.)	0.2%
Hiss (CCIR)	-70dB
Signal for minimum hiss	0.6mV
Selectivity (at 0.4MHz)	80dB
Sensitivity	
mono	1.6 μV
stereo	25 μV
selectivity	80dB

Signal Strength meter

Segment	level (μV)	Segment	level
1	3	6	100
2	6	7	125
3	25	8	160
4	50	9	200
5	80	10	320

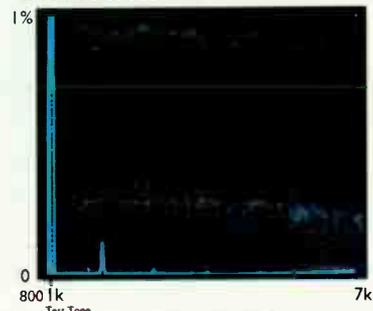


Frequency Response

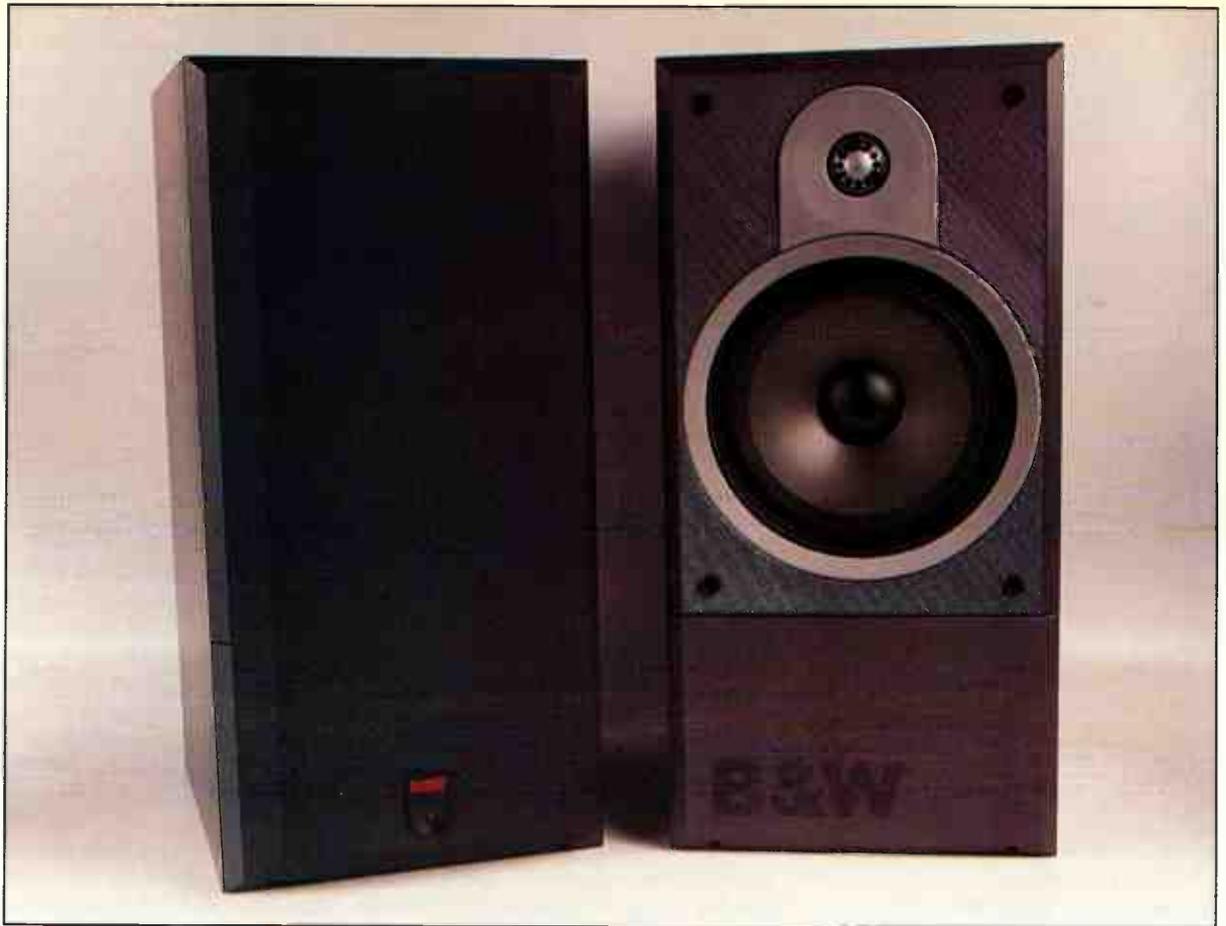


Low distortion of 0.2%

Distortion



Slight treble roll off. ▶



Looking for *Inspiration*

B & W have just updated their DM 610 loudspeaker.

Dominic Todd listens for improvements.

Competent, but never inspirational. That was the general view of the previous B&W DM 610. Despite its qualities it never lived up to its smaller brother, the '600. However, fundamentally it was not a bad speaker. With the improved version B&W set about rectifying the main failing of the original - notably, a lack of driver integration and a slight colouration and clumsiness, which didn't lend the speaker to classical music.

"Improved" versions seem to be in vogue at the moment. There are SEs, LEs and Mark IIs, but B&W so far seem to have a monopoly on the suffix "improved". Whilst the improvements aren't extensive they do at

least tackle one of the weakest areas of the previous '610, notably the crossover. This is now hard wired and should lead to better driver integration and less system dependence, according to B&W. There are also nickel plated, high purity copper shorting links. The rest stays as before - an eight inch polypropylene woofer, one inch metal dome tweeter, bi-wirable crossover and a rather lightweight chipboard cabinet with stylish moulded baffle. This makes the price rise of forty pounds to £239.95 seem a little steep. However, B&W will no doubt say it also has something to do with the devaluation of the pound.

With likely partnering components in mind, I auditioned the speakers

with a Pioneer A-300X amplifier and sources in the form of a Marantz CD52SE MkII and Systemdeck IIX900 with Moth arm. Although the Aura and Rotel amps work well with most B&W speakers, I felt the '610s needed something a little more incisive and revealing. The Cyrus One has always worked well with them, but because it has been discontinued I opted for the similarly detailed and coherent A-300X. The CD player and turntable I also felt gave the speakers a chance to shine, as they are both noted for their accuracy, fine imagery and high resolution of detail. At the same time neither would ruthlessly expose and exaggerate any flaws in the speakers.

"the strong bass had plenty of depth and surprising detail"

To test the speaker's limits I used Lumley Reference monoblocks and pre-amp, combined with a Sonographe CD player. They're out of keeping with the speaker's likely partners, but necessary to reveal any otherwise hidden virtues. The speakers aren't too fussy about positioning, but I found they worked best on low, open stands about 6"-12" into a room. After the '610s had been well run in, I started listening with the A-300X and CD52 MkII. At this point it is worth pointing out that the sound still benefits from the speakers being bi-wired, despite the improved linking pins.

On "Spanish Jack" by Willy De Ville the warm blue/rock atmosphere seemed accurately portrayed. The strong bass had plenty of depth and surprising detail, and the mid and top frequencies seemed to integrate well. The whole effect was well balanced with no particular frequency dominating. However with anything more upbeat and lively, a boxiness and slight bass boom set in, which seemed to particularly effect female vocalists. Julia Fordham's "Genius" illustrated this. Whilst the speaker had no problem with the complex rhythm and the diversity of instruments, Julia Fordham's vocals were somewhat lost

in the track, sounding slightly restrained and unnaturally "cuppy".

Unfortunately, classical music tended to compound this problem. Simple quartets and small orchestral pieces sounded detailed and realistic. However, a larger orchestral piece, such as Berlioz's Symphonie Fantastique, showed the speaker to have a rather muddled bass which could too easily become congested with more complex orchestral works. Clearly though, the speakers did show better integration than their predecessors.

The transition between upper mid and lower treble was more seamless than before, which I am sure has helped improve the imaging (although others such as the Cyrus 780 are still better here). Moving to vinyl seemed to suit the '610s as the depth increased further and there appeared to be slightly less boxiness. The sound was less "shut-in". The bass extension displayed with "The Brand New Heavies - Put the funk back in II" CD was exceptional for a speaker costing just £240. With this type of

music it could have easily passed for a compact floorstander.

In truth the high-end system didn't glean an awful lot more from the '610s. The imaging became tighter and more focused, and the soundstage was wider. Dynamics were excellent, but one still got the impression that what was being presented was an adaptation of the truth. An enjoyable one, but still a lack of accuracy, none the less.

Conclusion

The improvements do seem to have brought a much needed integration and presence to the sound of the '610 yet on balance it remains too uneven a speaker to deserve whole hearted recommendation. It still isn't a front-runner and those looking to play large orchestral pieces or female vocalists would be advised to consider alternatives, such as the Heybrook Solo, Cyrus 780, and Tannoy 607. However, for pop, rock and anything with a strong bass line, B&W's new loudspeaker is worth auditioning. Even at its new price of £240, there are few other speakers which provide such an extended bass and sense of dynamics, properties that may well win over listeners to whom such strengths appeal ●

"simple quartets and small orchestral pieces sounded detailed and realistic"

MEASURED PERFORMANCE

B&W are no newcomers to loudspeakers. For years now they have been mass producing well engineered designs. The DM 610, already established as one of the leading middle market 'speakers has just been updated, or as B&W prefer to call it, improved. Visually nothing has changed, the only indication that there may have been some change being the small 'improved' sticker on one corner of the cardboard packing box. The changes made are internal, and concern the crossover.

The response is quite even in nature with only a small dip of 2-3dB at 3kHz where the bass/midrange unit crosses over to the metal dome tweeter. The bass rises slightly to 60Hz before finally falling sharply off below this frequency. The treble is well extended, but tamed at the very top to prevent any sharpness occurring.

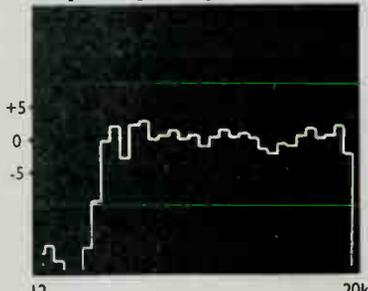
After measuring frequency response I measured sensitivity, feeding the DM 610s with one nominal watt (2.83V) of pink noise and measuring from one metre distance. The B&Ws turned in an impressive 90dB which suggests that they will take little volume before blasting

you off your seat. However, the overall impedance value and impedance curve explain why. The low overall impedance of 7.5Ω shows that these are more current hungry than most budget loudspeakers, which in Britain commonly measure around 10Ω nominal impedance.

Below 200Hz, apart from the characteristic single hump of a sealed box loudspeaker, the impedance curve sits on the 3.6Ω line. This is low enough to cause most triode valve amplifiers trouble and even transistor amplifiers. Higher up, between 200Hz and 20kHz there is a large hump centred around 2kHz, followed by a strong dip. This indicates that these new DM 610s are a reactive load and one that will cause a weak amplifier some trouble.

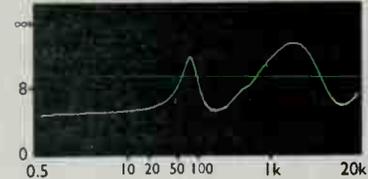
The response of the new DM 610s is a smooth and even one, but care should be taken to ensure that your amplifier will be up to the job of driving them. I would recommend a transistor amplifier of 50watts as the minimum requirement for satisfactory results. **DB**

Frequency Response



The frequency response is very even apart from the small dip around the crossover region.

Impedance



The impedance curve sits very low on the 3.6 Ω line.

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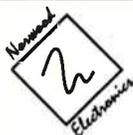


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LETTER FROM AUSTRALIA



Some months ago we received a fascinating letter from C. Lamb, an ex-pat from Wales struggling to come to terms with Australia in the summer. Boy is it hot - especially when you are into valve amps! That's not all he's into though. Here's the latest from Bellingen, roughly two hundred and fifty miles north of Sydney on Australia's rugged East coast, where roos deliver Hi-Fi World and Quad electrostatics can be built from flooded gum timber. Makes hi-fi in the U.K. seem dull by comparison!

A six foot kangaroo stood at my door step; I was cagey as to whether he had come to box my ears. However, he had the March issue Hi-Fi World - thank you for your reply to my plea for help.

This is how my system stands now. Although not in the photograph, the Detec 50S pre-amp has been replaced with an Audio Research 2S2 line level pre-amp. This has totally changed the system for me, it sounds superb. However, I am looking at valve amps now I've tacked on to this exquisite valve sound.

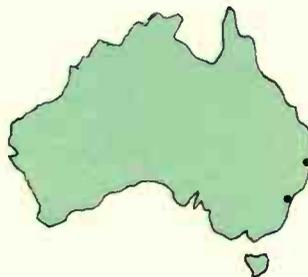
For all those readers that have Quad electrostatic 'speakers and those who are contemplating buying some, I built these stacked Quads from flooded gum timber, and they are fully adjustable in any plane. I originally built the standard curvature for the panels, however on my re-design they can be mounted flat which does away with many of the problems of bending three individual layers evenly, and of the dust covers coming into contact with the panels.

I ordered all the parts for my Quads as spares; unfortunately the casings for the power supply are not available. However, your local aluminium specialist should be able to make some up very easily. Try and specify to Quad that you require the correct mounting bolts for the audio transformers, otherwise just re-tap them to fit five millimetre hex heads.

The h.t. cable can be made from solid core spark plug lead. And since you can mount the panels flat, ask Quad to heat shrink them for you as this is a real fun and games ordeal not recommended for the light hearted. Make the rear shelf for the transformers larger, it will give you more room to work with. The car h.t. leads are bulky, so if you can obtain the original from Quad all the better.



Reader's System



BELLINGEN
SYDNEY

The dreaded holes that seem to appear in the plastic covering? Ask Quad how you can obtain acoustical plastic, if it is not readily available use a plastic bag, not the crinkly kind. A simple repair can be effected if you spread a thin layer of silicon on a patch of plastic bag and gently press on to the offending split. Remember to give a half to inch over-lap, this does a much better job than tape. Don't push too hard otherwise you will chase the tail of the split.

Be aware that things don't always go to plan. Be prepared to find the best people and ask for quotes first. Add up the totals, you might be better off buying a new pair of ESL-63s.

The whole thing was a lot of fun for me, if not a tad frustrating at times. Be willing to have setbacks - persevere. It's

worth it - and don't forget that if you have kids, fence the 'speakers off or don't attempt it.

I get a real high building this stuff. Remember that the Quad ESL-63 here in Aussie costs £5000 sterling.

My next project is to attempt to build two Audio Note Ongaku power amps using the finest possible components. Omitting the twelve kilos of silver wired transformers, it seems to me that the quality of any one item one can produce depends upon two things: its basic circuit and its components. If you want high-end sound at mid-range prices, build it yourself, using the best components you can afford and using the best circuit you can obtain. Even if you use technicians to do the work for you, it's got to be cheaper.



What we are all after, is it not, is to enjoy the music we listen to and not to look and listen to the faults. For all those readers trying to find that "sound", I would suggest listening to every system you can lay your ears on and steer clear of systems that initially strike you as great. The sound that we are often looking for is the one that creeps up on us slowly. When you find you do not want to leave the room after four hours of listening, the chances are you've found your goal.

Well my wish came true in response to my plea for help in the March issue, I wanted to walk in the drizzle, but the last three days I've been singing in the rain.

C. Lamb,
Thora Valley,
Bellingen 2454,
New South Wales,
AUSTRALIA.

P.S. For all those wondering about my face, yes, I just had three wisdom teeth removed under general anaesthetic.

I think that the kangaroo must have punched me while I was out. Owwh it hurts!

Thanks for you letter. We know how you feel about building it yourself - but hold on. Very special silver wound output transformers are being brewed up by us at this very minute. They should be available on a range of valve amplifiers we aim to offer soon, including high quality single-endeds. Ongaku of Japan have got it right, but they're not the only ones who can build a decent valve amp - we're at it too! Our unique 300B amplifier is a first example - and it sounds gorgeous.

Why don't you hook the Quad power supply up to a wire fence - that'll keep the roo away. **NK**

DANGER

The Quad Electrostatic loudspeaker has lethal voltages (2500V) internally. It's complex and potentially very dangerous. Don't even think about building one unless you really do understand about high voltage electrostatics (e.g. the polarising voltage won't kill you; the stepped up audio voltage will), especially all the necessary safety precautions. The plastic 'bags' are lightweight industrial clingfilm, so use Clingfilm for repairs.



Coming in our September Issue

MICROMEGA'S MICRO RANGE

Europe just seems to be getting smaller and smaller. The latest product to cross the Channel from France is the mid-priced, micro sized Micromega system, comprising Microdrive transport featuring Philips' excellent CDM-9 mechanism, the Variodac digital convertor with variable output and switching for one other line level input and the Microamp power amp. We find out if they are as welcome as a good Chateau Lafitte.

MICHEL ALECTO STEREO

Does this stereo power amplifier offer better value than a pair of Alecto Monoblocks? Just how well two fit into one is carefully investigated.

TANNOY 607 II

The whole Tannoy Sixes range has just been given an overhaul. The new range claims numerous improvements over the former models. We listen to the

competitively priced two-way 607 II to see what refinements have been made.

TECHNICS ST-GT5 50L

Tuners equipped with RDS (Radio Data System) are arriving from the Far East with increasing regularity. This time we see what surprises a £190 Technics brings.

SUMMER SOUNDS COMPARISON TEST

On the beach, in a train, or on a long car journey, summer means the hi-fi stays at home. Get a good personal stereo instead - we test six to see what exciting sounds can be found on the move.

COMPETITION

Win a pair of Morel Bassmaster 602 Loudspeakers, complete with stands worth over £1200.

team in hi-fi journalism, can you afford to miss it? Make sure you don't miss your next copy by filling in this order form and handing it to your local newsagent.



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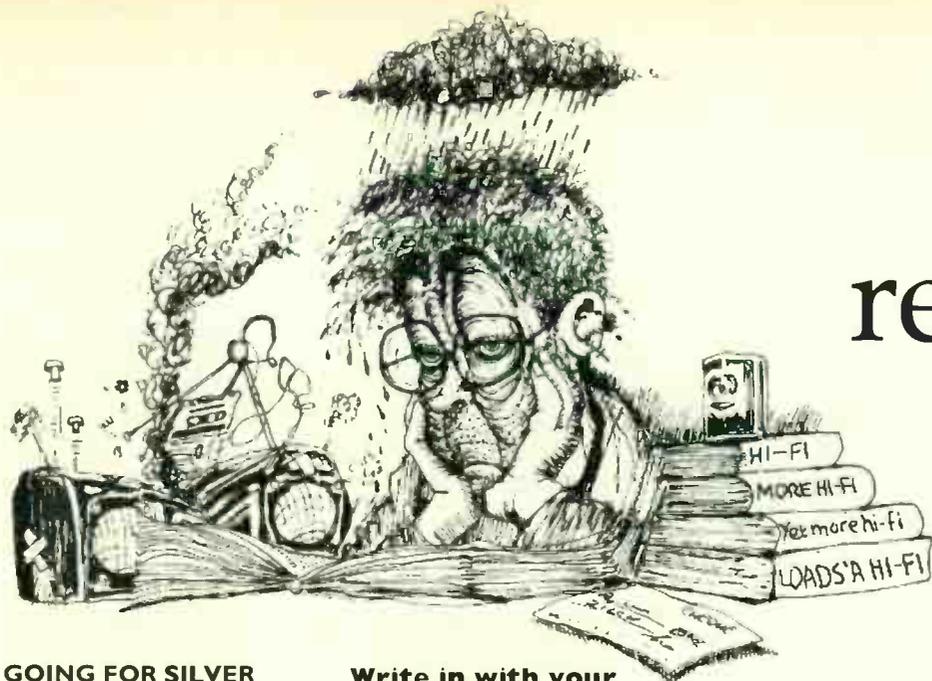
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Hi-Fi World is still only £2 and increasing in size every issue. With the most enthusiastic and expert editorial

readers' queries



GOING FOR SILVER

My system consists of:

1. Forsell Airbearing Turntable and arm with Koetsu Silver cartridge.

2. Micromega CDFI CD player and Audiolab 8000 DAC.

3. One pair of Quad II power amps modified by Peter Lindley.

4. conrad-johnson PV4 pre amp modified by Peter Lindley.

5. Pair of Dynaudio I.8 Contour speakers with "OCOS" speaker cable.

6. Interconnects are:-
CD to DAC - Audioplan Digitenna.

DAC to pre amp - Choral Symphony (American).

Pre to Power Amps - Myst.

Turntable to pre amp -

Forsell leads incorporated in turntable.

Write in with your

problems to Hi-Fi

World, 64 Castellain

Road, Maida Vale,

London W9 1EX.

Our panel of experts

will endeavour to

solve them or at

least offer some

practical advice.

My room is 17' by 12' and I listen to a wide variety of music. Although my system sounds very good, I would

appreciate your advice on the following:-

a) I feel my present interconnects are letting the side down. My local dealer (Zeus Audio) kindly lent me some interconnects from XLO and Audionote which made a substantial improvement, removing grain, improving imagery, transparency, etc. I would appreciate your comments on these leads or others you would recommend to improve my system's overall performance, particularly with imagery and transparency in mind. My budget is £550.

b) I would like to buy a tuner for my system and have the Audiolab 8000T in mind. Can I buy the same level of performance at a cheaper price? Also, what aerial should I consider?

**F G Kavanagh,
Derry,
Northern Ireland.**

I've no quarrel with the leads you suggest, only a personal preference for sticking to one type throughout rather than mixing too much. I'd also suggest you try out the Sterling cables from Micromega U.K., which I have a hunch may also be a viable alternative.

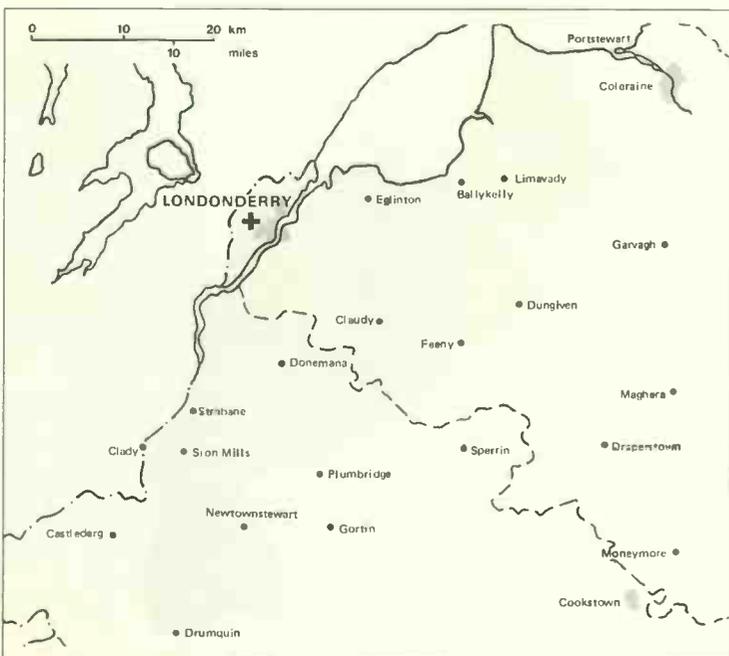
On the tuner, the answer is "Yes and No". For one thing, the Audiolab includes an extremely good AM section. If this is a factor in your choice, then the answer must be to go for the Audiolab. If FM, then

the Quad FM4, although its lower output may mean having to wind the volume control round further than usual with other sources, which will result in a leap to turn it down when switching to other sources. If you can accept a slight drop in quality, but one that is very acceptable, then audition Harman Kardon's TU-9400.

As to the aerial, here, local installer advice is essential and the aerial itself is determined by the usage. See below for more info. **EB**

Londonderry (or Derry) has its own transmitter, sited on Sherriff's Mountain, due East a few miles. This transmits BBC Radios 1, 2, 3 and 4, Radio Foyle (BBC local) and Downtown Radio (IBA local). If that's all you want, then you'll probably need no more than a two or three element aerial, to get a signal of 1mV or more. An indoor dipole might do if you are in a very good site (i.e. close to the transmitter and with no obstructions in between).

If you'd like to pick up distant stations, like Cool FM or perhaps stations in the Republic, then you'll need to find a good local aerial fitter with knowledge of the geography and reception conditions. He'll almost certainly recommend a large array for long distance work, in which case you might have to consider an attenuator when pointing at Sherriff's Mountain. There are other solutions, such as multiple diplexed aerials for DX work, but again your local fitter should be consulted. **NK**



Continued from page 59

SOUND OF MUSIC

I appreciate the "sound" and "music" side of Hi-Fi. Therefore, I am striving to achieve the best "sound" and "music" from my CDs through my Hi-Fi components which consist of the following:

- Marantz CD-94 II
- Marantz CDA-94 DAC
- Marantz SC-80 / SM-80
- Nakamichi CR-7

I am using a pair of Celestion 5s. My speakers do not exactly match the rest of my components in terms of performance (the reproduction of "sound" and "music").

I would like to upgrade my Hi-Fi and your advice would be appreciated once again!

I am happy with my CD-94 II and CDA-94 DAC. However, I am not sure of the potential of my SC-80/SM-80

because I am pairing them up to those low-end, yet, satisfying Celestion 5 speakers.

If you think the SC-80/SM-80 are good with my Marantz CD-94, then I will just upgrade my speakers. The speaker I have in mind is the Celestion SL 700 SE. My room is 17 by 20 by 8 feet. I do have curtains behind my listening position and the floor is covered with good carpets.

My "sound" and "music" tastes consist of artists like Kitaro, Kenny G, Casiopea, Pink Floyd, Paul Mauriat, Tina Turner, 1927, Sting, Eric Clapton and some African music.

I like my sound and music to be natural and reveal what's on the CDs.

So does the SL-700 fit my sound and music needs? If it does, then I will get another SM-80 and go Mono! Somehow, I feel that my SC-80/2XSM-80 will not push out the best of SL-700 (given that you think they are good).

Somehow, I came up with this possibility:

My original Marantz CD-94II/ CDA-94 (both bought in April '92) feeding into a Michell Argo (on Hera power supplies) into 2 x Michell Alecto monoblocks and into a pair of KEFs. What do you think? Or SL-700SE.

I use Audioquest Quartz interconnect between DAC-94 and SC-80; optical links supplied originally between



Celestions hi-tech SL-700s may open a window into your system.

CD-94 II and DAC-94; VdH 'Thunderline' between SC-80 and SM-80; VdH between SC-80 and SM-80; Naim NAC A4 between power amp to speakers.

I will upgrade to better Audioquest interconnect like AQ 'Diamond Hyperlitz' between DAC and Pre-Amp even Pre-Amp and Power Amp. If you think it is better than VdH 'Thunderline'. If you think AQ's 'Optilink Z' is better than those supplied, please do advise me. I will finally use Naim NAC A5 or something better to your recommendation.

Since the Michell Argo is line-level only, do I need an Iso to play my CR-7 then? What is line-level?

**Ghani Chang
Western Australia**

As usual, starting with the last question first, 'line-level' simply means that a pre-amplifier has no provision for amplifying the lower signal from a cartridge, nor for applying the equalisation

which is required to replay an LP correctly. A 'line level' amplifier will accept all other (higher level, 200mV-2V) signals from other hi-fi components, including that from the output sockets of a CR-7.

Still going backwards, as it were, like many others I am not a fan of optical links; AudioQuest 'Z' is not cheap, but it is generally thought to be an excellent interconnect for digital components. It should improve the Marantz markedly.

As to speakers, I'm in something of a quandary. While the Alectos should drive the 700SEs quite satisfactorily (they need both watts and current!), given your taste in music I cannot really imagine them to be suitable. You really do need something with a more driving bass, and if you stick with the Marantz amplifiers, a loud-speaker that is rather more efficient. This is where a shortage of information about what is available in Australia leads to difficulties and a longish list. Castle Chesters - or Winchesters; Heybrook Sextets; KEF Q90 or 104/2; Monitor Audio Studio 20; Origin Live OL2; Ruark Talisman; TDL Studio I. Take your pick, but listen first! **EB**

COME IN NO 55

Perhaps you can provide me with some info about the turntable I have bought. It's made by C J Walker, no. CJ55. I have never read anything about this make. It has a wooden sub-chassis and seems to have some kind of acrylic platter. It is fitted with a Mission tone arm and a Shure VST-V.

The sound is much more lean in the mid and treble than my old EB101 but seems somewhat bass shy. I would like to know when it was made, if the maker still exists, what the platter is really made out of and how to tweak it up

for maximum performance? Is the Mission tone arm good enough to keep? The arm is in perfect working order; the sound is a vast improvement over the EB101, but I would like to get as much out of it as I can. The rest of my system consists of:

- Musical Fidelity A200
- Musical Fidelity +I
- Onkyo CD DX5500
- KEF 103/4
- Audioquest
- Monitor PC
- Cardas cables
- Pioneer CTF 1250 cassette deck

I hope you can shed some light on my turntable. Thank you in advance.

**Paul Zahl
Brussels**

Yes, I do remember the Walker deck, though some of the details are a bit hazy. If I remember rightly, it was manufactured in the early Eighties and very frequently partnered with the Mission arm, though I now feel a Rega RB300 might be a better bet. I think I would go for one of the richer Goldrings rather than the Shure to beef up the bass a bit; try a 1022.

As to tweaking, not having access to one, I would be chary of making suggestions. Colin Walker, however, is still around, though he became somewhat disenchanted with the hi-fi business at one time. I last heard of him in connection with the design of Castle's Chester loudspeakers: perhaps Castle Acoustics,



Shortbank Road, Skipton, N.Yorks BD23 2TT, England (fax: 0756-795335) would be able to pass on a letter. **EB**

PURE AND NATURAL

My system is: Sugden A48B amplifier, Arcam Alpha plus CD player, Pioneer PL12D/ Shure M75 ED/2 deck, Arcam Delta 80 tuner, Celestion Ditton 15 speakers.

I have recently upgraded my amplifier (from a Sansui AU 101) and added tuner and CD player - I mainly listen to classical and light rock music. Which speakers would suit the system? Perhaps Rogers LS4a or LS6a (or 8a)? I can spend up to £500. I am interested in a pure, natural sound. The room measures 20' x 12' x 8'.

**P A Banks
Manchester**

Almost any BBC-ish speaker is the answer. I'd go for the

or to get rid of the metal tweeter, which I am sure is the culprit.

I was not sure if I had made the right decision in buying the SME V. Before it, I had an Audionote arm. What do you think?

I like a sound which you can look into. Do you think changing from the Musical Fidelity MVT MkI pre amp to an Audio Innovations Pre 200 series would be a good move or not? Or is the Voyd my problem, because I have heard the Pink Triangle Anniversary and liked it a lot, but that was fitted with an SME V and Ortofon 5000C! Please help!

**Jonathan Manders
Edgbaston
Birmingham**

Yes; change to the Audio Innovations pre and go for AudioNote K or J speakers, which I am frequently told go together beautifully. **EB**.

tackle shortly.

Try listening to the excellent Heybrook Quartets, which I have used now with feedback and non-feedback valve amps. These speakers reveal the magic of a valve amp more fully than any other loudspeaker I know. **NK**

VINYL CONVERT

Believe it or not, I am a recent convert to vinyl, having heard a Rega Planar 3 and Roksan Corus Blue while auditioning for a new CD player last year. As all my CDs, LPs and Cassettes had just been stolen (ouch!) the choice of format made little difference, and I have found it easier to find old vinyl than CD reissues of my former music collection - and back-catalogue vinyl has proved to be considerably cheaper.

I also took the opportunity to upgrade my amplifier to a Rotel RC/RB 960BX pre-power combination. I reside in a small room, so for the time being my Mission 700LE loudspeakers continue to push out the soundwaves. Having rebuilt a small but precious record collection, I need to know when the stylus might need replacing, and whether a simultaneous upgrade to a Corus Black would be worthwhile, in the light of my present system. When I upgrade my 'speakers (to something like the Neat Petite) I also intend to add another Rotel power amp, or would I require

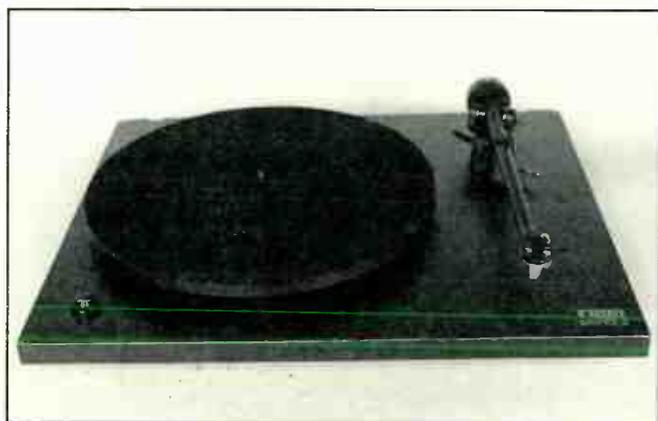
and Radio 3 & 4. Could you recommend a tuner to replace my Yamaha R7 receiver which now serves as my tuner source? I would be willing to spend £250-350, but would be loathe to give up the remote control function.

**Jeroen L. Devos
Herne Hill
London**

Stylus replacement times vary, according to the make and the profile, but they should generally be replaced at least once every two years, and ideally every year. Listen for signs of wear: channel imbalance, a dull treble, or decrease in spatial information. Examine it regularly, too: if, under a stylus microscope the point looks like a lump of coal instead of a pointed diamond, it should be replaced at once! It's worth upgrading. If you upgrade to the Neats, then an additional power amp is well worth considering. The tuner is a bit more of a problem: in your price bracket it has to be Harman-Kardon's TU-9600 for remote control. **EB**

FRONT END FIRST?

Firstly may I congratulate you on an excellent magazine, one that I feel is not afraid to review and discuss products and topics that other publications seem to try avoiding, i.e. 'High End' and especially 'Vintage' gear. Always provid-



The Rega Planar 2 is an excellent budget turntable.

4a, I think, while also trying a Heybrook Quartet, perhaps. But please upgrade your turntable if you are still playing vinyl: a Rega Planar 2 or, better, a 3 with a good Goldring cartridge or an Elys would make a very great improvement. **EB**

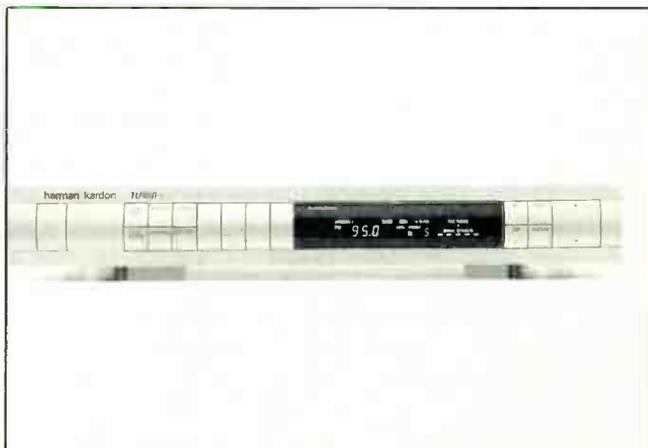
LOOKING INTO THE SOUND

I have a system consisting of a Voyd (standard), SME V silver wired (recently purchased), Audio-Technica OC10, MVT pre amp MKI, Audio Innovations Series 1000 monoblocks and a pair of Rogers LS 7t 'speakers with Deltec Black Slink between pre/power and Ortofon multi stand speaker cable.

The problem is one of tonal balance. I am not sure if I need a new cartridge, new 'speakers,

You don't clearly identify exactly what you feel is wrong with your system, only that it is wrong. I'll make some educated (well, I like to think so!) guesses that might help.

Don't fret about the SME V; its the very best. Just be aware that it is more neutral than some other arms. I worry about the combination of Rogers LS 7t speakers with a valve amp and, like Eric, feel you ought to try alternative speakers. Valve amplifiers are speaker sensitive because their feedback can be upset by a very reactive load and because high output impedance results in response changes. Having said that, the Series 1000 monoblocks better match modern loudspeakers than most. Speaker matching with valve amps is a subject in itself, one we must



Harman's TU-9600, bigger brother of the '9400 with remote control.

another calibre of amplifier as well?

Finally, as my music library is now quite limited, much of my listening is to radio, both to pop stations (Capital, Radio 1),

ing an informed read - Thanks!

My system at present comprises a Rega Planar 3 turntable (older model with the curved arm), AT95E

Continued on page 63...

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Most dealers cannot physically stock all the range of equipment racks and speaker stands made by Target Audio. It can therefore be quicker and simpler to have what you need sent by mail. It costs no extra, there's no hassle, the carrier brings them to your door (Please allow 10-14 days for delivery).

AER EQUIPMENT RACKS

Tubular welded construction with adjustable spiked feet (with the option of castors if spikes are unacceptable). The upper shelf is supported on 4 adjustable spikes for improved decoupling. Size 505 x 393mm (W x D) Shelves 465 x 355mm (W x D)

	Height (exc. spikes)	Number of shelves	Distance between	Price
AER 2	515mm	2	380mm	£110.00
AER 3	515mm	3	180mm	£128.00
AER 4	660mm	4	165mm	£156.00
AER 5	845mm	5	165mm	£170.00
AER 3TV	515mm	3	190mm	£150.00

(1 - depth 395mm)



AER4

TT EQUIPMENT RACKS

A highly adaptable range of self assembly equipment racks. All models come with adjustable isolated upper shelf and spiked feet. Sizes TTW1/TTW2 Wall units 505 x 475mm (W x D), all others 505 x 395mm (W x D) Shelf sizes 465 x 355mm

	Height (exc. spikes)	Number of shelves	Distance between	Self Assembly	Welded
TTW1	Wall	1	—	—	£ 53.00
TTW2	Wall	2	305mm	—	£ 65.00
TT2	490mm	2	380mm	£ 67.00	£ 70.00
TT4	620mm	4	155mm	£102.00	£115.00
TT3	795mm	3	325mm	£ 88.00	£100.00
TT5	795mm	5	155mm	£115.00	£138.00
TT5T	995mm	5	205mm	£127.00	£150.00



TT4

BETA "B" SERIES RACKS

Tubular welded construction with adjustable spiked feet. The upper shelf is supported on 4 adjustable spikes for improved decoupling. Shelf size 465mm x 355mm (W x D). Optional castors kit £9.99 extra. Finished in black ash effect

	Height (exc. spikes)	Number of shelves	Distance between	Price
B1	65mm	1	—	£ 60.00
B2	480mm	2	380mm	£ 90.00
B3	455mm	3	155mm	£110.00
B4	645mm	4	155mm	£130.00
B5	840mm	5	155mm	£150.00
B5a	840mm	5	200(2)/110(2)	£150.00



B5

MODULAR "M" SERIES RACKS

A very versatile system with options allowing modules to be added to suit varying equipment heights. Finished in black ash effect or glass shelves. Select the base module and add shelf modules as required. Supplied with spiked feet (optional castors kit £9.99 extra). Distance between columns 465mm x 395mm depth. Supplied in flat pack for easy self-assembly

SHELF UNITS

Type No.	Distance between	Single Shelf Price	Single Shelf Glass	Type No.	Double Shelf Price	Double Shelf Glass
M1/90	90mm	£38.00	£50.00	M2/90	£70.00	£90.00
M1/125	125mm	£38.00	£50.00	M2/125	£70.00	£90.00
M1/165	165mm	£38.00	£50.00	M2/165	£70.00	£90.00



M1/125



M1/125



M2/125

BASE UNITS

Type No.	Distance between	Wood Shelves	Glass Shelves
MB3/125	125mm	£100.00	£130.00
MB3/165	165mm	£100.00	£130.00
MB3W/165	165mm	£160.00	—



MB3/165



MB3W/165

TR SPEAKER STANDS

Medium mass double pillar stands supplied with adjustable spiked feet and top spikes. Can be sand or shot filled

	Height	Top Plate (W x D mm)	Price
TR30	300mm	240 x 240	£ 55.00
TR40	400mm	190 x 190	£ 55.00
TR50	500mm	160 x 160	£ 55.00
TR60	600mm	150 x 150	£ 55.00



TR50

HS SPEAKER STANDS

Medium mass single pillar stands supplied with adjustable spiked feet and top spikes. Can be sand or shot filled

	Height (exc. spikes)	Top Plate (W x D mm)	Price
HS8	200mm	240 x 240	£ 67.00
HS12	300mm	240 x 240	£ 67.00
HS16	410mm	200 x 200	£ 68.00
HS20	510mm	165 x 190	£ 68.00
HS24	610mm	165 x 190	£ 72.00
HS28	710mm	160 x 160	£ 72.00

HS16

* Asterisked models can be supplied with Tannoy 600 series mounting top plate for £4 extra — please state speaker model No. when ordering

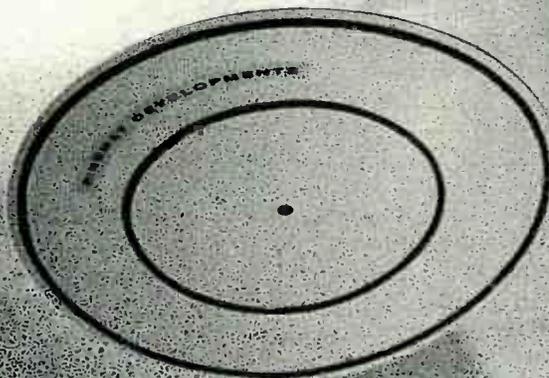


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CONNECTIONS

11 Archer Street, London W1V 7HG
 (A division of Connection 90' Travel Ltd.)

Continued from page 61

cartridge, Marantz CD65II SE CD player, Teac C-3X cassette, Akai GXC760D cassette, Teac A3340s open reel, Revox A76 tuner, Rose RV23S pre amp and a pair of bridged Leak Stereo 20 power amps. I also own a pair of I.M.F. Pro Monitor Transmission Lines. But I am using Mordaunt-Short MS45 IIs at present, due to limited space.



The Systemdek IIXE/900 should sharpen the stereo image.

Bearing in mind that I will be using my I.M.F.s as soon as space is available, can you please inform me as to where £750 could be spent most profitably to gain a significant improvement - mainly turntable or CD I suppose.

I listen to most kinds of music except Electronic/Computer dance and opera. I like a good stereo image with plenty of depth.

Have you tried the 'Polaris' cartridge alignment protractor from Mr Bastin in Wolverhampton - it's excellently foolproof!

**J Clark
Warley
West Midlands**

As usual, what degree of upgraded front-end to go for depends on the size and growth of your record collection.

Now, if you only use your silver discs to stop your coffee cups marking the table, the whole outlook changes. This should be the case for anyone, by the way, who has a large vinyl collection, or is continuing to collect it, or has the quality of intervening components you have. Make

the best you can of the source you use most - and in the case of turntables, buy one that will last out the century now! Looked at from this angle, the Marantz will suffice until you have saved up another few hundred.

The turntables I suggest will all make a hole in the cash-flow, but it's better not to spare the pennies. The ones to aim for are Michell's Mycro (with RB300, around £540); Systemdek IIXE/900 with Alphason Xenon MCS (around £700); Thorens TD3001 with Rega RB300 (£740). All these will give you splendidly stable and sharp imaging and depth. The cartridge, too, should be the best you can afford.

At about £70, which should be the minimum, consider the high-output Denon DL110 MC, Goldring 1012GX, Rega Elys or Roksan Corus Blue.

At the £100 mark: Ortofon's high-output MC15 Super or Goldring 1042. Adding another £30, the Roksan Corus Black or - if you prefer the somewhat brighter aspect, Audio-Technica's OC-3 or OC-5. The Rose is switchable between MC and MM internally, so there is no problem about using an MC cartridge.

If you play CDs more than LPs, all this good advice is redundant! Me, I'd cash in a few BT3 shares and tack on another hundred and fifty pounds or so for the Sugden SDT-1, which has extraordinarily good body and depth. (It's become an NK fave.) Sticking to the budget, however, there's the Arcam Delta 70.3 and Micromega Logic, both allowing for add-on high-quality DACs later. If you can stretch the pennies a little farther, try the Pioneer PD-75. If you'd like to go with separate transport and DAC, then there's little in the way

of options, but the optical-output only Technics SL-PA10 could be worth trying with QED's optical Digit and power supply, which together come in under the limit.

If you have a smaller store of LPs than CD, but still listen to them, the majority of the money will be best spent on a new CD player. In this case, a small upgrade to arm and cartridge leaving the rest of the funds for a new CD player is the best route. The original Rega arm was long ago superseded by Roy Gandy's straight one. Ideally, your Planar should be fitted with either the Moth (Rega RB250) or Rega RB300. There's not much in the price: £100 - £130. With, say, a Goldring 1012GX at £60, this should keep the black vinyl spinning nicely.

Combining the best of both worlds, upgrade your turntable, arm and cartridge, allowing about £200-£250 for an RB300 and one of the cartridges above, will leave around £400-£500 for a CD player. CD players worth considering are Pioneer's PD-S901 (though a new model is on the way), the Marantz CD-72SE; or examine the forthcoming new £500-ish SE model from Sony. Listen first, of course, and good hunting!

I haven't tried the Polaris, but maybe I should navigate that way. **EB**

You've been dangling your toes in warm waters - ones heated by valve filaments. A Rose preamp and bridged Leaks eh? - and you've been talking to Martin Bastin! I sense a man amenable to the potential delights of a Garrard 401, fitted with SME arm. Go on - try it!

Are you really going to try driving those huge IMFs with bridged Leaks? I think it unlikely this will work. In my experience, the big IMFs were best off connected to a power station - a Chord SPM1200 might do the trick. I could be wrong; perhaps you don't want to drive them hard. But do try the combination first

before doing anything else, just to make sure you are happy with the result. If not, then either speakers or amps will have to go. **NK**

ONE TRACK MIND

Please help, my husband has a one track mind! His dilemma - 'which amplifier to upgrade to?'

Our system consists of KEF Q60s on Target stands biwired with Audioquest Indigo and an AR A06 amp, a Meridian 206B, and a Linn Sondek with Valhalla, Ittok and Nagaoka Stilton set up.

We have heard, and like, the Audiolab pre and monoblock set-up but would like some suggestions for other amps (in a similar price range) for comparison.

At present our listening room is 4m x 4.5m and our musical tastes varied. (Rock, classical, blues and jazz).

I hope you can help so he stops talking about amps and spends more time listening to music instead.

PS. A headphone socket is preferable so I don't have to listen to the motor racing.

**Sheila Miller,
Swindon**

We'll do anything (almost - and no, I don't have a one track mind!) to persuade someone to stop talking about it and start 'em listening to it instead.

The tricky bit is the headphone socket, these not being much favoured. I hesitate to suggest one of the QED switchboxes (which take the signal from the speaker outputs) on the grounds that it is a bit awkward and slightly degrading sonically, but this is one solution. The better one is to exile the husband and the telly to another room when Murray Walker becomes excitable.

I find the Audiolab combination somewhat stark; at a



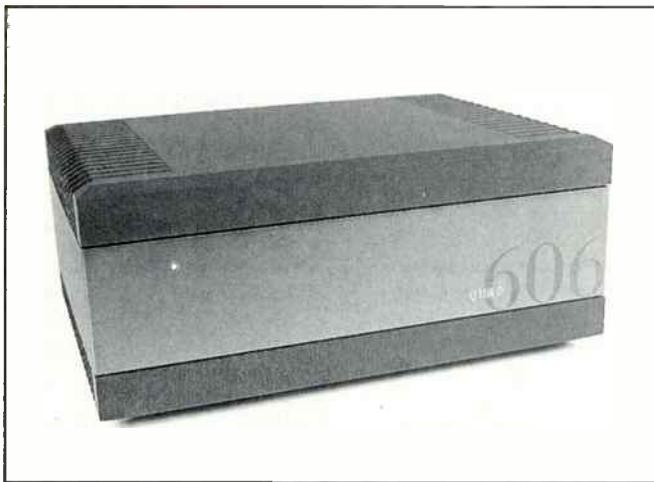
The QED MA18 plugs into the 'speaker terminals to give a headphone output.

Continued from page 63

little more I've recently much enjoyed the Sentec SC9 (line-level) pre and SM9 monoblock power amplifiers from Sweden (available through Mag Audio), which are small, but clear and clean. Another alternative, less forwardly-projected than the Sentec is the LFD 'Zero' series of pre- and power amplifiers.

If you fancy remote control, try Quad's 66 pre and 606MkII power, at a not dissimilar price to the Audiolabs. Any of these will accept pretty well any source and drive most loudspeakers very satisfactorily. You could even mix and match the Audiolab pre with either Sentec or LFD power amps, but not, ideally, with the Quad.

Next is Naim in various combinations, but not to everyone's taste and not for all types of speakers. Do



The updated Quad 606 II

arrange a dealer demonstration, however, of, say the 62/140. Finally, have a listen to Audio Innovations' Series 200 pre- and power combination. Vroom vroom! **EB**

Buy him his own small portable set, a stick on steering wheel - available from any toyshop - and a pair of headphones. It's great fun - or it was until Nigel got huffy and disappeared. Anyone want to buy a steering wheel? **NK**

KING KONG

I have a few queries concerning my system, which is based on the GyroDec partnered with Manticore Musician tonearm and AT-OC7 cartridge. Amplifiers are the ISO/ARGO/

QUAD 606 combination driving a pair of bi-wired ProAc Response One S loudspeakers. All the units have their own dedicated power supplies. The amplifiers are placed on a Hi-Fi rack, the ProAc is on one of the cheaper target stands filled with sand, and the GyroDec is also on a Target single-shelved stand placed on top of the Hi-Fi rack. The interconnects used are: DNM cable for the pre/power amps, van den Hul for the ISO/ARGO and Audioquest Midnight Blue for the speakers.

So much about the equipment. Now for the sound, I find it bass light, though firm, but lacking extension. As a whole it is a bit restricted, lacks openness and is less musical than my previous system, which was the Creek 4040 III and the Heybrook HBI Mk I. That combination was highly musical and open, if not informative. I found I enjoyed

the music it made.

What's the problem here? I am looking for something neutral, sweet, yet with pace and scale. As when I listened to the ARGO/QUAD/ProAc setup in my dealer (back in London) the system was very close to what I want, and significantly better than the Heybrook/Creek setup.

I wonder if a change of tonearm and cartridge, as well as the interconnects will help. I'm interested in the SME 309 or IV with one of the Scan Tech cartridges. Other than that, I am also very keen about the Alecto monoblocks which I heard in the same demo back in London. As now I am working in Hong Kong, it will be very difficult to audition the

above equipment. But I am making a trip to the UK for two weeks, I would be grateful if you can give me some advice to shop around.

Also, I noticed on p27 of the May 93 issue a picture of the Michell system which was housed on a very neat stand, would you please tell me what make it is? Yours sincerely,

Mr S Chan
Kowloon, Hong Kong

I'm a little surprised that the system should sound light, having had a Quad 606/Argo combination around. The Quad rolls off below 20Hz, and you may be missing some weight at the bottom, especially taking the deck/arm/cartridge combination into account. The sound really should be miles ahead of your previous set-up, though the Heybrooks may well have given you a slightly false impression of bass quality. If it's dry-ish, it doesn't mean it's wrong!

I would prescribe a change of pre-power interconnects immediately. I've been promising myself for months that I'd sit down and work out the equations, and sort out which cables go best with which amps, but I can't seem to find the time! However, the Argo/Quad combination will perform better with low-capacitance cable. When you're in London, nip into Tandy's and buy the patchcords: they seem to be ideal. Alternatively, specify a 75Ohm screened interconnect from a dealer if you need longer than a metre.

For the Gyrodek, the SMEIV seems to be ideal. One makes slight compromises, but I have lived with it for some time now and can't go back to anything else. Any Scan-Tech based cartridge fits like a glove: at the moment

that means the Lyras; though when you're in London, ask at KJ Leisure Sound if the new



Michell's fabulous Alecto power amplifiers

Morch MC has appeared! On past performance, that should be one to look out for. What I hear about Hong-Kong's electricity supply also suggests to me you need Hera's for the Argo and Iso and a separate power supply for the Gyrodec as well. I've had a prototype power supply from Tesseract (081 744 0967) which would be ra-a-ther expensive, but lifts the Gyro into the top league.

Finally, yes, try the Alecto monoblocks. I'm still mourning their return. They produce amazing bass. The tables John Michell was using at the Bristol Show were from Frameworks, Tel:071 924 0633. **EB**

A Quad 606 isn't bass light and, like Eric, I'm a bit baffled by your impressions. The HB-1 will have conditioned you to a different sound; Heybrook do like to provide over-generous bass with their small loudspeakers; give yourself a little time to settle in to something more accurate. A Chord SPM1200 delivers the driest, deepest bass I have ever heard; you may like to consider it. Finally, I wonder about listening rooms. If you've already heard your chosen system sounding good in another environment, then differences may be attributable to room acoustics. In view of the money you are spending, do insist upon a home demonstration first. **NK**

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Audiolab are well known for their sturdy, reliable and musical sounding products. This month we are offering some of their top components as a competition prize. One lucky winner will become the proud owner of over £1600 worth of Audiolab hi-fi comprising the 8000C pre-amplifier, the 8000P 100watt power amplifier and a source that requires no software, the 8000T tuner.

The 8000C/P pre and power amplifiers are regarded as one of the best value for money combinations around and have long been favourites of the Hi-Fi World team. When we auditioned them in our June '91 comparison test we found that the pre-amp resolved a level of detail and had an insight unmatched by its rivals; it brought a superb sense of presence to performers and bands. The power amplifier suits the pre-amplifier perfectly, the two offering a sound that was precise, pure and coherent.

We measured the power output of the 8000P power amplifier to be 144watts, which will certainly drive the most obstinate of loads. With a complete absence of distortion it was hardly surprising that the sound was so good we rated it top of the pile.

News hot off the presses is that Audiolab are improving the 8000P; a new '93 model boasting further refinement of this already respected amplifier is on its way. It has an uprated power supply, which Audiolab claim gives the power amplifier cleaner and deeper bass and a sweeter sound. One of the first of these models will be offered as a prize this month.

The 8000T tuner is an ideal source, its flexibility (it covers Medium Wave, Long wave and VHF) will ensure that plenty of musical entertainment can be plucked from the airwaves. When we reviewed the 8000T tuner in the February '93 issue we concluded that its three year development program was definitely well worth the wait. In particular we were impressed by its extremely smooth, natural tonal quality and its ability to conjure up a wide, open soundstage. When listening to a live concert, classical or rock, it was possible to imagine the performers in front of you, such was its ability to reproduce such an event. Also noted was the quality of its AM reproduction. In fact it was so good that it became possible to observe whether a news correspondent's 'phone line was substandard or not!

The development work on the tuner was carried out by Audiolab's designer, Derek Scotland, and by the Managing Director, Philip Swift. The 8000T incorporates sophisticated electronics that include several 'in-house' parts. The front end was specially developed and utilises a dual-gate MOSFET mixer, whilst the whole tuner benefits from microprocessor control and the unique addition of a real time frequency read out.

The only obstacle preventing this attractive system package, worth £1629.70, from making a one-way journey from Godmanchester to your listening room is the price of a stamp and a little shrewd judgement ●

WIN AN AMPLIFIER

COMPETITION ENTRY FORM

- Audiolab are based in which Cambridgeshire village?

<input type="checkbox"/> Huntingdon	<input type="checkbox"/> Great Raveley
<input type="checkbox"/> Godmanchester	<input type="checkbox"/> Bury
- The Audiolab 8000T does not cover which frequency band?

<input type="checkbox"/> LW	<input type="checkbox"/> VHF
<input type="checkbox"/> MW	<input type="checkbox"/> ELF
- The Company that manufactures Audiolab products is?

<input type="checkbox"/> Huntingdon General Electrical Ltd.	<input type="checkbox"/> Audio Laboratories Ltd.
<input type="checkbox"/> Cambridge Systems Technology Ltd	<input type="checkbox"/> High Fidelity Forever Ltd.
- What is not, and never has been an Audiolab product?

<input type="checkbox"/> 8000C	<input type="checkbox"/> 8000P
<input type="checkbox"/> 8000T	<input type="checkbox"/> 8000GT
- Who played a major role in the development of the 8000T?

<input type="checkbox"/> JJ Kelvin	<input type="checkbox"/> Michael Faraday
<input type="checkbox"/> Derek Scotland	<input type="checkbox"/> Hammering Onnes
- How much distortion does the Audiolab amplifier combination produce?

<input type="checkbox"/> 0.1%	<input type="checkbox"/> 1.3%
<input type="checkbox"/> No measurable distortion	<input type="checkbox"/> 0.01%

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Please send your entry form, completed in block capitals, to arrive by 6th September 1993, to:

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In the event of more than one entrant submitting all the correct answers, the winner will be plucked from a hat. We will endeavour to publish the results in the October '93 issue. Audio Publishing Ltd reserves the right to publish such entries or parts of entries as the company sees fit. We regret that photocopies of the entry form cannot be accepted. No correspondence about this competition will be entered into and the Editor's decision is final. Employees of Cambridge Systems Technology Ltd. and Audio Publishing Ltd. may not enter.

Audion Silver Night Competition The Winner

Although Summer is finally here, it did not stop hundreds of entrants competing for the Audion Silver Night monoblocks to warm up their homes. After much deliberation and many smiles, the winner with the most amusing and poetic tie-break was judged to be Peter Strickland of Tadworth in Surrey. Many congratulations to Peter and also many thanks for the thousands of entries which brought mirth to the editorial office. Please keep trying!

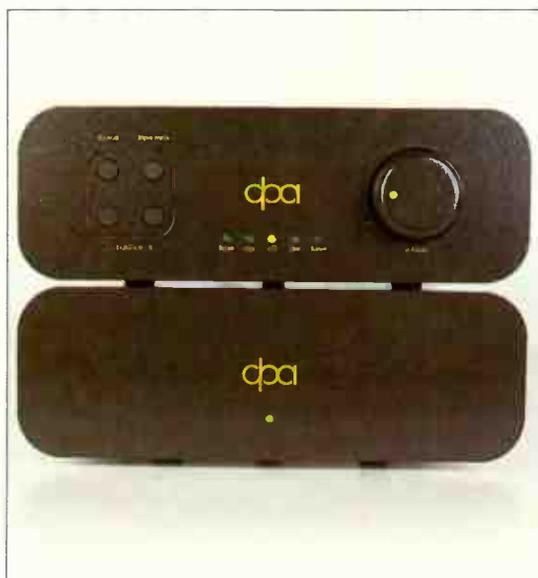
EAR Rogers Competition Delivery

Martyn Scott, a Business Practitioner for IBM was presented with the April '93 competition prize by Tim de Paravicini, the designer of the Esoteric Audio Research 834 amplifier.



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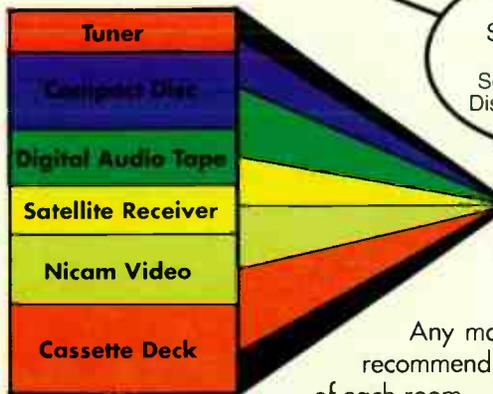
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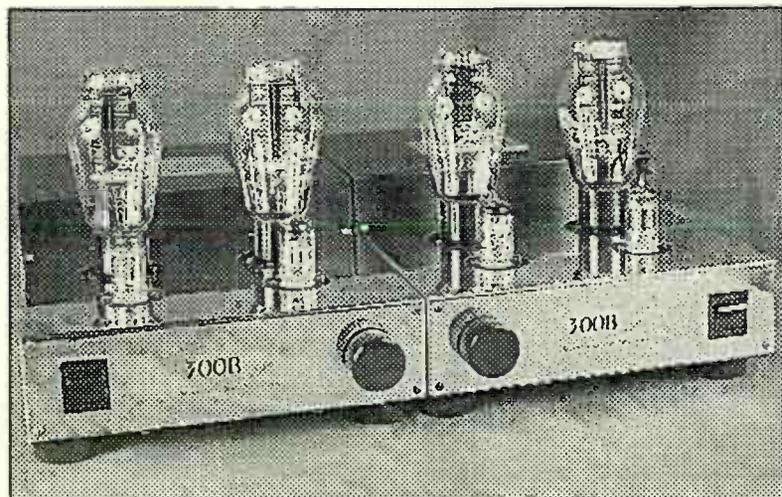
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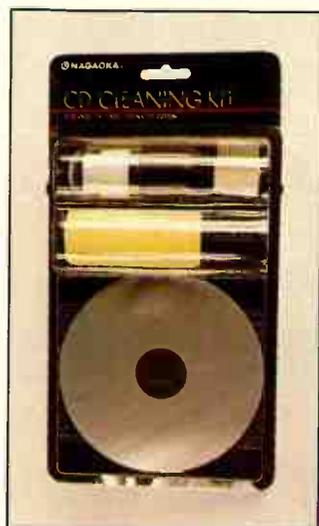
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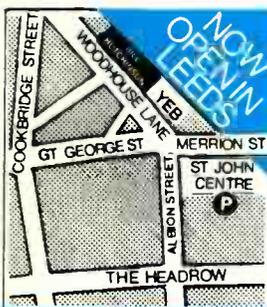
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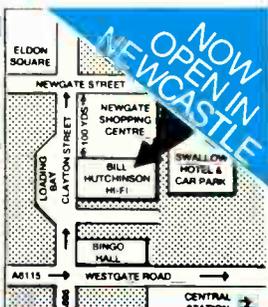
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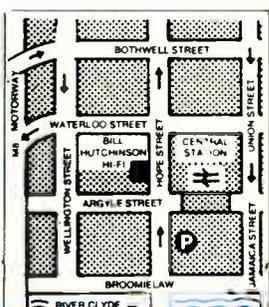
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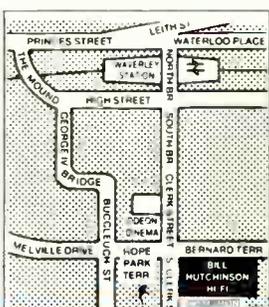
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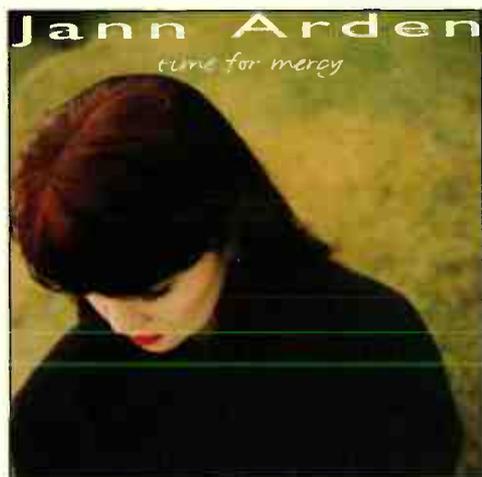
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Time for Mercy

Music

Passes

Edited by
Jonathan Jordan



JANN ARDEN
Time for Mercy
A&M 540 071-2

● A & M's press release wisely describes Canadian singer-songwriter Jann Arden's debut as an emotional combination of lethal love songs and melodic pop gems, with traces of rock, folk and new country thrown into the mix for good measure. This makes more sense than falling into the usual trap of likening her to an established singer, which generally suggests that the newcomer hasn't anything original to offer and is almost certainly preparing for a rapid departure into oblivion.

On the evidence of the material that constitutes this album Ms Arden clearly has a finely tuned pop sensibility, the ability to write melodies with strikingly tenacious hooks that never skate close to being trite. 'We Do Some Strange Things' provides a classic example of a song that's superficially unexceptional but which

echoes round your cranium for days after you first hear it. The track that follows, 'I'm Not Your Lover', will appeal to New Country fans without upsetting the sensibilities of those who cringe at the mention of the 'C-word'.

In fact, the only thing about this album that makes me cringe is Jim Keltner's drumming. I know Keltner is one of the top session players in America, I know he's respected by musicians the world over, I know Arden feels that when Jim

started putting his parts down, the fabric of the songs became real, but I still reckon that this demi-god would benefit from a stick of high explosive being placed where his drum stool normally fits. His playing, for me, redefines the term laid-back. Other drummers seem able to play at exactly the same tempo but inject more life into the sounds coming off the kit. Even on up-tempo tracks such as 'Will You Remember Me' Keltner sounds as though he's barely interested.

Nonetheless, Time For Mercy remains a fine debut album and shows that in Jann Arden a, hopefully, significant talent has emerged. The material studiously avoids the clichéd, melancholic, bedsit-blues aura that surrounds the majority of new female singer-songwriter albums - even on down-beat songs such as 'I Just Don't Love You Anymore' - and it deserves credit for that alone. That Jann Arden has a really effective and powerfully communicative voice comes as a real bonus.

Malcolm Steward

Malcolm Steward's voyage of musical discovery embraces East meeting West while also encountering a pop icon's and an old Police-man's latest offerings.

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RECORD OF THE MONTH

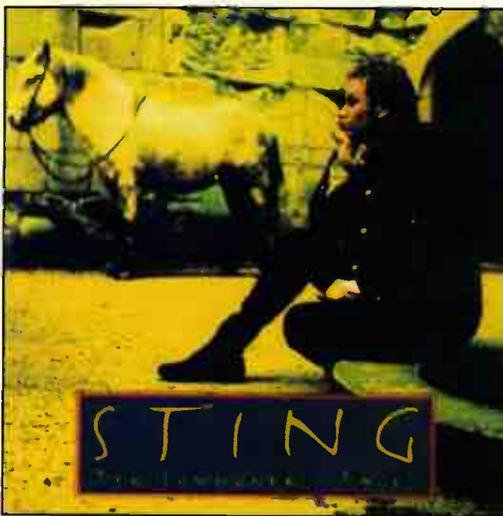
STING
Ten Summoners Tales
A&M 540 075-2

● Before Ten Summoner's Tales, I had real problems with Sting's solo recordings. When he was a Policeman, I came to regard him as a bassist who had a deft touch, a singer with a distinctive and often engaging voice, along with being a songwriter of obvious talent and intelligence. I admired the guy. But as a solo performer, I found his albums tedious at best, self-indulgent and pretentious at worst.

However, I approached Ten Summoner's Tales with renewed, if slightly suspicious interest. The Chaucerian title had a decidedly pseudish resonance, but there was some humour evident in the play on Sting's surname (Sumner). It suggested that he might be going back to being the bloke-next-door-you-like type of pop musician. Listening to the disc repeatedly since it arrived suggests that he is.

This is a masterly assortment of

songs, an album that starts strongly with the sublime 'Prologue (If I Ever Lose My Faith In You)' and continues to improve thereafter. Lyrically and musically it is devoid of contrivance and artifice. It's an honest and mature collection of songs that proves



satisfying even after you've played it a hundred and one times. It mixes appreciably intelligent and more superficially inviting elements in just the right proportions, with a combination of wry wordplay and tunes that

are eminently hummable and memorable.

The playing throughout is superb and some interesting names feature in the list of guest musicians, which spans a wide and intriguing range of musical genres: Larry Adler plays harmonica; ex-Mother of Invention, Vinnie Colaiutu plays drums; contemporary classical composer Dave Heath plays flute (be sure to check out his work, The Frontier, on the London Chamber Orchestra's Virgin Classics CD, Minimalist, LCO8); jazz virtuoso David Sancious plays keyboards; while Kathryn Tickell provides violin and Northumbrian pipes. Hugh Padgham's production and engineering marry these outwardly disparate factions seamlessly, with the result that the album's performances are as enjoyable and easy-on-the-ear as its clean, acceptably involving - for a DDD recording - sound.

This is a consummate pop album and surely the most satisfying record that Sting has made since The Police's 1978 LP Outlandos d'Amour.

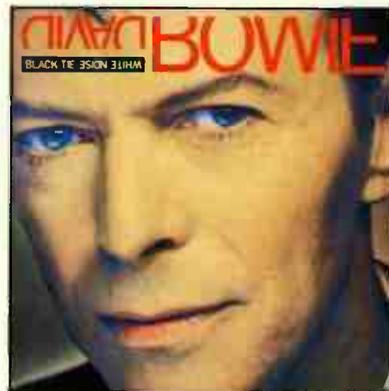
DAVID BOWIE
Black Tie White Noise
SAVAGE 74321 13697 2

● Even when his music has been through less than thrilling periods, including the time when it plummeted to the level of unmitigated crap- for which read the content of Tin Machine's pitiful eponymous album, I never lost my respect for David Bowie. I might have despaired at the music but I couldn't shake off my admiration for the man who wrote Ziggy Stardust, one of the most magnificent songs penned since mankind emerged from the slime. Lately, however, I've not exactly been brimming with anticipation and enthusiasm at the prospect of a new Bowie release but the title Black Tie White Noise, with its powerful Velvet Underground overtones (White Light, White Heat) struck an inviting chord.

Having heard the disc, I regret having to say that it doesn't do much for me, although admitting why that's so makes me feel hypocritical. Bowie's career, like that of Miles Davis, has centred on change and progression (although that's a dubious word in this instance) and I respect an artist's right to develop and move in different directions. However, while I can enjoy Davis' music no matter what stage of his ever-fluxing career it emerged from, I remain hooked on Bowie's earlier material and resent his slide towards music that, as I interpret it, is less mature and less inspired.

Black Tie White Noise, for the most part, is just too much like disco dress for an old fogey like me, who loathes beat-box rhythms, synths and the monotony and the insipid colours they bring to music. This record has little in the way of drama or dynamics: there's not a single track here that despite its multi-instrumental, latest technology bluster has the emotional edge of, say, spartan songs such as 'The Bewlay Brothers' from Hunky Dory. I resent seeing Bowie the idiosyncratic individual becoming relegated to Bowie the band member, merely one element in a bland wash of synthetic contemporary muzak.

Nile Rodgers co-produced the album with Bowie and his influence is pervasive; everything gets the funky,



slap bass, shake your botty treatment regardless of whether it's appropriate. It was fine on 1983's Let's Dance but it most definitely isn't in the case of 'I Feel Free', the fourth track on Black Tie White Noise. I can't imagine why anyone would want to re-hash this relic. In Cream's hands it was a splendid song but it doesn't cover well, sounding mauled when it's performed creatively and like a pastiche when it's not being improved or interpreted. Bowie and Rodgers ought to have let it rest in peace. The title track follows and demonstrates that Bowie still has a spark of what made him great. So does the quirky 'Miracle Goodnight', which, despite the omnipresent dance-floor grind, glimmers. 'Don't Let Me Down And

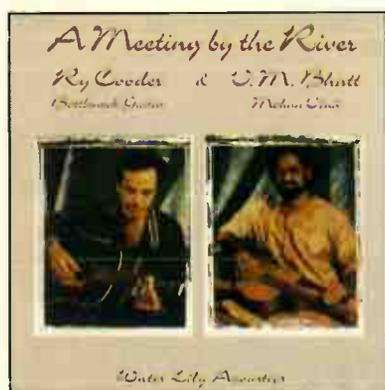
Rock

Rock + Pop.

Down', however, is embarrassing, shouldn't last four minutes and fifty-five seconds and ought really have appeared on a Luther Vandross' Greatest Hits LP. Even Lester Bowie's (no relation) tasteful horn accompaniment doesn't lift the song above mundane status.

I feel sadly disappointed by Black Tie White Noise. It isn't nostalgia that makes me think that Bowie records ain't what they used to be. If you want proof listen to the last track on the CD, 'Lucy Can't Dance', and tell me it's not appalling, pathetic, turgid and totally without merit. And I say that as someone who will openly admit liking 'The Laughing Gnome'.

RY COODER & V M BHATT
A Meeting by The River
WATER LILY ACOUSTICS
WLA-CS-29-CD



● This month's 'and now for something completely different' offering is indeed something completely different - an audiophile recording that contains music of real worth. Every time I'm subjected to an audiophile disc I come away impressed by the recording but bored witless by what passes for the music it contains. Luckily this isn't the case here.

This recording is as purist as any audio propeller head could wish to hear. It is pure analogue throughout, using custom-built triode valve electronics. The microphones were valve types built by Tim de Paravicini of Esoteric Audio Research, arranged as a Blumlein pair and fed through an EAR microphone pre-amplifier. Tim

also designed the two-track recorder used to tape the session.

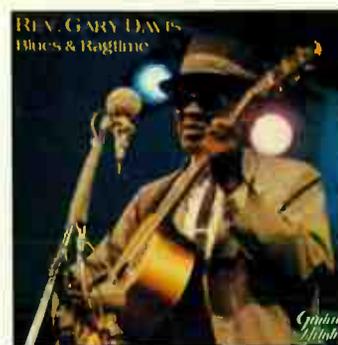
The musicians involved, Ry Cooder and Vishwa Mohan Bhatt, seem outwardly to be an unlikely pairing - a guitarist from the American rock scene and an Indian classical musician. This type of cross-continental pairing isn't unique but past ventures of this nature have rarely been successful; fusions only produce worthwhile music when both parties are wholly sympathetic to each other's musical languages and idioms. In this instance, they are and they achieve an astounding level of harmony. Cooder, as well as being a virtuoso slide-player, is an avid musicologist and was investigating music outside Western culture long before the concept of World music was born. Bhatt, having begun his musical career studying the sitar under Ravi Shankar, was working in the other direction, having become captivated by the sound of an acoustic guitar that a German student had left at his father's music school.

This led him to design the Mohan Vina used on this recording. This instrument is guitar-like but has drone and sympathetic strings in addition to the melody strings, which are fretted with a steel slide to create the microtones that characterise Indian music. Cooder plays acoustic bottle neck guitar. He and Bhatt are supported by a two-piece rhythm section comprising Sukhvinder, playing tabla, and Ry's teenage son, Joachim, playing dumbek.

To describe the music, which, you learn from the CD insert, was completely unrehearsed, would take more space than I have available. As an inadequate thumbnail sketch, take Cooder's 'Paris, Texas', and add to it liberal doses of Indian rhythmic and melodic seasoning. That's selling it short because the improvisations that emerged from this session have an unusual blend of tranquil beauty and amazing energy and fire. The two powerful major musical forces here harmonise with astonishing ease. The best compliment I can pay this disc is to say that the communication and accord between Cooder and Bhatt are such that they sound as though they've always played together. East meets West and you can hardly see the join.

REV. GARY DAVIS
Blues & Ragtime
SHANACHIE 97024

● The Reverend Gary Davis is a truly mesmerising guitarist and that's not just the opinion of a failed plank-spanker turned hack. Davis can number



among those who have studied under him the likes of Stefan Grossman, David Bromberg, Jorma Kaukonen, Ry Cooder and many other respected, virtuoso players. His playing demonstrates that the aphorism those who can do, those who can't teach isn't universally true. Davis is an extraordinarily gifted guitarist and not just in the technical sense; he also has the sensitivity and feel that separates the masters from stylistically challenged also-rans.

He plays with a rare strain of authority that generates a sound big enough to get lost in. If you've ever heard Sonny Rollins and Philly Joe Jones' recording of 'The Surrey With A Fringe On Top' you'll know what I mean; you get to the end of the track thinking that you've been listening to a complete band only to realise that there were just two instruments playing. Davis regularly does the same with just his guitar and voice - oh yeah, he's a mean singer as well.

This album will naturally have a special appeal for guitarists and guitar students - the CD liner even includes notation and tablature for five of the sixteen tracks - but just about anyone who enjoys music played on the guitar will regard it as a treasure. I'm not a great fan, for example, of ragtime music but when Gary Davis plays it I find it difficult not to listen and enjoy. It will also be of special interest to blues aficionados who will know that after the 'thirties and his ordination as a minister, Davis sadly took an aversion to playing the devil's music.

Rock & Pop

Eric Braithwaite

THE LEMON TREES

Open Book

MCA MCD10790

(Also available on LP)

Now this is what I call music. (Oops, sorry, wrong record title.) Just about the time when we all reckon that nobody can really play a guitar, or recognise a valve in a Marshall amp, up pop The Lemon Trees. It's enough to make you weep - Open Book is thirteen tracks of blank pages on which Guy Chambers has mostly re-written all that's musically best from the Stones, early Who, the Beatles, even Syd Barrett. It could be the 'Seventies Songbook' for the Nineties.



ORCHESTRAL MANOEUVRES IN THE DARK

Liberator

VIRGIN V2715

(Also available on LP)

There have been a few manoeuvres (but not necessarily dark) in this band over the last few years. Four years ago the line-up came unravelling as Paul Humphreys left, handing over the name, for a consideration, as they say, to Andy McCluskey and his new writing-partner Stuart Kershaw in time for '91's Sugar Tax album and a new OMD logo to go with it.

Liberator is nothing to do with B-52s, definitely not the B-52s, not a lot even to do with Enola Gay, but it does sound as though OMD have been freed from the so-so run that started with Dazzle Ships through to The Pacific Age and taken on a new lease of life. And about time too. It's

at least a consistent and coherent album - with one exception - though there's no Enola Gay or Joan of Arc on it. That's not a bad thing, though there are 'Arc-ish' and 'Enola-ish' echoes all over the place: diehards can try 'King Of Stone' or 'Christine' for just a spot of reminiscence.

Mostly, though, there's a livelier, tighter, more contemporary beat and a lot less

pretentiousness than the former OMD Mk1. Synths are lush, tracks like 'Dream of Me' nearly outdoing ABC: that's the one based on the 'lurve' man's 'Love Theme'. I loved Velvet Underground's 'Sunday Morning', (though Undergrounders wouldn't recognise it) rebarbative as it is, right down to some Duane Eddy bass from Stuart Boyle.

There are some good tunes - 'Everyday' could have been the first reject for the Eastenders theme - and a soft-ish centred bit of balladry in 'Best Years of Our Lives'. This one's a bit of a filler, as is the dressed-up-Dance 'Dollar Girl', I feel, but for all Kershaw's sometimes mawkish teen-love-angst words, there's only one dud track on the album.

That is 'Agnus Dei', a pompous little instrumental that sounds as though it's a sample of the Sanctus from the Missa Luba (anybody remember the film 'If?') taken off a short-wave broadcast from the Lower Niger and overlaid with crashing percussion. Mercifully it's soon over.

Although not as musically imaginative as early OMD, the Kershaw/McCluskey axis works well. Liberator parties on after Sugar Tax and I liked it: but if you liked Architecture and Morality or Organisation: the best of OMD Mk1, you could find this one a party-pooper, rather than the party-maker that OMD MkII has become.



There's some neat 'Fripp-ery' and 'Plant-ation' work in the playing; even a wah-wah guitar and (bliss!) a melodica solo 'Child of Love'. In the middle of it all you can swoon to the sound of a real Hammond organ. What with Marshall amps and

mastering by Doug Sax, who could ask for more? Well, I'd actually ask for something more like a stage than the flat wall-of-sound mix, but never mind.

These guys - apart from writing good wholesome songs - even know how to end a track without resorting to the fader. (Well, almost: the one lemon on this tree, 'Instrumental', the down-tempo track for a couple of minutes' relaxation half-way, shows signs of not going anywhere and is faded out).

It's all good tunes, good hooks, good playing like we all thought had gone out with the Seventies. Such is the guitar-man-ship on 'Let it Loose' it should have been called 'Let it Rip'.

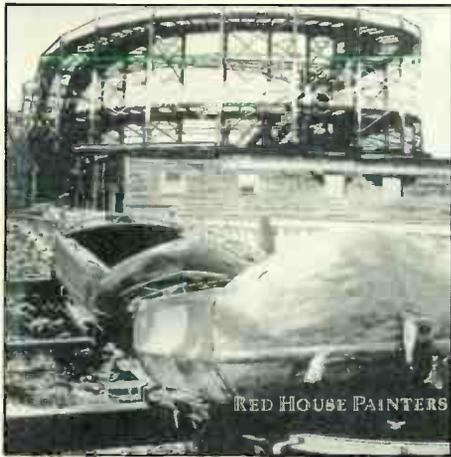
If 'Love the Sun' is influenced by 'Here Comes the Sun' and 'Bitter-sweetness' by 'Pinball Wizard' in a kind of live sampling, I for one don't really care. Nor do I bother that Guy Chambers sometimes sounds a bit like Justin Heywood.

I haven't had so much fun since I spent a night reviving my Captain Beefheart albums. Then, I was always a sucker for good bass guitarists, twelve-strings and a melodica. Not to mention the Hammond organ.

If you crave excitement, open this book. "Lemon Tree oh-so-pretty and the lemon flower is sweet . . ." The fruit is very evanescent and edible.



RED HOUSE PAINTERS
Red House Painters
4AD DAD 3008 CD



● The Red House Painters hail from San Francisco; heaven knows what the name's meant to signify, if anything, but singer-songwriter Mark Kozalek is a long way from painting the town red. His colour is deepest, saddest blue.

This is an hour and a quarter on the demise and decay of relationships that makes Leonard Cohen look like a starry-eyed optimist in blithe spirits. Kozalek, who was into drugs at ten, into rehabilitation at fourteen, lifts up the parietal lid we all hide our worst fears and relational insecurities under, realising the ghosts that haunt us. It might be a House of Usher of defunct people and places he opens up, but it's extraordinarily affecting and cathartic.

Take 'Take Me Out', devastatingly melancholic in early-Cohen mode, with a simple bleak vocal, cold guitar chords, a pared-to-the-bone female backing and a plaintive story line that leaves you almost drained, but high on emotion.

At the risk of ending up in Pseudo's Corner, Kozalek's lyrics and music are autotelic like few others'. He has a knack of painting a verbal landscape, that immediately connects with an emotional one of your own and leaves it raw. He communicates directly to the cortex in a way that makes most so-called lyricists these days sound about as deep as Patience Strong. Yes, the subjects are often morbid - victim of a car-crash; fear of death - but never mawkish.

Underpinning all these tales of woe and washed-up impermanent relationships, are some delicate, poignant acoustic guitar arrangements and subtle drumming, sometimes so slow as to be almost motionless. The ironically-titled 'Funhouse' is so unwound and low key it nearly stops altogether, but you stay with it. Kozalek says that the snail's pace is natural - he doesn't have the energy

to play faster. But also underlying it all, is the questioning innocence of the child who feels bereft when the circus leaves town: viz. 'Rollercoaster'. Everybody on this album has left town; Kozalek involves the listener so privately you're left behind with him - sharing and surrounded by the most desolate places of the psyche.

It may all sound gloom and despondency, but Kozalek is a writer, not a psycho; anyone who can slip in a line like "You're an American girl/living in a freckle on the face of the world" has a line in irony that belies the melancholy. If you can take Lou Reed's Magic and Loss, then you should try the House Painters' litre-and-a-half of emotion-painting. You'll need some Kleenex - and, if you have any soul, a quiet hour's introspection afterwards. You'll be better for it.

JEAN-MICHEL JARRE
Chronologie

Disques Dreyfus 519 373-2
(Also available on LP)



● Well, I always fancied Charlotte Rampling, but this fellow that I'd like to rename 'J-M Bore' married her. Then there was this big concert: all scaffolding, with millions of fairy lights and fireworks, but it poured down, or perhaps I'd stopped fancying Ms Rampling or something, that's why I didn't go. Oh yeah, the reason was that it was in the Docklands, and look what happened to them: Canary Wharf swallowed whole by the banks. Maybe Jean-Michel should pick his associates more carefully.

Maybe he should pick his musical associations more carefully, as well. At the side of the CD insert (photo courtesy of Madame Jarre) there's a brief credit to Stephen Hawkin's 'Brief History of

Time'. Heaven help us, there's even a few momentary seconds of clock-ticks and chimes 'a la Dark Side of the Moon' to make the connection (twice, in case you don't connect first time). Time must have been obviously more interesting in Floyd's day. To confuse the issue, Part Seven begins with what sounds like a wasp's nest and degenerates fast into a mare's of muddled ambient.

Chronologie - hey, Monsiuer Dreyfus, you wanna quote? - is timeless Jean-Michel Jarre. By my translation, that means yet more of the same - or perhaps worse, Oxygene on Helium at the very best. Chronologie, frankly, is a compendium of Jarre sounds that could have been randomly sampled from any earlier album simply by punching the 'Shuffle Play' key on the Fairlight sythesiser - if there is one.

If using a Fairlight sounds slightly passé, then alas, so does Chronologie. It is a rambling series of Sci-Fi movie soundtracks of vaguely 2001, Solaris or even Dr Who vintage, all with a synthetic drum track overlaid on the usual Jarre-ing wails and pseudo-choral rising-scale "Aaah-aah-aahs" in the hope that at least a couple of the tracks (all called 'Parts') might float themselves onto the dance-floor. One combines a 'common-as-muck' drum track with a tune of such simple-minded banality that a three-year-old could have picked it out on a toy piano. Instead it needed a Minimoog, the Fairlight, a few other synthesizers and 'additional keyboards by' three others whom I'm not going to dignify with a mention!

After forty two minutes of sort-of Ambient House Nat King Cole style, this portentous (sorry, I've misspelled myself, I meant pretentious) work, distributed by Polygram, is the best refutation so far of Maurice Oberstein's argument that CDs are worth more than a tenner. I still fancy Charlotte Rampling, but after this review of her husband's 'opeless Opus I daresay I've blown my chances totally. Give the man more oxygen, somebody.

Rock + Pop.

Simon Hopkins

Jazz

Improvising guitarists and the mixing of vastly different styles all feature in this month's selection- but the ultimate reverence goes to Billie Holiday's ten CD box set.

EUGENE CHADBOURNE Strings

INTAKT CD025/1993

● More great improvised guitar. If light years away in approach - in fact barely in the same galaxy - Eugene Chadbourne has been one of the most startling guitarists of the last dozen years or so. Originally a respectable jazz critic (and what could possibly be more respectable?) he launched himself into a career of guitar terrorism with his own group Shockabilly, a post-punk, dammit, post-everything outfit that took hillbilly music into strange new worlds. Recorded in April last year, *Strings* captures over seventy minutes of the man, solo, on acoustic guitar, dobro and banjo, working his way through a set of originals and covers that are like a helter skelter ride through the scarp of American music.

Covers of Monk, Mingus, Rollins, Strayhorn, Ellington and Coltrane medley, tributes to free jazz guitar guru Derek Bailey, Roland Kirk and, er, Grace Slick all get a look in, and all get fed through Eugene's demented avant-bluegrass mincer. (Although don't be surprised by the odd moment of tenderness - witness his rendition of "Monk's Mood", typically

EUGENE CHADBOURNE STRINGS



on the edge of breakdown, but nothing if not lovely.)

Where earlier this year, fellow, if more widely celebrated, yankee guitarist Bill Frisell took all kinds of vernacular American music - Sousa, Madonna - and put it into context alongside Ives and Copland, Chadbourne happily takes the music of accepted masters and drags it through the mire of "lesser" musics. Along the way you get flashes of virtuosic display (the light speed runs of the Paul Bowles tribute 'Spider's House'), riotous humour (the spoof Senator Jessie Helms introduction to 'Coltrane Medley') and barely contained political anger ('Screw KKK!'). But above all else, this remains fine, and irrepressibly cutting edge acoustic guitar music; listen to it side-by-side with 'New Kind Of Water' and wonder at anyone ever pronouncing guitar music dead.

KAZUYUKI K NULL / JIM O'ROURKE New Kind Of Water CHARNEL HOUSE PRODUCTIONS CHCD-6



● I like throwing in the odd tricky-to-find import, just to keep you lot on you toes, but even if I didn't I'd review this for all you guitar monsters out there. Japanese guitarist K K Null has been making his own very special noise for a few years now, mostly at the helm of his own group Zeni Geva. That group's three albums or so are

BILLIE HOLIDAY The Complete Billy Holiday on Verve 1945- 1959

VERVE 517 658-2

● This column, might seem to some to offer up endless theses on the central eclecticism of all jazz. It's just that jazz is endlessly eclectic. Now of course, for any music to come into being, a whole bunch of different strands have to come together. But once that's happened, so much music begins to ossify. This isn't generally the fault of any particular musicians; more that the process of polishing and honing a particular style inevitably leads to a tendency to promote purism. Ry Cooder, (one of rock music's greatest eclectics) has shown just how this sort of ossification has robbed the Cajun music of the Louisianan swamplands of any real historical force. A series of geographical and social factors have turned the music from a folk art of great vitality, with exponents like Clifton Chenier - at least an equal folk musician to Robert Johnson or Woodie Guthrie, into a museum piece. This has occurred in a way that, many at least would argue, hasn't happened to rock music (in its very broadest sense), the blues or soul music.

Arguements

It certainly hasn't happened to the best jazz, and perhaps this owes as much to the unusual myriad racial, geographical, as well as purely musical origins of the music, as to the valiant efforts of so many of its finest exponents to constantly bring in new musical materials. Not that all jazz musicians, or indeed, jazz critics, have been quite so valiant. Each new development in the music bebop, free, fusion - has led to acrimonious arguments about the destruction of the music's purity, and the '80s in particular saw an alarming number of luddites, sorry, "neo-classicists" gaining hugely undeserved plaudits.

Meanwhile, taking to the trenches, the eclectics, the iconoclasts and the just-plain trouble makers battled on. When John Zorn pens a song called 'Jazz Snob Eat S**t', then dedicates it in concert to Wynton Marsalis, (the most conservative and yet most critically lauded of all neo-classicists) you'd better believe he dam well means it. But this attitude is fortunately not dominant: musicians as diverse, and arguably as mutually opposing as free jazz sax monster Peter Brotzmann, country-thrash

guitar-abuser Eugene Chadhoume, Stockhausen's wayward son and trumpet virtuoso Markus, Japanese HM guitarist and noise sculptor K K Null - and others - all do their very best to open jazz's front door and let in friend and foe alike.

The funny thing is that for all their rampaging genre-gluttony, pretty much all of the eclecticists beloved of this column are yet indisputably jazz musicians. If you wanted to find their records, chances are you'd have to look in the jazz racks of your local record store. If you wanted to read more about their exploits then you'd probably need to buy yourself a "jazz" magazine.

But any style of music will throw up one or two musicians who utterly transcend their genre. To call Jimi Hendrix a rock guitarist, to call Steven Sondheim a writer of musicals, to call John Barry or Ennio Morricone soundtrack composers or Sinatra and Cole cabaret singers, is to deny all of them their real power and the scope of their appeal. To call Billie Holiday a jazz musician is as unfair as calling my friends Zorn and Co. anything else. At the outset of his sleeve notes for this ten CD set of Holiday's Verve output, the set's chief compiler Phil Schaap has this to say: "If you want to get a handle on Billie Holiday's music, then you must think of her first and foremost as a jazz musician. After that, you can identify her voice as her chosen instrument and call her a jazz singer - but stress the word jazz".

Oh dear. Quite apart from the fact that calling Billie Holiday's voice "her chosen instrument" is like calling feet everyone's chosen method of moving, Schaap (of whom I feel much more positively, later) gets wrong exactly what everyone who dismisses Holiday's Verve output as her least important contribution to the music ever got wrong. As much as this writer would wish it not so, the chances are that the very best of Miles' output, and that of all from Monk to Crispell, from Parker to Zorn, will really only ever be grasped by the jazz fan; but everything about Billie Holiday's singing cuts right through all genre boundaries to the very essence, not just of all music, but of what it truly is to be human. In the case of the music presented on the ten CDs here: what it is to be a frightened, desperately ill, frail and yet defiantly proud, righteous, angry human being. So many of this

column's favourite musicians take as many styles as they can muster, pummel them together and say something very real, and very valuable, about what it is to be a creative musician at the fag end of the 20th century; the likes of Hendrix, Sondheim, Cole and others fit this bill. But Holiday took one thing and, in turning it inside out, revealed what it is to be us, anytime. Which is just why this set, of all Holiday's output, is the most vital, in every sense that the word can convey.

Conveniently for critics and archivists alike, Holiday's career splits neatly into three periods. First, her early dazzling work as one of the most naturally gifted jazz musicians of her time, certainly the finest singer. She easily adopted the dual influence of Bessie Smith and above all Louis Armstrong to both big-band and small combo swing, and she brought an

essays, discographical and line-up listings and a plethora of beautiful photographs, many of them previously unseen. Through a mixture of fortunate circumstances and scarce-concealed avarice, this reviewer is overburdened with boxed CD collections, but this set is more lovingly put together than anything I've come across. Something for which Mr Schaap should be praised beyond the abilities of this column.

The music? Well, technically speaking, Holiday never really got beyond swing. By the time she began to record for Verve, bebop had hit big time. Parker, Roach, Gillespie and Co. were taking the rhythms and chord changes of swing and raping them, forging a path into the most influential jazz of the post-war period. The singers the beboppers favoured - Sarah Vaughan, Ella Fitzgerald scatted their way around a song's chord changes with no more regard for its sentimentalists than the instrumentalists had for the melody and tempo.

Suffer

Billie didn't want to get beyond the song, she wanted to live in it, luxuriate or suffer in it. Even supposing she'd wanted to, it's doubtful that her technique would have allowed her to step into the brave new world of bebop.

For time had left scars on Billie Holiday. Years of alcohol and heroin addiction, a series of self-destructive relationships had left her voice, if not her spirit, utterly ravaged. Jazz critics at the time, totally, and stupidly, immersed in the quality of musicians' technical skills, practically laughed at Holiday's fragile, faltering voice. For those of us on the outside of those arguments, technical considerations are utterly irrelevant. This quiet, disraught-but defiant voice communicates more over the course of fifteen or so hours of music than half this century's poets and painters have managed between them in a lifetime. The least we can do is fork out a few quid and plug into the sound of sacrifice for a few hours.

Of all the music I've ever had to talk about, this is the most difficult, and yet indisputably the most essential. Whatever music you think you like, this set is a must for you. Buy it.



improvisatory intensity and rhythmic ease to jazz singing that was previously unimagined.

She then happily ditched all that and moved on to a career as torch singer supreme, pitching her elegant voice against lush strings and presenting herself more as cabaret diva than as a jazz singer per se. Then, after serving a much-publicised jail sentence for possession of narcotics, she signed to Verve. All the work that she did for them, which covered almost a decade and a half - practically up to her death in 1959, is documented lavishly in this package.

The CDs taken from the Verve vaults, all beautifully remastered (there are times, when it's genuinely like listening to contemporary recordings), are presented chronologically. These recordings are illustrated by, commented upon, and generally elucidated by a book of over 200 pages which itself brings together

well worth tracking down, with their carefree eliding HM chording, Free Jazz guitar solo onslaughts and tortured hardcore screamings. Monstrous and essential stuff.

Fellow guitarist Jim O'Rourke first came to my attention a couple of years back on a duet album with the great San Franciscan guitarist: improviser and bandleader Henry Kaiser. Their playing together was a remarkable and almost musically oxymoronic melange of industrial and new age music, with Kaiser's special effects-laden playing contrasting sharply with O'Rourke's dry guitar-to-amp approach. *New Kind Of Water*, recorded in early 1991 and June 1992, continues in a not dissimilar vein, except that if anything, there's an even greater contrast between the two guitarists. Away from the psychotically driving rhythms of Zeni Geva (the opening cut of their UK debut album *Maximum Money Monster*, was sixteen minutes of almost pure rhythm, with an endlessly repeated and brutally slow guitar riff that beat the listener into submission.) Null's playing is almost ethereal, his overdriven, electronically harmonized noise floating above O'Rourke's lush chording. Again: industrial? New age? Jazz, for heaven's sake? Who knows, or cares? This is certainly some of the most vivid and endlessly experimental guitar improvising you're going to have heard for some time.

THE PETER BROTMANN TENTET
The Marz Combo Live In Wuppertal
FMP FMPCD47

● In months without something like the Billie Holiday opus to review, "The Marz Combo" would demand columns itself. A live recording from February 1992, the set documents the coming together of contemporary jazzers from both sides of the Atlantic. In many ways they are from both sides of an equal aesthetic barrier. The line up is group leader/tenor saxophonist Brotzmann, still one of the most ferocious voices in free jazz; his son Casper, leader of his own free jazz-doom rock outfit *Massacre*, on



guitar; Euro jazzer Werner Ludi and our own Larry Stabbins on saxophones; trombonists Hannes Bauer and Paul Rutherford; NYC downtown sessioner Nicky Skopelitis on guitar; bassist William Parker; Japanese 70s-Milesish trumpet meister Toshinori Kondo; and lastly, but by no means last, drummer: erstwhile Pere Ubu person and Golden Palominos leader, Anton Fier.

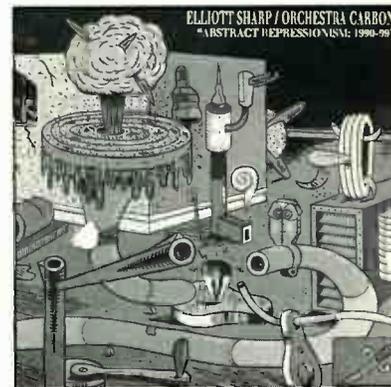
With the clashing of so many musical camps, not to mention this unwieldy line up, you might well expect this to be a bit of a mess, but not a bit of it. The band are superbly focused, with all that virtuoso musicianship held firmly in place. This band are out to make a racket, surely, but individual noise making simply contributes more to the huge, gothic tone poem that makes up the three parts of the album's single composition. Pay special notice to the dual guitar work of Skopelitis and Brotzmann; the two couldn't have more radically different approaches, the all German HM squalls and heavily distorted, jarring close-voiced tone clusters, the American more cerebral, with tidy, more specifically jazz lines spiralling all over the place. Yet how well they work together is simply a microcosm of how well intergrated the entire tentet is. A highly recommended album, and a fine blueprint for several ways forward for the large scale ensemble in contemporary jazz.

ELLIOTT SHARP / ORCHESTRA CARBON
Abstract Expressionism 1990-99
VICTO CD019

● Another guitarist more concerned with the melding of "art" music and jazz, or, more specifically, composition and improvisation is Elliott Sharp. A part of New York's "downtown" scene for over a dozen years now, and hence a colleague-cohort of kindred genre-busting spirits like John Zorn, Fred Frith, Laswell and Co., he's nonetheless very much his own musician. But he's not nearly so self-consciously post-modern as a lot of that scene. (Not that self-conscious

post-modernism is regarded as much of a crime by this column.) As much inspired by New York's proto-punk background, Sharp is only peripherally a jazz musician. Over two dozen of his albums have ranged from solo, multi-tracked recordings to string quartets, from collections of short, punkish vignettes to long, through-composed pieces for dance. And from the relatively conventional setting of "prepared" string quartet (witness his blinding contribution to the Kronos Quartet's latest collection on Elektra *nonessuch*, *Short Stories*) to last year's magnificent *Twistmap* for a battery of home-made instruments. At the core of even his most abstract pieces is a driving, propulsive, almost psychotic sense of rhythm, which goes some way at least towards explaining the perverse accessibility of his work.

Abstract Expressionism is no exception. One of Sharp's most consistently enjoyable settings has been the group *Carbon*, basically a free jazz/new music-inclined punk group, which has been notable for, among many things, the work of the remarkable electric harpist Zeena Parkins. This piece is supposedly for an enlarged version of *Carbon*. It's essentially a chamber group of three violins, three cellos, alto, bass, electronic drums and Sharp on custom double-neck bass guitar. Given that this is a nigh-on sixty minute, seven movement piece for predominantly acoustic instruments, any link with *Carbon* might seem fairly nominal. But the essential tone of the group is very similar - all discordant, abrasive harmonies, damn-near bashed into submission by grinding rhythms, and strange flights of improvisation barely getting their head above the general morass. Sharp is as



insistent as ever on his use of what he terms "irrational" methods, by which elements of ensemble structure are held in balance with individual musicians' extemporising.

Essential stuff for anyone seriously concerned with the way forward for large group composition in jazz. The big band is dead. Long live the big band.

Jazz

Classical



JOHANN SEBASTIAN BACH
Tocatta and Fugue in D minor BWV565
Tocatta, Adagio and Fugue in C Major BWV564
Fantasia and Fugue in G minor BWV542
Prelude and Fugue in C Major BWV547
Prelude and Fugue in A Major BWV536
Passacaglia and Fugue in C minor BWV582
Martin Souter, organ
ISIS RECORDS CD002 (DDD/70.14)
(PRODUCED WITH THE ASSISTANCE OF QUAD ELECTROACOUSTICS)

● Peter Hurford's epic and almost unreservedly excellent survey of the Bach organ repertoire for Decca runs, or rather ran to some eight volumes on LP, with three records per set. Which is a lot of music, not all of it consisting of towering masterpieces, but, equally, containing very few duds. Plenty, you would think, for each and every organist to choose from. So why-oh-why do they all seem compelled to record the same four, tired old warhorses? Here is Martin Souter offering yet another recital

containing the Tocatta and Fugue in D minor (which is almost certainly not by Bach anyway), the Tocatta, Adagio and Fugue BWV564, the Fantasia and Fugue BWV542 and, inevitably, the Passacaglia and Fugue BWV582, which is such a splendid piece that now merits a well earned rest.

It is a programme which recurs with monotonous regularity and anyone undertaking it, inevitably faces comparison with the likes of Ton Koopman and Peter Hurford whose versions are well-established in the catalogue.

Martin Souter does redeem himself in two respects. First, by expanding his recital to a generous seventy minutes by including two rarely-performed Preludes and Fugues, that in C Major BWV547 and that in A Major BWV536, and secondly by using an historic and highly appropriate instrument. The instrument in question is the Garrels organ of the Grote Kerk at Maassluis in The Netherlands. This splendid instrument was built within Bach's lifetime, in 1732, and is the type of northern European organ which Bach seems to have favoured. He would have heard the great Danish organist and composer, Diderik Buxtehude, playing a similar instrument when he completed

Peter Herring

Music for the stage, the 'comedias' of Renaissance Spain and Wagner's 'Tristan und Isolde'; music for the chapels and churches of England; music for cello, organ and lute; and music for all of nature and the cosmos-the Third Symphony of Gustav Mahler

his famous 300-mile trek to Lubeck. Rudolph Garrels was a pupil of that master among organ builders, Arp Schnitger, and the instrument at Maassluis has a richness of sonority typical of Schnitger. It is not as weighty as many more recent organs but I find that more of an advantage than a disadvantage: too often the availability of deeper registers is simply an excuse to overegg the musical omelette. The sound here is refreshingly light and warm and Martin Souter offers characterful playing, with several imaginative flourishes.

His playing is also treated to a recording, engineered by Geoffrey Hom using two AKG C460B microphones and a Sony PCM I machine, that offers convincing perspectives and makes good use of the acoustics of the Grote Kerk. It is just a pity that the repertoire isn't more interesting, although if you are starting a Bach collection, it's well worth considering. Martin Souter's Handel recital, reviewed last month, was, for me, far more memorable and treasurable. As with the Handel issue, this recording has been produced with the assistance of Quad and, technically, I would imagine they will be well-satisfied with its potential for demonstrating the new sub-woofer!



RECORD OF THE MONTH

Music's most powerful psychodrama is Wagner's *Tristan und Isolde*. The backcloth is Cornwall of medieval mythology, the plot a heady brew of passion and villainy. Superficially, *Tristan* appears to belong alongside the early pageant operas such as *Tannhäuser* and *Lohengrin*. Search deeper, though, and you discover a potent drama of the soul, an incandescent compound of the sexual and the sacred, an exploration of one of life's eternal paradoxes, that which pits the fulfillment of individual desire against the pressure of a wider, social responsibility. *Tristan* also happens to be one of the most liberating and overwhelming of musical experiences.

Given his place in the pantheon of German music, it is often overlooked that Wagner was at one time banished from the land of his birth because of his violent political outbursts. He first sought refuge with his friend and fellow composer, Franz Liszt but was then taken in by a rich merchant called Wesendonk. He repaid his host's hospitality by seducing his wife. It was this affair which inspired thoughts of a music-drama based on the *Tristan* legend and it was at a time when Wagner's genius was at its height. The result was the most revolutionary music of its epoch, a work destined to cast a hugely influential shadow over all late nineteenth century western music. Mahler and Schoenberg were just two who benefitted from Wagner's boldly pioneering harmonic radicalism. In *Tristan*, Wagner fused the orchestral brilliance of Berlioz with the lofty symphonic grandeur of Beethoven and the harmonic daring of Liszt. The ensuing acclaim merely

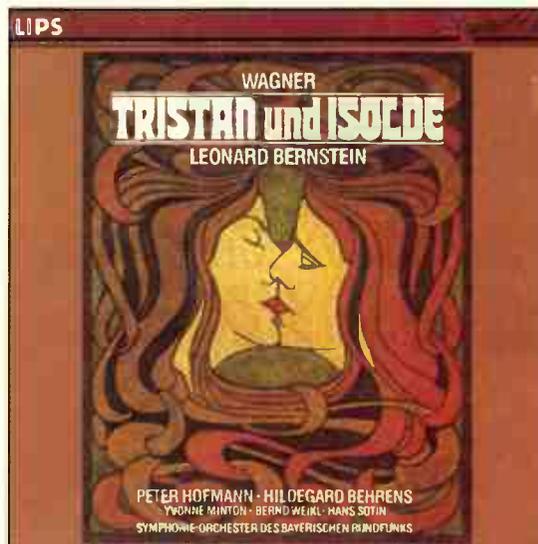
confirmed Wagner's own opinion of himself: that he was the greatest composer in the history of stage music.

RICHARD WAGNER
Tristan und Isolde

Peter Hofman; Hildegard Behrens; Hans Sotin; Bernd Weikl; Illebert Steinbach; Yvonne Minton; Heinz Zednik; Raimund Grumbach; Thomas Moser; Chorus of the Bavarian Radio; Bavarian Radio Symphony Orchestra; conductor, Leonard Bernstein

PHILIPS 438 242-2 (4CD SET)
(DDD/266.14)

● Now accommodated on four discs



instead of the previous five, this is a re-issue of Bernstein's live concert recording from 1981. It was taped at concerts in the Herkulesaal in Munich, and at the preceding dress rehearsals, with any retakes and corrections undertaken immediately after the performances. The 'patching', though must surely have been minimal, given the sweeping spontaneity of Bernstein's interpretation.

On hearing Bernstein's *Tristan*, no less than Karl Böhm - himself a Wagner conductor of stature -

commented:

"For the first time somebody dares to perform the music as Wagner wrote it. The rest of us never dared to!"

And it remains probably the most spacious and sensuous *Tristan* ever recorded. Yet Bernstein's rhythmic acuity ensures that the momentum is maintained and the performance, with its powerful climaxes, is contoured with instinctive judgement. It is a wholly convincing reading, and compelling from start to finish.

The cast is uniformly satisfying, with Hans Sotin incomparable in the role of King Mark. As *Isolde*, Hildegard Behrens may be outshone by others in terms of tonal beauty, but hers is a voice with the power to meet the dramatic challenge posed by the heroine.

Bernstein is well supported by the Bavarian orchestra, who play supremely well: the string sound especially benefitting from the rich, full recording. Overall, given the forces involved, it is a finely-balanced recording, the detail clear and the perspectives truthful. There is some audience noise but it is of no consequence in what remains one of the great opera recordings of recent times. The combination of Wagner and Bernstein is electrifying; arguably the most subjective of conductors excels in a work where the focus is always on the subjective consciousness of its characters and their relationships. Like Shakespeare, Wagner's plots may be set in distant, mythical times, but his themes remain wholly recognisable. This, Bernstein understands to the full. To paraphrase Karl Böhm's comment on the performance, he dared and he won, emphatically.

LOPE DE VEGA
Intermedios of the Spanish Baroque

Montserrat Figueras, soprano; Hesperion XX; director, Jordi Savall (viola da gamba)
ASTREE AUVIDIS E8729 (DDD/70.30)

● Now, here's a pleasurable find, repertoire for those who enjoy exploring the unpredictable, yet often immensely rewarding territory beyond

the traditional borders of music. It's a selection of music written to accompany and, frequently, enhance the 'comedias' of a prolific seventeenth century Spanish playwright, Felix Lope de Vega. His life span of 1562 to 1635, place Lope de Vega at the heart of the so-called 'golden age' of Spanish art, making him a contemporary of such better known figures of literature as Cervantes, Molina and Calderon, and painters such as Velazquez and

Murillo.

Lope de Vega hailed from Madrid and there are some 340 'comedias' attributed to him. He seems to have had a fondness for traditional Castilian song and, judging by the countless references to music in his texts, he saw it as making a vital contribution to his plays. Lope de Vega's words attracted many of the finest Spanish musicians of the period, including Joan Batista Cabanilles; an organist from

Classical



Valencia who became a major figure in Spanish keyboard music. The thematic originality, technical richness and structural variety of Cabanilles's art is fully evident from the four pieces recorded here.

This disc is full of such gems, a mixture of instrumental pieces and songs, the latter beautifully sung by Montserrat Figueras. There is a wonderful 'battle piece' (Tiento de Batalia) by the Aragon composer (and organist?) Sebastian Aguilera de Heredia and a touching lament (Lamento de Belisa), sadly anonymous. The contribution of the Portugese composer, Manuel Machado, who worked in Madrid from his youth, is also notable.

What characterises all the music recorded here, though, is its freshness, vitality and sparkling originality. The instrumental textures are richly colourful, employing a quartet of violas da gamba, including that of Jordi Savall, director of Hesperion XX, comet, chalumeau (a forerunner of the clarinet), trombone, guitars, theorbos and percussion. It's a gorgeous sound, and finely recorded with great presence and atmosphere, oddly enough not in Spain but in a church in Berlin's Wilmersdorf district. A first-class production is completed with a scholarly but lucidly informative introductory essay by Andres Ruiz Tarazona, luckily with full translations.

GUSTAV MAHLER Symphony No3*/Symphony No 10 (Adagio)

Florence Quivar*, mezzo-soprano; Israel Kibbutz Choir; The Israel National Choir 'Rinat*'; 'Ankor' Children's Choir*; Israel Philharmonic Orchestra; conductor, Zubin Mehta

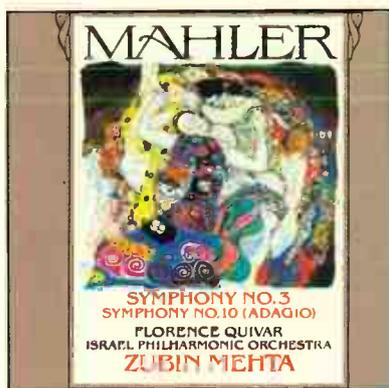
SONY CLASSICAL S2K 52579
(2 CD SET) (DDD/I08.42)

● Mehta's Mahler enters a competitive field, with the established front-runners being Bernstein and Abbado on DG and Horenstein on Unicorn-Kanchana. There is a directness about Mehta's approach which, in many respects is commendable, but it also

means that some of the fantasy and mystery is absent from Mahler's paean to nature, the cosmos and the power of transcendental love.

Mehta takes the first movement briskly, over two minutes quicker than either Abbado or Bernstein and the result is at times superficial, missing some of the subtle touches in Mahler's technicolour scoring. Yet in the second movement, Mehta equals Bernstein in indulging the sheen schmait of the quasi-minuet. The scherzando third movement again finds Mehta setting a cracking pace and, here, it undoubtedly works, emphasising the rollocking exuberance of the music.

The Fourth of the six movements introduces voices and Florence Quivar is utterly spellbinding in the setting of Nietzsche's Midnight Song from Also Sprach Zarathustra. It is a pity that Mehta then breaks the spell with a quite charmless, almost martial rendering of the Wunderhorn song, Es sungen drei Engel. The cheerful innocence that the children's voices should convey is almost absent. It is all very precise and rhythmically pointed, but where is the joy?



The finale is beautifully played, but a shade too restrained for my taste. This movement is so unashamedly gushing that all the expressive stops can be pulled out quite fearlessly, as Abbado does. He lingers nearly four minutes longer than Mehta here, although Horenstein, in his benchmark 1970 recording is marginally quicker - than Mehta.

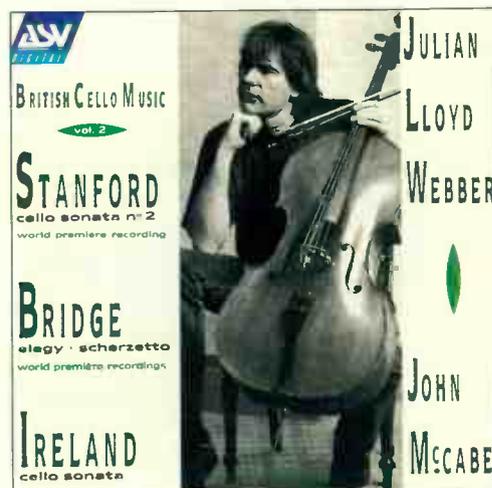
In much other music, Mehta's straightforward and unmannered approach would be wholly desirable. But this is a symphony that, if it is to be convincing, needs the conductor to stamp his conviction and personality on the interpretation which Mehta, to me, simply doesn't achieve. It is, though, finely played, even if the Israeli

strings are not quite the equal of the Vienna Philharmonic for Abbado.

As to the recording, made on 20 bit machines and then processed for 16 bit through Sony's SBM (Super Bit Mapping) system, it is without doubt one of the finest to have emerged from the notoriously dry and unhelpful acoustic of the Mann auditorium. It has warmth and perspective and a glorious tonal quality, especially in the brass and woodwind. Sony's claims to reveal more inner detail appear justified: a notable clarity to the lower strings, for example. And unlike its competitors, this version does offer another work, the Adagio from the unfinished Tenth Symphony. It makes an interesting contrast with the raw emotion of last movement of the Third, and it is eloquently played.

CHARLES VILLIERS
STANFORD
Cello Sonata No2 Op39
FRANK BRIDGE
Elegy for cello and piano*/
'Scherzetto' for cello and
piano
JOHN IRELAND
Cello Sonata in G minor*
Julian Lloyd Webber, cello; John McCabe, piano
ASV RECORDS CD DCA807
(ADD*/DDD/55.38)

● The canon of British chamber music holds a strong attraction for Julian Lloyd Webber and has resulted in many eloquent and persuasive interpretations of rarely-heard works, ▶▶





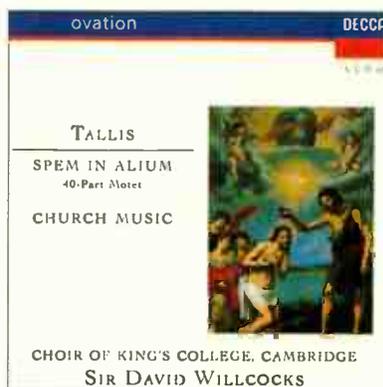
by such as Frank Bridge and John Ireland. Four of those interpretations can be enjoyed here, two recorded in St John's Smith Square back in 1977, the others taped at St George's, Brandon Hill, Bristol just last year. The combination of re-issues and new recordings makes for a well-balanced, if not especially generous programme, with two major cello sonatas and two miniatures by Frank Bridge, one of which -the Elegy -despite its brevity is a work of searching intensity. Dating from 1911, its spare, austere style anticipates Bridge's later music and the aching poignancy of the work does not escape Julian Lloyd Webber, in what is a performance of great commitment and power. Tony Faulkner's recording emphasises the cello, possibly with justification given its richly expressive role in this piece.

Ireland's Cello Sonata is also a work of abundant inspiration, at its heart a slow movement of eloquent beauty. The two outer movements are of a dark-hued intensity and the whole work exploits the emotive potential of the instrument. Again the cello takes centre stage, but the fine contribution of John McCabe to this reading is not overshadowed.

The integration of 'seventies analogue and 'nineties digital has been accomplished almost seamlessly in this transfer and it is easy to appreciate why Julian Lloyd Webber wanted to add the Stanford sonata to his discography. The image of Charles Villiers Stanford as a rather dour Victorian, is utterly belied by so much of his music, including this work. Rhapsodic, lyrical, free-flowing, it is a romantic sonata on the grand scale. There are echoes of Brahms but in most respects it is a work of considerable individuality and depth. As with all the music here, it is well worth getting to know.

THOMAS TALLIS
Spem In Alium- 40 part motet/In manus tuas/In ieiunio et fletu/Te lucis ante terminum (I)/Te lucis ante terminum (II)/Ecce tempus idoneum*/Veni Redemptor gentium*/O nata lux de lumine/Salvator mundi/Derelinquat impius/Videte miraculum*/Organ Lesson*/Sancte Deus*
 John Langdon, organ; Andrew

Davis*, organ; Cambridge University Musical Society; Choir of King's College, Cambridge; conductor, Sir David Willcocks
DECCA OVATION 433 676-2
 (ADD/60.46)



● One of the most distinguished choral recordings to come from Decca during the 'sixties makes a welcome reappearance on its mid-price Ovation series.

The works here are drawn from two Argo issues (ZRG5436 and ZRG5479) and the subsequent reissue double album ZK30-31, the principal omission from the LP programmes being Tallis's setting of the Lamentations of Jeremiah. Yet this remains an outstanding production and a desirable addition to any library of sacred choral music.

It is difficult to believe that this recording is now over twenty-eight years old, having been recorded in the chapel of King's College, Cambridge in March 1965. The highlight, inevitably, is the awe-inspiring forty-part motet *Spem in alium* in which the King's choir is augmented by the voices of the Cambridge University Music Society. The sound is thrilling, not just in its scale, but in the degree of clarity which is achieved within such a complex tapestry of interweaving vocal lines. How well the King's chapel acoustic suits this music, and how well it is performed by these forces.

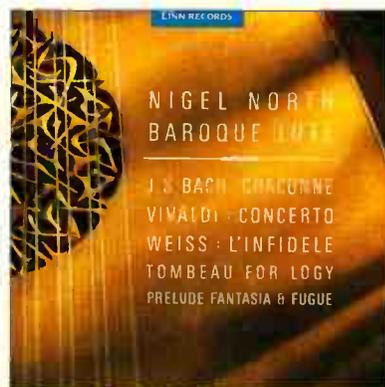
The recording is not blemish-free (what sounds like a poor edit at the beginning of *In Manus Tuas*, for example), and the focus in some of the small-scale pieces is closer than most balance engineers aim for these days. But what expressive and heartfelt singing.

All the works here had their origins either during Tallis's tenure at Waltham Abbey in Essex or, after the dissolution, from his long career as a musician of the Chapel Royal. It is music that has long been part of the King's tradition and it must have been in the blood of these choristers when these recordings were made, such is the fervour projected here. In a

couple of the motets, the balance does over-emphasise the trebles but otherwise there is little to criticise in this new transfer.

SILVIUS LEOPOLD WEISS
Sonata in A minor (L'Infidele) Prelude, Fantasia and Fugue in C Major Tombeau for Count Logy
ANTONIO VIVALDI
Concerto in F Major
JOHANN SEBASTIAN BACH
Chaconne in D minor
 Nigel North, lute
LINN RECORDS CKD006 (DDD/61.16)

● An attractive recital by one of our leading lutenists, combining two arrangements of popular pieces with three original works for the instrument by the eighteenth century lutenist and composer, Silvius Leopold Weiss. The bulk of Weiss's working life was spent in the service of the court at Dresden but, in 1719, he visited Vienna which, at that time was much enamoured with things oriental, including the music of Turkey which had been absorbed into the vast



Hapsburg empire. Weiss, too, fell under the spell and the influence is clear in his A minor sonata (hence its subtitle, *The Infidel*). Along with this sonata, the most performed of Weiss's works has probably been the haunting *Tombeau for Count Logy*, surely one of the finest pieces ever written for the lute.

Nigel North, who claims Hank Marvin and the Shadows as a formative influence, along with the lutenist Eugen Dombois, proves a persuasive advocate for Weiss's music. Alongside it, he offers his own arrangement of the F Major Violin Concerto from Vivaldi's *Opus 3, L'Estro Amonico* (and very effective it is) and his transcription of the evergreen Chaconne from Bach's *Partita for Solo Violin, BWV1004*. It makes for relaxing, satisfying listening- just the thing to wind down to at night -and is enhanced by a refined and pleasingly intimate recording.

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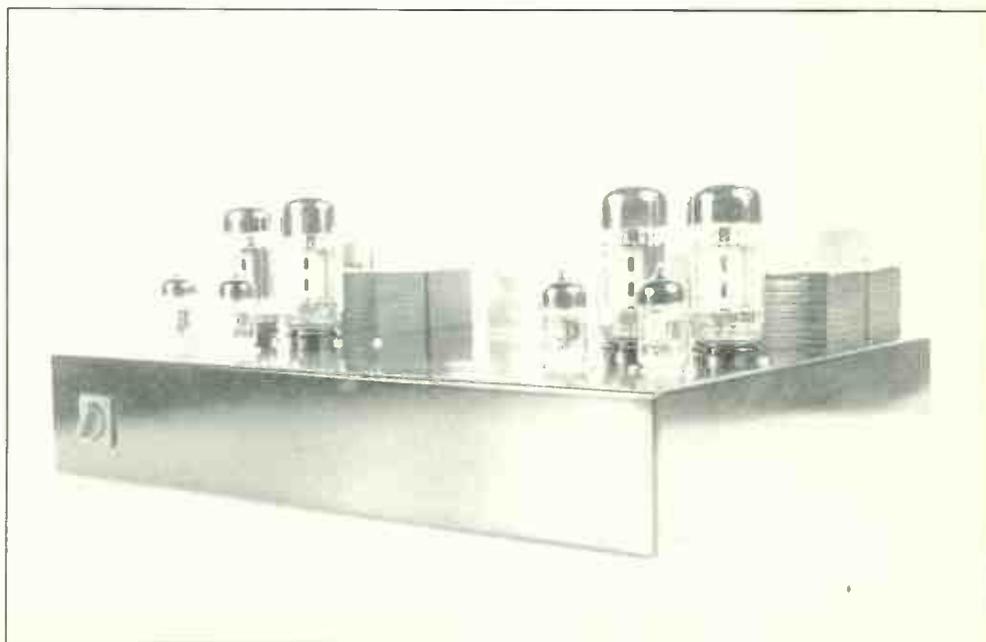
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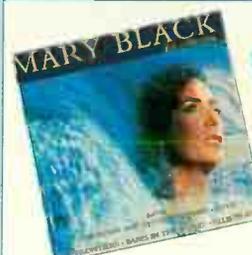
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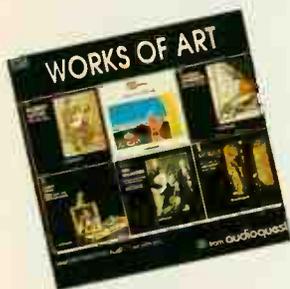
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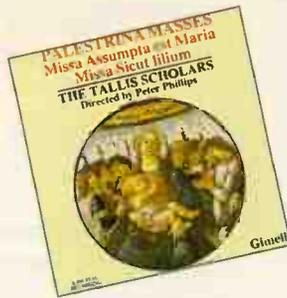
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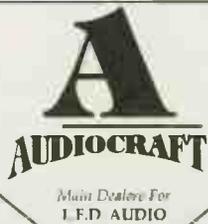
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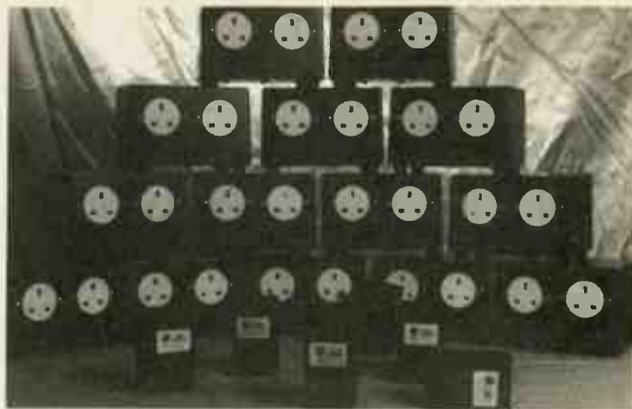
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Kenwood's DP-5050 CD player is the latest addition to the fiercely contested £200 - £300 price band.

Jonathan Jordan investigates its potential as a market leader.

It came as no surprise when Kenwood's latest range of CD players was launched with the slogan 'refinement before features'. Kenwood does not have the vast R&D budgets of Sony and Panasonic, for example, but instead concentrates on refining the products that the majors have developed. This policy has brought Kenwood success with both hi-fi systems and separates.

The new range is spearheaded by the DP-5050 CD player, which retails at a shade under £250 - right in the middle of the fiercely contested £200 to £300 price band. Although Kenwood may feel it is modest in features, it does well by my reckoning: twenty track programming, editing and peak level search functions that can ease home recordings, a full function remote control and variable line output. The only feature missed

from the list was a coaxial digital output: in common with many oriental units only an optical digital output was fitted. This is unlikely to be of consequence to most buyers though.

The DP-5050 is equipped with Philips' SAA7350 one bit PDM (Pulse Density Modulation) bitstream digital-to-analogue converter chip. The refinements it so proudly boasts are an advanced high precision master clock and a specialised differential circuit for the initial stages of analogue amplification, both of which are fairly minor.

I found the visual presentation of the '5050 pleasing. For a black box it has a certain attraction; its fascia blends well with the blue display. The centre mounted drawer arrangement adds visual balance to the simple, yet refined appearance of this player.

When the Kenwood was put to work with various light and heavy rock selections, I found it revealed detail in the upper regions of the frequency spectrum well, seemingly enhanced by fractionally bright treble. The '5050 also placed emphasis on the lower frequencies. David Bowie's 'Black Tie White Noise' album was reproduced with an exaggerated bass guitar, which although powerful was a little deficient in tonal colour. This gave the whole lower mid-range a slightly monochromatic tint, while at the other frequency extreme the saxophone came across as over-sharp and marginally shrill - leaving the upper midrange slightly lacking in tonal colour as well.

With Terje Rypdals QED, one piece in particular, the 4th movement, could have been written for reproduction on the Kenwood as it consists

of only two main components: a frightening amount of low frequency detail that ventures into sub-sonics and additions from an electric guitar that reside solely in the upper mid-range and above. This in particular came across well and showed the Kenwood in its best light.

It soon became clear, however, that apart from these slight inaccuracies at the 'top 'n' bottom' the Kenwood was a competent performer. With all types of music this player provided an expansive and generous presentation. Most of the tracks it tackled were delivered with a sense of openness and dimensionality; it had a competency that only the better players in its price range exhibit.

The live album by the Red Devils, 'King King' demonstrated the '5050's image stability; each instrument firmly occupied its position. It regenerated the two guitarists missing each other's cues by a minute amount excellently, but what it could not do was place you in the centre of the action. The atmosphere within this recording was truthfully conveyed in the sense that I felt I was in a dark, smoky and echoing club, but unfortunately the Kenwood was only offering me a table at the rear of the club - rather than just in front of the stage.

Along with its stable imaging this

player had other strengths. It could never be described as a musical quitter - it just kept going however complicated the music content became, although it seemed a little unhappy with certain musical onslaughts - one or two choral pieces had such dynamic transients that the player appeared unable to handle them, but most instrumental crashes and bangs were well pieced together for a £250 player.

The problem of the Kenwood's

"with all types of music this player provided an expansive and generous presentation"

heavy bass and sharp treble detracted from its reproduction of rock music, but these faults were not so obvious with classical music - an area where the Kenwood ultimately shines. Choral music was relayed with a degree of class not often found amongst players of its price and I particularly enjoyed the '5050's successful attempts at The Gabrieli Consort and Players recent recording of Vespers in Venice. The most gratifying aspect was the vocal clarity and the regeneration of the vast acoustics present in a church.

I found the DP-5050 CD player

more relaxing to listen to when reproducing classical instruments focussed in the midrange. Once massive excursions at the low or high frequency extremes were removed from the Kenwood's set of tasks, it seemed to enjoy itself far more. Beethoven's Violin Concerto in D major had a certain sense of real drama. During the performance I could close my eyes and be transported into a concert hall. Throughout this piece the exact repetitions of

the recurring musical theme by the various parts of the orchestra were delivered with all the nuances and feeling brought to the piece by the musicians.

The Kenwood is well suited to being upgraded. When I added an external digital convertor,

the QED Opto, two main areas of discomfort, the bass and the top end, were tightened up.

Although the player excels with classical music, its mediocre control of bass instruments, coupled with over energetic treble causes it to loose out to slightly better all-rounders with rock. Consequently, a dedicated rock music fan might find the '5050 disappointing.

Kenwood's DP-5050 has plenty of strong points for a £250 player, but its musical preferences act against it. Although it has refinement, there's still room for a little more ●

MEASURED PERFORMANCE

The frequency response of the Kenwood DP 5050 has a gentle dish shape, with the base of the dish lying at 2kHz. As the response rises towards high frequencies it steepens to form a peak of 0.15dB between 14-15kHz. Although only slight, this deviation will be subjectively audible. I would expect the Kenwood to have a reasonably strong bass and a bright, almost sharp top end.

The distortion figures for the DP-5050 indicate that it should be a quite clean sounding player, however at -30dB, a normal music level, there was a small amount of second and third harmonic (see distortion plot below). Whilst second harmonic distortion is aurally acceptable, third harmonic can lend a little sharpness to the sound. The other distortion measurements were all reasonable, but not exceptional, but this is to be expected from a £250 player.

Channel separation was average at 1kHz but slightly poor compared to the best at 20kHz. However, in both cases stereo separation will not be subjectively compromised. The output is just slightly above the 2V standard set by Philips at

2.15V so level matching for a shop demo. is unnecessary.

Like most most Japanese hi-fi products, the Kenwood DP-5050 measures well; it has no anomalies. Only a few of the more innovative or specialised designs better it by any margin. **DB**

TEST RESULTS

Frequency response 4Hz-21kHz

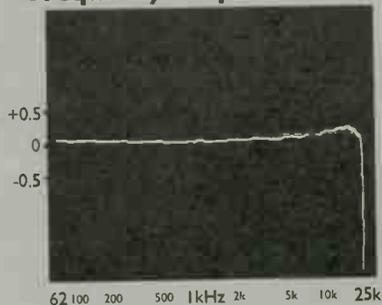
Distortion %		
-6dB	0.006	0.005
-30dB	0.015	0.014
-60dB	0.70	0.69
-90dB	37.7	34.9
-90dB dithered	11.5	9.5

Separation dB	left	right
1kHz	107	108
20kHz	84	84

Noise	-99dB
with emphasis	-100dB

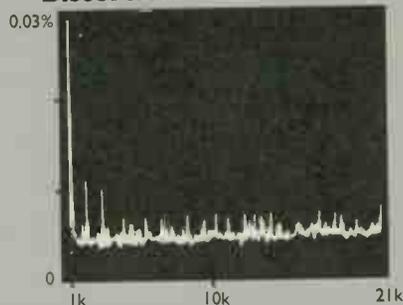
Dynamic range	104dB
Output	2.15/2.16V

Frequency Response



Some treble lift that will give the Kenwood a bright balance.

Distortion



A little 2nd and 3rd harmonic distortion in evidence.

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U.K. - Sugden's SDA-1 bowled us over with a sound populated by masses of high-resolution details and complemented by very quiet, dark backgrounds and tremendous dynamics . . .

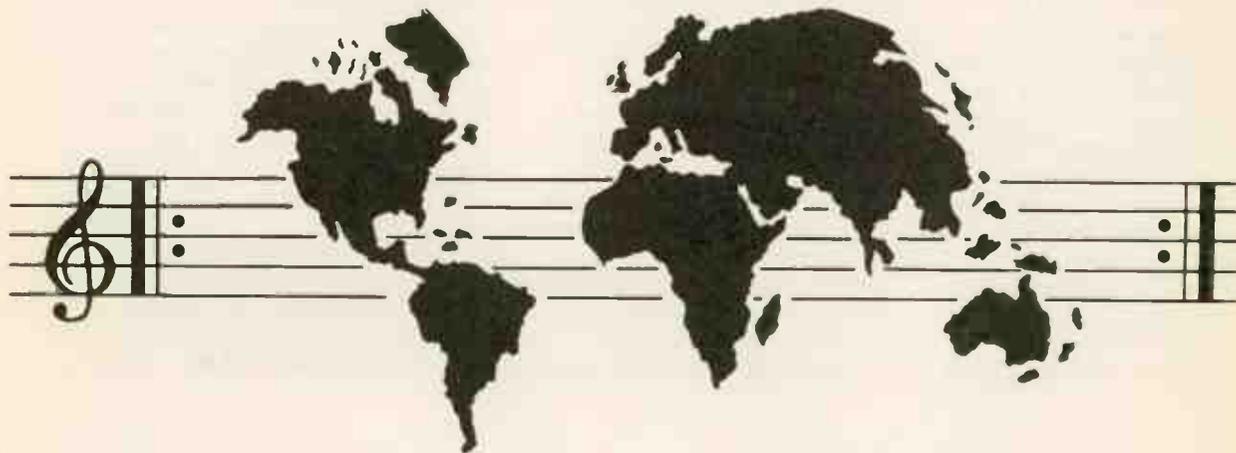
Canada - At a price well below many DACs of similar sound quality it offers real value for money in addition to its sonic refinement.

Germany - D/A converters from the Sugden stable have established themselves on a solid platform within the hi-fi scene.

SDT-1 CD Player

Canada - The combination of excellent transport and high-quality parts make the Sugden a very relaxed and easy player to listen to, with no digital edge.

U.K. - I have to say Sugden's CD player just has to be near the top of any buyer's list.



A21a Class 'A' Amplifiers

U.K. - A true thoroughbred that will undoubtedly attract newcomers to Sugden's dedicated band of followers. It almost begs you to put on more music and then proceeds to play it with aplomb.

Holland - A concert hall in your living room. The reproduction quality of the amplifier is without any stress and gives total involvement in the music.

A25B Integrated Amplifier

U.K. - Not only does the little A25B look more refined than many of its peers, it also has a sophistication to its sound that is sadly lacking in most of its immediate competitors.

Singapore - The Sugden A25B will not fail to please in the way it presents the music. It is therefore, highly recommended.

Canada - The quality of sound produced by this amplifier is exemplary.

Australia - We are hard pressed to think of an amplifier quite so musical. A delight to the ear.

France - The general transparency of sound and the punch delivered by the amplifier are really astonishing.

A48 Integrated Amplifier

U.S.A. - In terms of sound quality the A48 is a revelation. More than any other integrated amplifier in my experience. The Sugden imbues music with a warmth and body that is quite addictive.

U.K. - Coherent and musical, the Sugden A48B is on the warm side of neutral, well suited for those who like the valve sound.

Au51c Pre-amplifier

Canada - You can tell that the Au51c is special. Five minutes convinced everybody present that a pre-amp must sound like this if it is to be of reference quality.

Canada - Cold, out of its packing carton, the Sugden instantly sounded better than great. During the next few hours of operation, the unit literally blossomed and developed the sort of sound closely akin to a live performance.

Au51p Power amplifier

Canada - We've never tested an amplifier which sounds this big and did its job so well.

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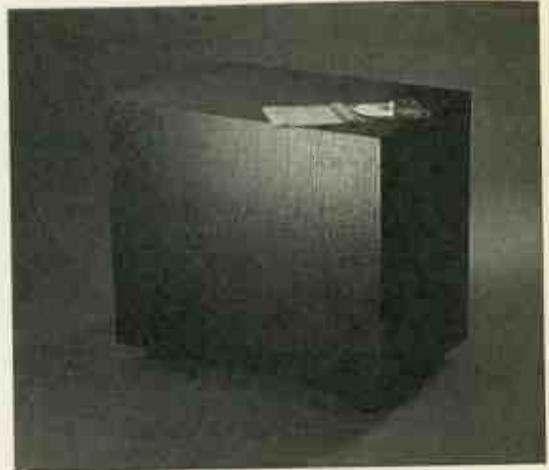
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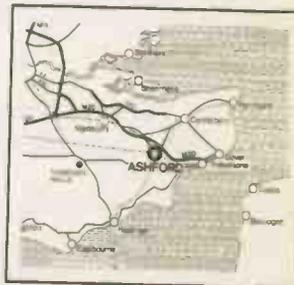
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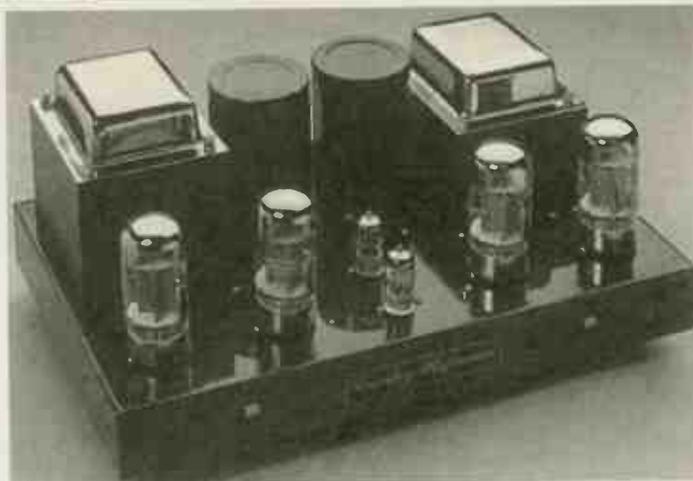
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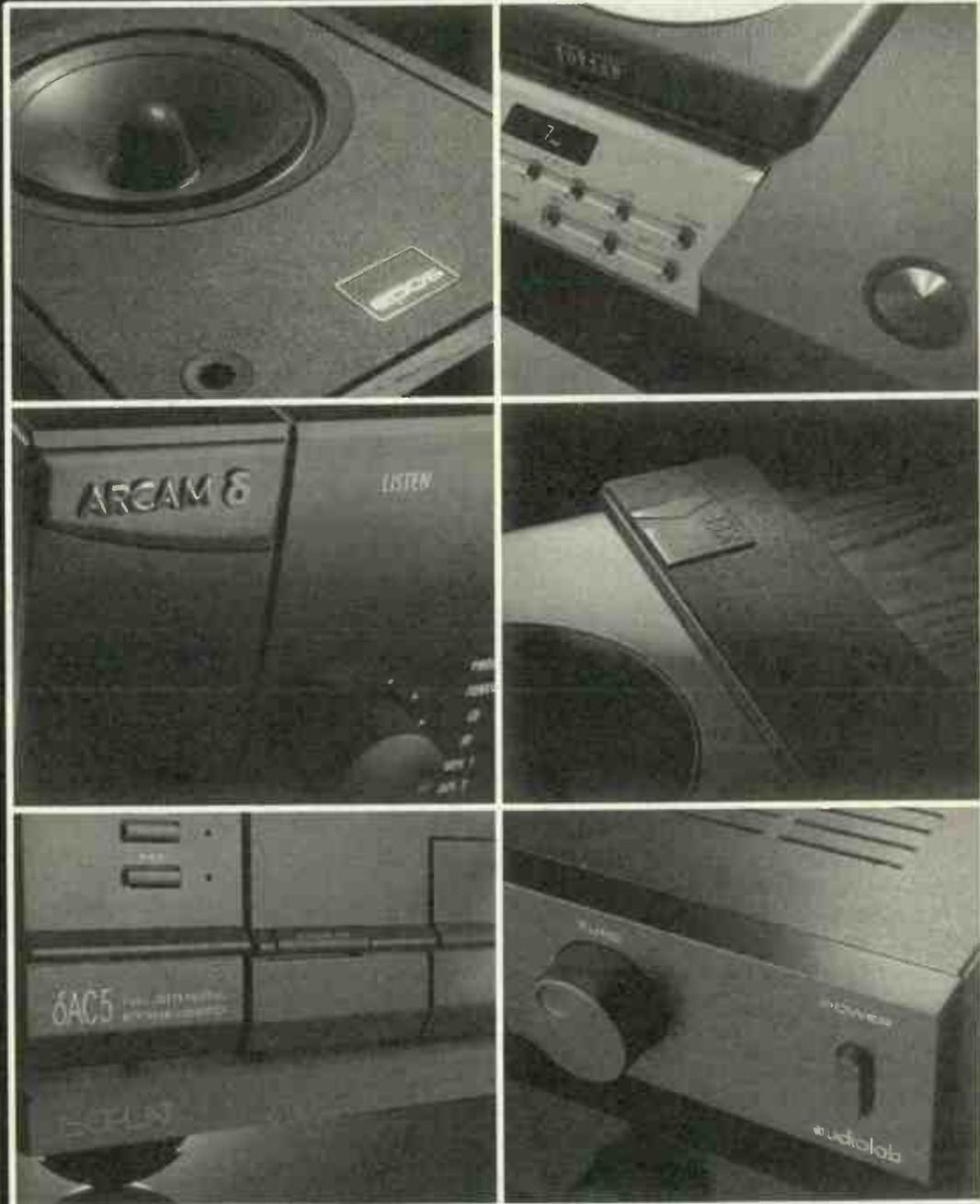
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Table with 3 columns: Brand, Model, Price. Includes CELESTION HT3 Pro Logic Kit, DENON AVC 3020 P/Logic, etc.

SPEAKER SYSTEMS

Table with 3 columns: Brand, Model, Price. Includes AC ENERGY AE1, APODIA Custom Minor, B & W Matrix 804, etc.

TURNTABLES (Less Arms)

Table with 3 columns: Brand, Model, Price. Includes MICHELL Mycro, PINK TRIANG LPT with GT1, ROKSAN Radius + Tabris Arm, etc.

TO NEARMS (Fitted Free)

Table with 3 columns: Brand, Model, Price. Includes MORCH DP6, MOTH ML3, ROKSAN Tabris, etc.

CARTRIDGES

Table with 3 columns: Brand, Model, Price. Includes AUDIO TECH ATOC 3, DENON DL30A, LYRA Lyrion, etc.

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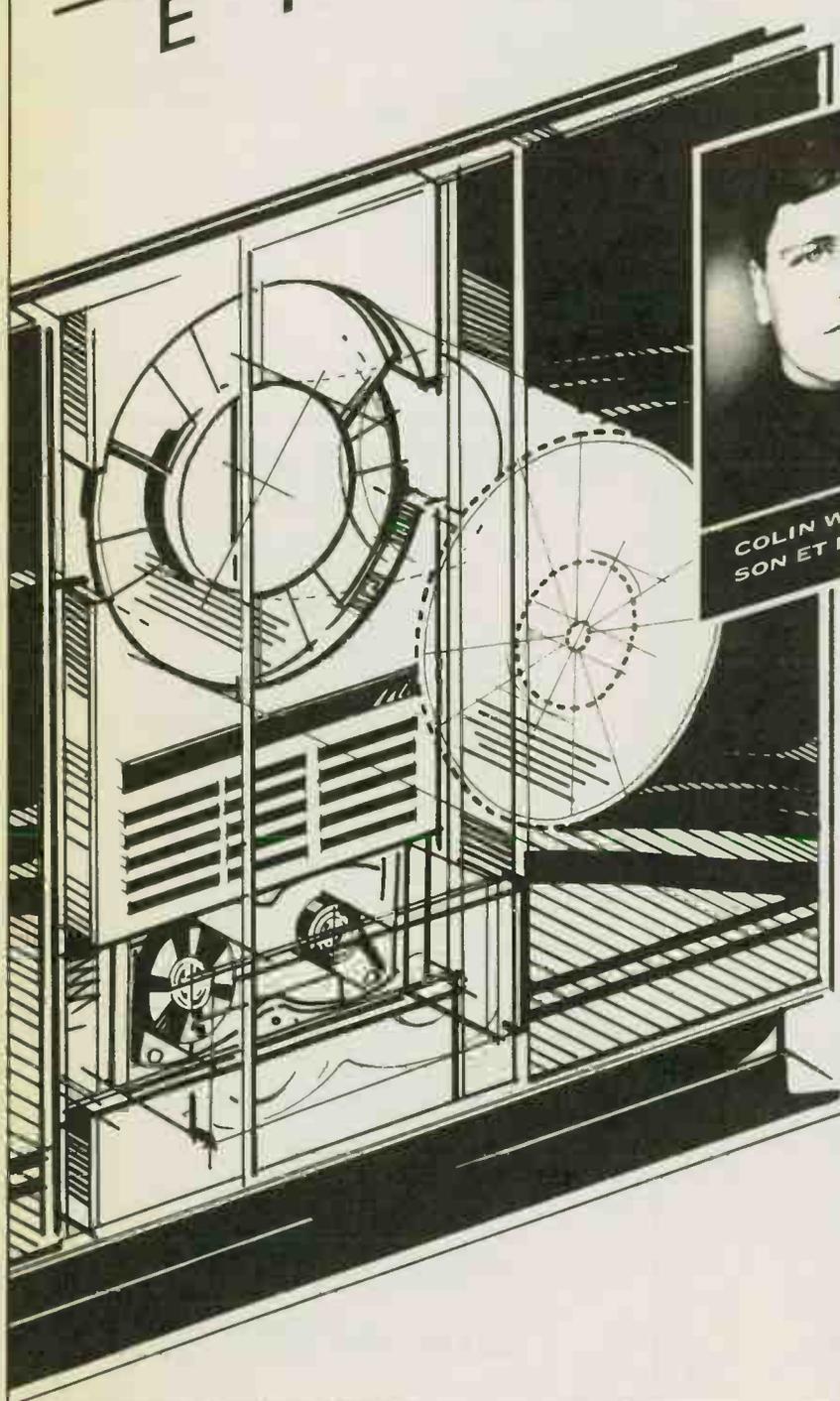
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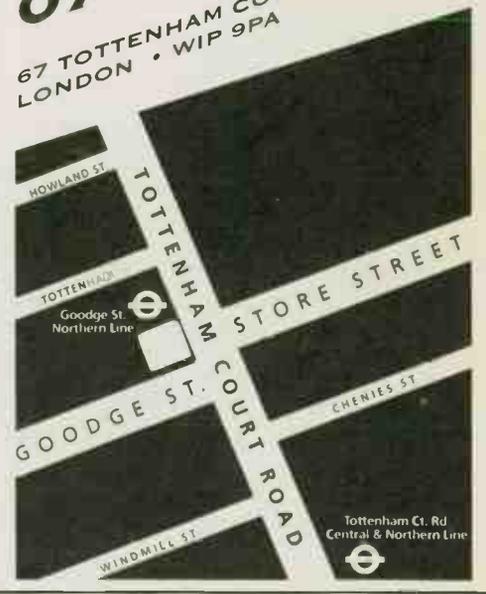
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Phono-Phono quad	2m. now	£34.50
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Jack-XLR (mic)	5m.	£12.50
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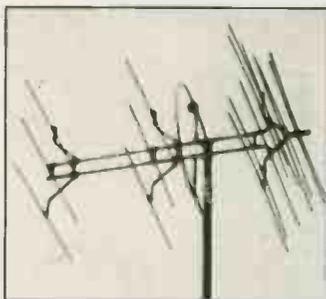
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Ken Kessler,
Hi-Fi News & Record Review, April '92

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WHY A HI-FI TUNER NEEDS A GOOD AERIAL

For best sound quality, a hi-fi tuner must have a strong signal of around 1mV minimum.

The question is: how do you get it?

INDOOR AERIALS

Simple pin-up wire types (dipoles) only provide enough signal within a few miles of a transmitter. Otherwise they are noisy and prone to receiving multipath signals that produce distortion.

We've tested powered indoor aerials and expensive hi-tech designs costing up to £50 and find they give no more signal than simple, horizontal dipoles, either of the wire type or of rigid aluminium. Their only benefit is smaller size. It is better to buy a rigid aluminium dipole and mount it high, upstairs on a wardrobe, at the top of a stairwell, or similar.

LOFT AERIALS

Loft aerials have the advantage of height and, if there are many elements, gain as well, so they provide a stronger signal than a simple dipole indoor aerial. In areas of reasonably high signal strength - which usually means within ten miles or so from a transmitter, a loft aerial may be satisfactory.

Usually with three elements, a director rod (short), reflector rod (long) and dipole element in between, loft aerials are also directional; they must be pointed toward the transmitter. They reject interference and reflected signals better than dipoles, giving a cleaner signal to the tuner.

The best mounting position is high up in the V of the roof, away from metal objects like water tanks. A long downlead will be needed, preferably of good quality to minimise signal loss.

BALCONY & WALL MOUNTING AERIALS

Balconies in blocks of flats have the advantage of height, giving a much stronger signal. However, the balcony should face the transmitter for good results.

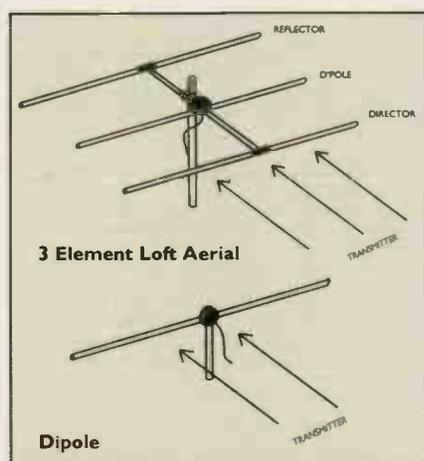
It is often possible, if a little difficult, to wall-mount an aerial on a stub mast outside a window, but you may need consent to do so. Hanging out of a window can be dangerous, so consider using a professional installer. And make sure the wall faces toward the transmitter of course.

OUTDOOR AERIALS

In most locations, only an outdoor aerial will give a signal strong enough and clean enough (i.e. free from interference and multipath reflections) to provide true hi-fidelity from a good tuner. Benefits are height (the higher the better), crucial for

obtaining a strong signal free of reflections, and number of elements, which determine both gain and directionality.

Multi-element aerials are used in areas of medium to weak signal strength, meaning up to around forty miles from a transmitter. Any further away is judged as a 'fringe' area and will demand even more elements.



ALL-ROUND AERIALS AND WHIPS

Whip aerials, vertical dipoles and all-round aerials (curved horizontal dipoles) provide less signal than a simple, indoor dipole (i.e. negative gain). They are suitable only for areas of high signal strength.

Although whips and curved dipoles offer all-round reception, this means they provide little rejection of reflections, interference and distant stations. They are not especially suitable for hi-fi use.

AERIAL AMPLIFIERS AND ROTATORS

Aerial amplifiers are useful only at the masthead to overcome losses in a very long downlead. They are also used to provide enough signal for distribution around a house.

These roles apart, amplifiers boost noise and rubbish from an aerial by the same amount they boost wanted stations, giving no gain in quality, even though the signal strength meter of a tuner might go up. Not recommended.

Rotators are used to swing a directional aerial around, to receive more stations. A simpler solution is to have two aerials pointing in different directions, with their outputs duplexed together or, for more signal but less convenience, twin

downleads with an aerial switch at the bottom.

ATTENUATORS

When it's necessary to use a directional aerial to cut down reflections from tower blocks, but the aerial then gives too much signal (i.e. more than 10mV), an in-line attenuator can be used to prevent tuner overload.

AERIAL INSTALLERS

The best and overriding reason for using an installer is personal safety; roof work is very dangerous. Installers are also very quick and well equipped; DIY may take the large part of a day. Local installers should know about area-specific problems, the location of repeat and fill-in transmitters, and such like - all matters that are likely to be a mystery to most people.

Finally, good installers should have a Field Strength Meter that not only enables them to see whether an aerial is giving the required result, but can prove this to the satisfaction of the customer. Around 1mV is wanted, meaning powerful stations will come in higher (say 3-5mV) but weak ones a bit lower (0.3-1mV). If for no other reason, knowing that the aerial works properly is enough reason for using an installer.

Discuss this matter with them first though. In some areas, it may be impossible to obtain such a strong signal, no matter what aerial is used; get a variety of opinions if necessary.

CONFEDERATION OF AERIAL INDUSTRIES

The CAI has a countrywide list of aerial installers who are members that abide by the rules below.

To find a local service, contact -

CAI Ltd.,
Fulton House Business Centre,
Fulton Road,
Wembley Park,
MIDDLESEX HA9 0TF

Tel: 081-902-8998
Fax: 081-903-8719

CAI members must employ staff competent for the business conducted. They must follow standards of practice, agree to investigation, examination or test at any time. They must guarantee any aerial, equipment and/or installation work for a minimum period of twelve months ●

World favourites

Hi-Fi World's revamped, comprehensive, selection of preferred products out of those we have reviewed in the last eighteen months, with the issue in which the test appeared.

COMPACT DISC PLAYERS

SONY CDP-497	£160	Superb starter CD. Packed with facilities.	Aug 92
DENON DCD 890	£269.99	Exciting and forceful sounding player, but slightly characterful sound.	Nov 92
MISSION DADS	£300	Bitstream based player. Very even handed, with solid bass. Some lack of spaciousness.	May 9
ROTEL RCD-965BX	£300	Bitstream based player. Calm, open and sophisticated performer.	Oct 91
ARCAM ALPHA +	£420	Offers a warm, full-bodied sound with a big, rich bass.	May 91
CREEK CD60	£500	16-bit player. Excellent rhythmic properties and a superb bass performance.	Apr 92
CARY CAD-855	£900	16-bit Rotel player, with Cary-designed valve output stage. Packed with ambience and musicality.	Feb 92
MICROMEGA SOLO	£1350	Distinctive transport; very light and musical, but with a deep, well controlled bass.	May 92
NAIM CDI	£1598	Single box, 16-bit player. Close to the two box CDS, very disc dependent, has vital tingle factor.	Apr 92
TEAC X-1	£2300	Superb 20-bit player. Convincing, idiosyncratic and characterful. Has plenty of flair.	Jun 92
NAIM CDS	£2937	Two box, sixteen bit player. De rigeur for Naim-based systems. Musically informative, has both punch and delicacy.	Sep 91

COMPACT DISC TRANSPORTS

ARCAM DELTA 170.3	£650	Smooth. Draws the listener into the performance. Improves on all the strengths of the 170.	Jul 92
TEAC P-500	£650	Can be too restrained for some tastes, but subtle and highly detailed.	Feb 92
DPA DIGITAL TI	£795	Superbly clean and detailed sounding transport when sync-locked to DPA's convertors.	Jan 93
MICROMEGA DUO	£1745	CD-ROM based transport. Defines refinement and air, but without sacrificing impact.	Nov 91

DIGITAL TO ANALOGUE CONVERTERS

QED DIGIT	£125	Based on Philips Bitstream. Excellent value, with no rough edges. Co-axial input for CD only.	May 92
MICROMEGA MICRODAC	£299	Philips Bitstream-based. Typical Micromega sound, very musical and refined, lacks the cutting edge of detail.	Mar 92
MISSION DAC 5	£299	DAC7 based. Clean, forward mid-range, capable of portraying real subtleties. Bass lacks firmness.	Jul 92
ARCAM BLACK BOX 3	£360	Warm sounding DAC. Now looking a bit tired against stiff opposition.	May 91
AUDIO ALCHEMY D.D.E.	£376	Digital Decoding Engine has broad and smooth presentation.	Feb 92
DPA LITTLE BIT	£395	Sets up a wide, open stage and places a captivating performance within it. High performance/£.	
SUGDEN SDA-1	£650	16-bit Philips based. A wide open window for the transport to flow through. Very neutral.	Jun 92
DPA BIGGER BIT	£695	The Bigger bit has enormous insight revealing the mixing and production work behind most rock recordings.	Nov 91
AUDIOLAB 8000DAC	£695	Philips Bitstream-based. Well built and flexible. Typical Audiolab sound, very silent and neutral.	Jan 92
DPA PDM-ONE III	£1280	Less ruthless than, but staggeringly close to the PDM-TWO. The latest version of the PDM-ONE is a two box DAC-7 affair	Mar 92
PINK TRIANGLE DA CAPO	£1350	Own-design one bit DAC reaches new standards in Digital. One of the best.	Jan 93
DPA PDM-TWO	£2350	Frighteningly deep and controlled bass. Very forthright; a trifle violent in its truthfulness. Literally - stunning!	Jun 91

TURNABLES

SYSTEMDEK IIX-900	£190	Surprisingly natural sound, if not as detailed as some. Suits Rega, Moth and Helius arms.	Aug 91
PROJECT 2	£245	Czech built turntable with much to offer. Very coherent.	May 92
REGA PLANAR 3	£250	Built to last. Transparent and lucid, although can sound bass light. Sets the standard to beat.	Aug 91
THORENS TD166/VI/UK	£270	Fitted with Rega RB 250 arm. Good basic deck, with tweakability.	Jun 92
MICHELL MYCRO	£397	(with RB300 arm, £539) Falling between the Syncro and the Gyrodec, the Mycro has superb mid-band clarity and poise.	Apr 92
PINK TRIANGLE L.P.T.	£449	Neutral sounding turntable with excellent soundstaging and decent bass. Use Linn, Rega or Roksan arm.	May 91
ROKSAN RADIUS	£550	(with arm) Isn't tripped up by unsettling music, the Radius acts a good mid-price turntable.	Nov 91
THORENS TD-300IBC	£650	Arm-less Thorens, good match for Rega RB-300 or Naim ARO. Easy to use turntable that gets very close to the Linn LP12.	Apr 91
PINK TRIANGLE EXPORT	£676	Terrific soundstaging properties, good bass and a neutral performance that considerably improves upon the LPT.	Jun 91
VOYD VALDI	£699	Similar to the Pink Triangle, the two-motor Valdi is an expressive performer, best suited to Audio Innovations equipment.	Jul 91
ROKSAN XERXES	£785	Highly analytical and exciting turntable. Can be almost CD-like in its presentation.	May 92
PT ANNIVERSARY	£1200	Very neutral turntable, but with a lot of magic. Excellent imagery and detail. A natural partner to the SME V.	Sep 91/May 92
SME MODEL 20	£2495	The last great turntable, bettered only by the £11,000 Model 30. The 20 never disgraces itself.	Oct 92

TONEARMS

REGA RB 300	£139	For Pink Triangles, Michells, Roksans and Systemdeks. Simple and superb; dynamic with solid bass.	
MØRCH DP-6	£665	'Unipivot plus' tonearm. Plays music with a silken and rich quality. Perfect match for the Da Capo cartridge.	Jul 92
SME 309	£568	Based on IV & V, uses an aluminium armtube and detachable headshell. High end value for money. Smooth; excellent imaging	Jan 93
SME SERIES IV	£828	Simplified version of the legendary SME Series V. A precision measuring instrument only bettered by the V.	Mar 92
SME SERIES V	£1232	A masterpiece of precision engineering, with a cohesive sound.	Sep 91/May 92

CARTRIDGES

GOLDRING 1012	£45	Excellent value. Well balanced performer, rich and full without warmth. Very spacious and clear.	Apr 91
GOLDRING 1042	£89.95	A wealth of treble detail and a fine sense of analysis proffered by the Goldring secures its place in this section.	Jan 93
SUMIKO BLUE POINT	£99.95	The Blue Point casts a romantic charm over all types of music. Robust too.	Oct 92
ORTOFON MC15	£100	Moving coil cartridge at moving magnet price. Has a tight grip on rhythm.	Jun 92
ROKSAN CORUS BLACK	£110	Moving magnet cartridge, based on Goldring design. Exciting and detailed, with great speed.	Sep 91/May 92
SHURE VST-V	£150	One of the finest moving magnets currently available. Excellent tracker.	Jul 92
DENON DL-304	£199	Totally uncoloured the Denon offers a superbly transparent mid-band. It could sound a little thin in some systems.	
GOLDRING ELITE	£200	British made moving coil. Good value, smooth and detailed, but can sound a trifle brittle at times.	Apr 92
GOLDRING EXCEL	£499	British made high-end m-c. Refined and lyrical presentation, slightly dull at times.	Oct 91
LYRA LYDIAN	£500	Scan-Tech designed moving coil cartridge. Magical sound, even better nude!	Aug 92
MØRCH DA CAPO	£500	Scan-Tech designed moving coil cartridge. Musical and accurate, without any flaw.	Feb 92/May 92
AUDIONOTE IO	£1295	Very low output cartridge, with high silver content. Needs step-up transformer. Very musical, can show up how poor most cartridges are.	Nov 91

CASSETTE RECORDERS

TECHNICS RS-BX404	£130	Terrific value and good sound for the money.	Sep 91
TECHNICS RS-BX606	£170	Three head deck. Superb value, capable of seeing off much more expensive machines.	Nov 91
SONY TC-K677ES	£240	One of the first low-cost three head decks. Can be grainy and slightly bright, but makes for stable recordings and playback.	Sep 91
JVC TD-V541	£280	Three head deck. Good for both recording and playback, especially of prerecorded tapes. Easy to use.	Dec 91
DENON DRS-810	£300	Drawer loading cassette - just like CD. Sweet sounding, but a bit expensive.	Jan 92
NAKAMICHI CASSETTE DECK 2	£350	Makes fine recordings with metal tape. Excellent with pre recorded tapes. One of the finest two head machines about.	Mar 91
CASSETTE DECK 1.5	£500	Scaled down version of the Cassette Deck 1, without rivals at the price.	Jan 92
CASSETTE DECK 1	£600	In the light of the 1.5, this fails to be such good value, but still a sound three head deck.	Apr 91
PIONEER D-500	£600	Very smooth sounding DAT deck, but still slightly coarser than the original source.	Apr 92
TEAC V8000S	£699	Dolby 'S' deck. Easy to use. Very stable sound, with instrumental textures close to perfect.	Jun 92
ARCAM DELTA 100	£850	Dolby 'S' deck. Excellent sound quality, close to the original source. The best Dolby 'S' deck around.	Apr 92
NAKAMICHI CR-7	£1500	No Dolby 'S', but auto tape tuning, motorised head and remote control. Astonishing complexity; the best!	Aug 92

TUNERS

DENON TU-260L	£110	Excellent budget AM/FM tuner. Easy to operate, good all-rounder with a fine sound.	Mar 92
NAD 4225	£160	Warm sounding, but detailed budget AM/FM tuner. AM poor, looks dated.	Jun 92
ARCAM ALPHA 3	£199.90	Excellent vocal clarity and decent sharpness; good for Rock.	Dec 92
AURA TU-50	£230	Superb FM-only tuner. Produces a delightful, three-dimensional sound. A cracker	May 92
YAMAHA TX-950	£260	Fine all-rounder, with a good AM section.	Jul 92
KENWOOD KT-7020	£270	Silky smooth sound, but very insensitive and needs a good aerial.	Feb 92
ARCAM DELTA 80	£340	AM/FM analogue tuner. Realistic sound quality, but slightly insensitive.	Jan 92
QUAD 66FM	£490	Among the very best in terms of tonal colour and imagery; remote controllable.	Nov 92
NAIM NAT-02	£853	Little box, big money, dead good. Try and find better unless it's a...	May 91
NAIM NAT-01	£1377	The best tuner currently available. All else is mere artifice. If you want better radio reception, go and live in the BBC's studio.	Mar 92

INTEGRATED AMPLIFIERS

HARMAN-KARDON HK6150	£159	Good sounding starter amplifier. Great dynamic range. Excellent bass.	Jun 92
NAD 302	£159.99	Lots of insight and detail but could sound a little rough in the wrong system.	Jan 93

DENON PMA-350	£170	Packs a lot of punch for the money. Phono stage lags behind the line inputs.	Mar 91
PIONEER A300X	£199	Exceptionally sweet mid and treble plus the superb dynamic range of the A400	Dec 92
SUGDEN A25B	£203	Surprisingly warm and well rounded for the price. Worth seeking out.	Dec 91
ARCAM ALPHA 3	£200	Lean and lively, with an astonishing amount of detail. Excellent line stages.	Oct 91
MISSION CYRUS ONE	£249	The series 8 guise has brought about improvements in balance and power pushing it further forward.	Feb 92
CREEK CAS 4140 S2	£230	Bit soft and rounded, but with a pleasant character. Easy on the ear.	Nov 91
PIONEER A-400	£240	The amplifier that shook up the UK hi-fi industry. Very hi-fi sounding, but can sound good with high-end equipment.	Nov 91
AURA EVOLUTION VA-100	£270	Full of refinement, although not the best measuring amplifier around.	Jul 92
HARMAN/KARDON HK6550	£349	Thoroughly refreshing, tonally neutral amplifier with a realistic price tag.	Nov 92
MISSION CYRUS 2	£380	Best with PSX power supply (£300). More powerful, dynamic and well balanced than almost any of its price rivals.	May 92
AUDIOLAB 8000A	£430	Very neutral and superbly built. Good bass, great imagery, but can be sterile.	Apr 92
SUGDEN A48B	£460	Gentle performer, but never masks the music with warmth. Tonally very even.	Apr 92
AMC CVT-3030	£500	Valve hybrid amplifier. Has valve and transistor virtues in a reasonably priced package.	Aug 92
AUDIO INNOVS. SERIES 500	£990	Sweet sounding valve design. Good looking, but a little system dependent.	May 91
AUDIONOTE OTO	£1250	12w valve amplifier. More in tune with music than hi-fi. Superb dynamic range.	Jun 92
TUBE TECH. UNISYS	£1299	Superbly built chrome valve amplifier. Pacey and musical.	Aug 92
COPLAND CTA-401	£1495	Solidly built Swedish valve amplifier. Very refined and unfatiguing sound.	Feb 92

PREAMPLIFIERS

NAD 1000	£180	Wonderful value. Relaxed, smooth and easy on the ear. Best with 2100 power amps.	Jun 91
QUAD 34	£336	Civilised, smooth and unintrusive. Not especially transparent, but relaxing and built to last. Clever tone controls.	Jun 91
AUDIO INNOVS. SERIES 200	£349	Valve preamplifier. Good value, rather coloured but very dynamic. Best with Innovations equipment.	May 92
AUDIOLAB 8000C	£375	Superbly made solid state pre, without flaw. Clean sounding, if a touch sterile. Excellent all-rounder.	Jun 91
CROFT SUPER MICRO A	£649	Valve preamp. Great mid-band, Good soundstaging properties, a bit warm & euphonic.	Oct 91
MICHELL ARGO+ISO	£687/£393	(+£155 for optional Hera PSU) Pure detail, incisiveness and the beauty of the highest of high end especially with the Hera power supplies. Line-level only, hence an Iso required for vinyl replay.	Oct 91/Jul 92
DPA DSP50S-L-PSU	£745/£250	Line level pre-amplifier + outdoor power supply. One of the best pre's available at any price.	Apr 91
DPA DSP50S-D	£325	Disc stage to complement DSP50S-L line level pre. Can be used with DPA power supply to form an excellent disc pre amp which could be used with any line level pre.	Apr 91
CONCORDANT EXCELSIOR	£900	Valve preamplifier with MM phono + 2 line stages. Magical and realistic sound quality, deep soundstage. Superb for recordings.	Dec 91
JOHN SHEARNE PHASE ONE	£1099	Attractive preamplifier with matching power amplifier. valve-like lucidity and sweetness. Suits neutral equipment.	Aug 91
ALCHEMIST FREYA	£1150	Line level preamplifier, with distinctive styling. Detailed and commanding sounding, may sound too bright in some systems.	Oct 91
LINN KAIRN	£1295	Remote control preamplifier. Flexible, but can sound too forward. Best suited to Linn equipment.	Aug 91
E.A.R. G88	£5246	Exceptionally solidly built valve pre, with a 'bolted down' sound to match. Can sound awesome.	Nov 91

POWER AMPLIFIERS

NAD 2100	£290	Matches 1000 pre. Powerful (150 watts) but relaxing sound ; big bass.	Jun 91
QUAD 306	£395	Well suited to the ESL-63 loudspeakers. Beautifully built, smooth sound but not transparent; weak bass.	Jun 91
CONCORDANT EXULTANT	£500	Modified Quad II mono amplifiers. Colder sounding than the original. Good value. Good match with Excelsior preamp.	Jun 92
AUDIOLAB 8000P	£545	Powerful solid state stereo power amplifier. Clean, natural sound with a slick styling to match. Very well made.	Jun 91
CROFT SERIES 5	£548	Stereo 2S watt valve amplifier. Can be bridged. Rich, warm sounding. Good with ProAc loudspeakers.	Oct 91
QUAD 606	£570	100 watt stereo solid state amp. Smooth and civilised. Similar to 306, but more power and deeper bass.	Jun 91
DPA DIGITAL DPA30S	£1175	Together with the 50S pre and disc stage this forms Noel's favourite amplifier. Very clean, very clear and very neutral.	Apr 91
JOHN SHEARNE PHASE ONE	£1199	Matching power amplifier to Phase One preamp above. Attractive finish, sweet sound.	Aug 91
AUDIOLAB 8000M	£1190	150 watt solid state monoblocks. Typical Audiolab look, build and sound; crisp and clear but can also be clinical.	Sep 91
ART AUDIO TEMPO	£1398	20 watt triode monoblocks. Attractive looking, vibrant sounding, ambient and subtle.	Dec 91
ALCHEMIST GENESIS	£1400	100 watt valve monoblocks. Powerful sound. Very cable dependent but with plenty of dynamic range.	Oct 91
AUDIO INNOVS. SERIES 1000	£1499	50WV valve monoblocks. Powerful sound.	May 92
MICHELL ALECTO	£1800	High end bargain of the year the Alecto's have a lucidity and three dimensional realism that it rarely attained.	Dec 92
ART AUDIO MAESTRO	£1927	Pentode/Triode switchable valve monoblocks. Beautiful looking, sweet and involving.	Jun 91
E.A.R. S49	£4372	Massive 200watt valve monoblocks. Awesome sound, uncanny solidity of images, hard treble.	Nov 91

LOUDSPEAKERS

CELESTION I	£99	Low price, compact size, big sound. An exciting all round performer.	Oct 92
GOODMANS MAXIM 3	£99	Excellent budget small box. Forward sound, without undue box coloration.	May 92
MISSION 760i	£119.90	The 760is are detailed, fast and have bags of rhythm. Ear bashing pleasure.	
TANNOY 603	£124.99	The 603's are a rich and smooth blend that offer their best when bi-wired.	Sep 92
MISSION 761i	£169	Not a perfect loudspeaker, but is full of bass and a lot of fun and entertainment for the money.	Feb 92
MISSION 780	£180	Not without flaws, but the accent is on the music. Good small design.	Sep 91
TANNOY 605LE	£189.99	Highly analytical but has limited bass extension and is not particularly smooth. Very revealing.	Jan 93
B&W DM610	£200	Very competent and musical. Loads of life and energy.	Sep 91
ROGERS LS2a2	£209	So far the most correct loudspeaker we have discovered at the price. Sweet and even-natured. A bargain.	May 92
HEYBROOK HB1 MK III	£249	Powerful, efficient loudspeakers. Loads of welly, loads of bass, but somewhat unrefined.	Apr 91
TANNOY 609	£250	Cheapest Dual Concentric loudspeaker in the range. Fast and fun, but unobtrusive.	Jan 92
NAD 8100	£300	Fine floorstanding loudspeaker that goes deep and loud. Terrific sense of fun.	Apr 91
EPOS ES11	£330	Two way reflex loudspeaker with a civilised but giant-killing sound quality. Excellent imagery.	Apr 91/Jan 92
TRIANGLE COMETE	£375	Highly efficient small box loudspeaker with a superb mid-band. Great for valve amplification.	Apr 92
WILMSLOW FOCBUS	£400	Kit loudspeaker, based around DynAudio drivers. Very transparent and detailed for the price.	Feb 92
KEF 101/2	£495	The baby of the KEF Reference range. Very system dependent.	May 91
CELESTION 100	£499	Need powerful amplifier and careful positioning. Have insight and good tonal accuracy	Dec 91
NEAT PETITE	£525	Baby two-way. Tight, fast, great stereo and good dynamics. Few little boxes come close.	Apr 91
PENTACHORD	£534	(£1059 with subwoofer) Superbly transparent. With the sub-woofer, they go deep too.	May 91
PROAC STUDIO I MK II	£612	Two-way reflex loudspeaker. Easy to listen to and well-balanced, although somewhat Coloured.	Aug 91/Jan 92
KEF Q90	£649	Uni-Q design with ABR. Efficient, dynamic and capable of going very loud indeed.	Jan 92
REL STADIUM SUBWOOFER	£695	Mono, self-powered subwoofer that works! Very flat frequency response.	Jun 92
B&W MATRIX 805	£795	At home both in the recording studio and the listening room. Speedy delivery and excellent imagery; paint a clear picture.	Jan 92
AUDIO NOTE AN-J	£799	Good soundstaging with a very convincing, natural sound. Derivative of Snell design.	Jun 91
MONITOR AUDIO I200 Gid	£949.99	Excellent resolution of detail maintains a listeners attention; insightful.	Dec 92
HEYBROOK SEXTET	£979	Revealing, lucid floorstanders. Not smooth, but tight and fast-paced. Need careful partnering.	Oct 91/Feb 92
PROAC RESPONSE ONE 'S'	£1018	Excellent small box design. Can convey the spirit, drive and passion in music in a small room.	Jul 92
MAGNEPLANAR MG1.4	£1190	Electro-magnetic planar design. Needs long room. Can create an open, relaxed and easy musical performance. Lacks detail.	May 91
APOGEE CENTAUR MINOR	£1200	Hybrid ribbon design. Great imaging and detail, good value for panel fans.	Jul 92
CELESTION 700SE	£1399	Small box, carved from Aerolam. Excellent imagery, transparency and detail. Needs power and careful positioning.	Mar 92
TDL STUDIO 4	£1499	Need a large room, but can move a lot of air. Best with organ music, the 4's can sound impressive, awesome and frightening.	Jul 91
PENTACOLUMN	£1795	Stunning imagery, excellent detail. Speakers that excel at everything.	Dec 91
QUAD ESL-63	£2072	(Pro version, £2240) Legendary electrostatic loudspeakers. Can lack bass, dynamic range and volume but have detail and imagery impossible to better.	Apr 91
TANNOY GRFM	£3500	Giant loudspeakers. Capable of awesome sound. Need good valve amplification.	Jul 92
NAIM DBL	£6127	Capable of producing immense sound pressure levels. Not for the squeamish.	Mar 91

MISCELLANEOUS

AUDIOPLAN DIGITENNA	£55	High-tech coaxial cable, for CD to DAC connection. Highly focussed sound.	Jul 92
AUDIOPLAN MUSICABLE	£VARIOUS	Superb, high quality cables that represent the finest in European cable.	Mar 92/May 92
BEYER DT41 I	£54	Excellent 'studio' quality headphones. Deep bass, powerful sound, if a bit splashy at times.	Jun 92
CELESTION DLP 600	£349	Digital signal processor for the Celestion 600 series loudspeakers, sounds like a £400 upgrade.	Jun 92
FRANCKSTEIN	£79	CD stereo enhancer, which adds crosstalk to make the sound more 'analogue'.	Jan 92
FURUKAWA FD-111 CABLE	£85	Coaxial cable, for use between CD and amplifier. Good quality, utilitarian cable. Safe choice, easy sounding.	Jan 92
FURUKAWA 7N PC-OCC	£900/£350	per mono metre. Very expensive cables. Highly detailed, sounds like an equipment upgrade.	Jul 92
KONTAK	£22	Space age contact cleaner. Upgrades your system at a single bound.	Mar 91
LASERGUIDE	£15	Coating for a CD surface. Is said to improve clarity, focus and spaciousness.	Dec 91
SONY ICF-SW7600	£150	Superb 'world' radio. Good reception, simple to use, even has a clock!	Aug 91
SONY WALKMAN WM-DD33	£90	Simple to use, high-quality playback only Walkman. Excellent, stable sound quality.	Aug 91
SONY WALKMAN WM-D6	£260	The famous 'Pro' Walkman. One of the finest cassette recorders at any price, but portable. Superb value, if a little 'touchy' at times.	Mar 91
SONY WALKMAN TCD-D3	£500	Better known as the 'DATMAN', this small, sophisticated DAT portable is a technological wonder.	Aug 91
TECHNICS SL-XP330	£129.95	Ignore the price tag for this is one of the best sounding portables around.	Dec 92
TECHNICS SL-XP700	£200	Portable CD player. The thinnest and most stylish of the breed, just happens to sound the best.	Nov 91
TDK NF-C09	£10	Designed to lessen Radio Frequency Interference in cables. Works too!	Feb 92

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Denon DCD600 used £95; Rotel RCD955AX (£280) £199; Rotel RCD 965BX (£299) £250; Nakamichi OMS7E top of the line player used £395; Micromega Logic (£570) £469; Teac VRDS 10 (£769) £650; Micromega Duo CD3 transport latest spec (£1,200) £959; Micromega Duo CD2 transport (£2,000) £1,559; Micromega Duo BS converter (£600) £449; Micromega Duo Pro converter latest spec (£1,200) £959; Roksan DP1 transport and DA1 converter (£1,690) £1,349; Roksan DS4 power supply (£495) £399.

Record players

Rega Planar 3 with Bias cartridge (£283) £239; Planar 3 with Elys cartridge (£323) £270; Roksan Xerxes used, immaculate 1987 spec with 1 yr old Roksan Tabriz, used but immaculate £449; Roksan Xerxes XPS3 in rare natural ash finish (£1,045) £795; Roksan Touraj Moghaddam Signature player only, perfect, (£2,500) £2,100; SME Model 20A with Series V arm (£3,762) £3,198; Linn LV11 Ittok in rare black finish £329; Roksan Artemiz arm used but immaculate £359; Roksan Tabriz (£190) as new £139; SME Series V used but immaculate (£1,232) £995; Linn Karma m/c cartridge s/hand but virtually unused £299.

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Loudspeakers

Heybrook Solo (£179) £139; Rogers LS4A black, used but immaculate £159; Heybrook Trio new model (£359) £295; Epos ES11 slightly marked cabinets (£350) £279; Rega ELA black finish (£405) £345; Epos ES14 slightly marked cabinets (£515) £399; Neat Petite (£525) £399; Naim IBL black ash in near perfect condition £595; Linn PMS active Isobarik with stands black £695; Shahanian Super Elf compact, oak finish (£790) £649; Sonus Faber Minuetto (£898) £749; Shahanian Arc, light oak finish (£1,195) £949; Martin Logan Aeries hybrid electrostatic (£2,198) £1,799.

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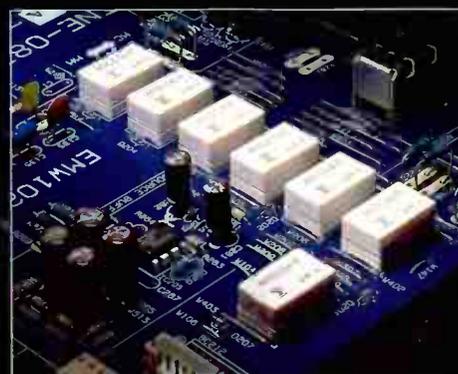
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